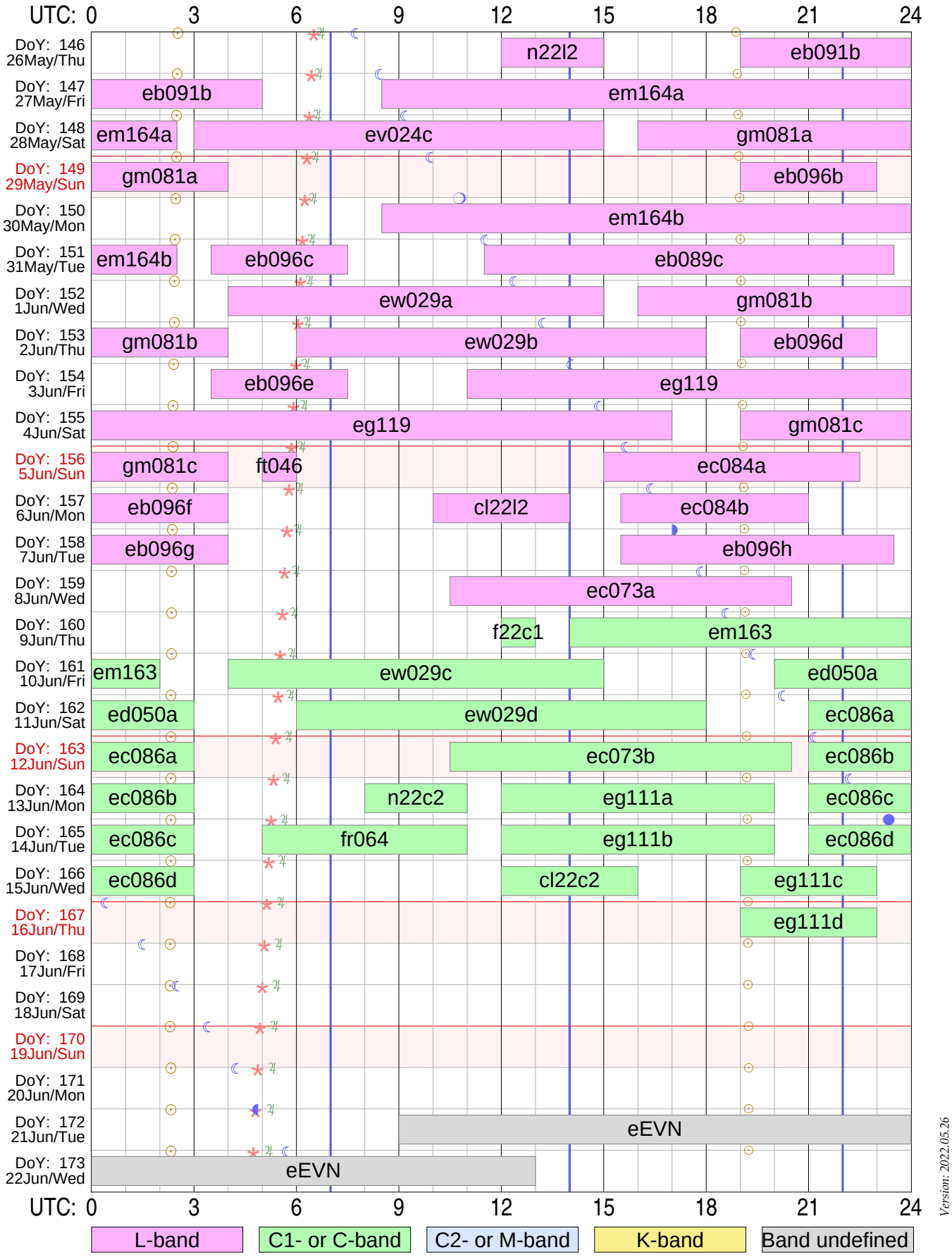
Tr VLBI plan for May/Jun 2022



Sky events at Tr: ⊙ Sunrise & sunset ◑●◐☾ Transit of Moon ♃ Transit of Jupiter ✳ Transit of Aries (0h ST)

Vertical lines in blue mark operator shift times at Tr

Total observing time: 361.0 hours in 42 experiments scheduled

Version: 2022.05.26

Strona zostawiona celowo pusta

EVN Experiments
May 2022

Uytkownik ftp dla logw i schedulw RA: `grt`
`ftp://webinet.asc.rssi.ru`
Przykad dla log files: `cd GRT_log_files/2014_09/2014_09_01_raks08ak`
Przykad dla sched files: `cd schedule/grtsched/RAKS/rk08ak`

```
Year = 2022, 2nd line is: Year  Date   UTstart UTstop Exper.  xxComment
Nr  D  M <=Dur Exper. name                     Comment
   1 26.05  3.0 |n22l2                          |L
   2 26.05  5.0 |eb091b                         |L
   3 27.05 15.5 |em164a                         |L
   4 28.05 12.0 |ev024c                         |L
   5 28.05  8.0 |gm081a                         |L
   6 29.05  4.0 |eb096b                         |L
   7 30.05 15.5 |em164b                         |L
   8 31.05  4.0 |eb096c                         |L
   9 31.05 12.0 |eb089c                         |L
  10  1.06 11.0 |ew029a                         |L
  11  1.06  8.0 |gm081b                         |L
  12  2.06 12.0 |ew029b                         |L
  13  2.06  4.0 |eb096d                         |L
  14  3.06  4.0 |eb096e                         |L
  15  3.06 13.0 |eg119                          |L
  16  4.06  5.0 |gm081c                         |L
  17  5.06  1.0 |ft046                          |L
  18  5.06  7.5 |ec084a                         |L
  19  6.06  4.0 |eb096f                         |L
  20  6.06  4.0 |cl22l2                         |L
  21  6.06  5.5 |ec084b                         |L
  22  7.06  4.0 |eb096g                         |L
  23  7.06  8.0 |eb096h                         |L
  24  8.06 10.0 |ec073a                         |L
  25  9.06  1.0 |f22c1                          |C
  26  9.06 10.0 |em163                          |C
  27 10.06 11.0 |ew029c                         |C
  28 10.06  4.0 |ed050a                         |C
  29 11.06 12.0 |ew029d                         |C
  30 11.06  3.0 |ec086a                         |C
  31 12.06 10.0 |ec073b                         |C
  32 12.06  3.0 |ec086b                         |C
  33 13.06  3.0 |n22c2                          |C
  34 13.06  8.0 |eg111a                         |C
  35 13.06  3.0 |ec086c                         |C
  36 14.06  6.0 |fr064                          |C
  37 14.06  8.0 |eg111b                         |C
  38 14.06  3.0 |ec086d                         |C
  39 15.06  4.0 |cl22c2                         |C
  40 15.06  4.0 |eg111c                         |C
```

```
41 16.06  4.0 |eg111d                          |C
42 21.06 28.0 |eEVN                            |
Summer time (DST): Mar 27 to Oct 30, 2022
   Total observing time: 361.0 hours in  42 experiments
```

Plik pdf tego dokumentu jest dost/epny w sieci pod adresem:

`http://paulo.astro.uni.torun.pl/~pw/VLBI/schedules/may22.pdf`

n22l2tr

Network Monitoring Experiment

PI: *Gabor Orosz*

```
Address:  JIVE

Observing mode: vlbi

Schedule for TORUN     (Code Tr )                                   Page   2
               Network Monitoring Experiment
  UP:  D => Below limits;  H => Below horizon mask;  W => still slewing at end;  blank => Up.
  Early: Seconds between end of slew and start.   Dwell: On source seconds.
  Disk: GBytes recorded to this point.
  TPStart:  Recording start time.  Frequencies are LO sum (band edge).
  SYNC: Time correlator is expected to sync up.
-------------------------------------------------------------------------------------------
Start UT  Source                Start / Stop                 Early    Disk   TPStart
Stop UT                  LST      EL    AZ   HA  UP   ParA  Dwell   GBytes    SYNC
-------------------------------------------------------------------------------------------
 --- Thu  26 May 2022   Day 146 ---
 Next scan frequencies:  1626.49  1626.49  1626.49  1626.49  1690.49  1690.49  1690.49  1690.49
 Next BBC frequencies:    673.51   673.51   673.51   673.51   609.51   609.51   609.51   609.51
 Next scan bandwidths:     32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00

12 00 00  J0956+2515   05 30 25  33.6  92.0 -4.5     -41.5     0        0   12 00 00
12 02 00  =0953+254    05 32 26  33.9  92.4 -4.4     -41.5   120       15   12 00 01

12 07 00  J0956+2515   05 37 27  34.6  93.4 -4.3     -41.5   293       15   12 07 00
12 12 00  =0953+254    05 42 27  35.4  94.4 -4.3     -41.4   300       54   12 07 01

12 15 00  J0956+2515   05 45 28  35.8  95.1 -4.2     -41.4   173       54   12 15 00
12 27 00  =0953+254    05 57 30  37.6  97.6 -4.0     -41.1   720      147   12 15 01

12 30 00  J0956+2515   06 00 30  38.1  98.3 -4.0     -41.0   173      147   12 30 00
12 42 00  =0953+254    06 12 32  39.8 100.9 -3.8     -40.6   720      240   12 30 01

12 45 00  J0956+2515   06 15 33  40.3 101.6 -3.7     -40.5   173      240   12 45 00
12 57 00  =0953+254    06 27 35  42.1 104.4 -3.5     -40.0   720      332   12 45 01

13 00 00  J0956+2515   06 30 35  42.5 105.1 -3.5     -39.8   173      332   13 00 00
13 12 00  =0953+254    06 42 37  44.2 108.0 -3.3     -39.1   720      425   13 00 01

13 15 00  J0956+2515   06 45 38  44.6 108.7 -3.2     -38.9   173      425   13 15 00
13 27 00  =0953+254    06 57 40  46.3 111.7 -3.0     -38.0   720      518   13 15 01

13 30 00  J0956+2515   07 00 40  46.8 112.5 -3.0     -37.8   173      518   13 30 00
13 42 00  =0953+254    07 12 42  48.4 115.7 -2.8     -36.7   720      611   13 30 01

13 45 00  J0956+2515   07 15 43  48.8 116.6 -2.7     -36.4   173      611   13 45 00
13 57 00  =0953+254    07 27 45  50.4 120.0 -2.5     -35.1   720      703   13 45 01

14 00 00  J0956+2515   07 30 45  50.8 120.9 -2.5     -34.7   173      703   14 00 00
14 12 00  =0953+254    07 42 47  52.3 124.5 -2.3     -33.1   720      796   14 00 01

 Next scan frequencies:  1370.25  1370.25  1370.25  1370.25  1386.25  1386.25  1386.25  1386.25
                         1402.25  1402.25  1402.25  1402.25  1418.25  1418.25  1418.25  1418.25
 Next BBC frequencies:    729.75   729.75   729.75   729.75   713.75   713.75   713.75   713.75
                          697.75   697.75   697.75   697.75   681.75   681.75   681.75   681.75
 Next scan bandwidths:      8.00     8.00     8.00     8.00     8.00     8.00     8.00     8.00
                            8.00     8.00     8.00     8.00     8.00     8.00     8.00     8.00

14 19 00  J0956+2515   07 49 48  53.2 126.7 -2.1     -32.1   413      796   14 19 00
14 27 00  =0953+254    07 57 50  54.1 129.3 -2.0     -30.9   480      827   14 19 25
```

14 30 00	J0956+2515	08 00 50	54.5	130.3	-2.0	-30.4	173	827	14 30 00
14 42 00	=0953+254	08 12 52	55.8	134.5	-1.8	-28.3	720	873	14 30 01

```
Schedule for TORUN     (Code Tr )                                Page   3
               Network Monitoring Experiment
  UP:  D => Below limits;  H => Below horizon mask;  W => still slewing at end;  blank => Up.
  Early: Seconds between end of slew and start.   Dwell: On source seconds.
  Disk: GBytes recorded to this point.
  TPStart:  Recording start time.  Frequencies are LO sum (band edge).
  SYNC: Time correlator is expected to sync up.
-----------------------------------------------------------------------------------------
Start UT  Source               Start / Stop                 Early    Disk   TPStart
Stop UT                  LST      EL    AZ   HA  UP   ParA  Dwell   GBytes    SYNC
-----------------------------------------------------------------------------------------

 --- Thu  26 May 2022   Day 146 ---

14 45 00  J0956+2515   08 15 52  56.1 135.5 -1.7     -27.7   173      873   14 45 00
14 52 00  =0953+254    08 22 54  56.8 138.1 -1.6     -26.3   420      900   14 45 01

14 55 00  J0956+2515   08 25 54  57.1 139.2 -1.5     -25.7   173      900   14 55 00
14 58 00  =0953+254    08 28 55  57.4 140.4 -1.5     -25.0   180      912   14 55 01

14 59 00  J0956+2515   08 29 55  57.5 140.7 -1.5     -24.8    53      912   14 59 00
15 00 00  =0953+254    08 30 55  57.6 141.1 -1.5     -24.6    60      916   14 59 01



SETUP FILE INFORMATION:
   NOTE: If DOPPLER, FREQ, or BW were used, see the individual scans for the final BBC settings.


 ======== Setup file: sess222.L1024

   Setup group:    8         Station: TORUN            Total bit rate:  1024
   Format: VDIF              Bits per sample: 2        Sample rate: 64.000
   Number of channels:  8    DBE type: DBBC_DDC        Speedup factor:   1.00

   Disk used to record data.
```

```
 1st LO=   2300.00   2300.00   2300.00   2300.00   2300.00   2300.00   2300.00   2300.00
 Net SB=         L         L         U         U         L         L         U         U
 IF SB =         L         L         L         L         L         L         L         L
 Pol.  =       RCP       LCP       RCP       LCP       RCP       LCP       RCP       LCP
 BBC   =         1         9         1         9         2        10         2        10
 BBC SB=         U         U         L         L         U         U         L         L
 IF    =        A1        B1        A1        B1        A1        B1        A1        B1

The following frequency sets based on these setups were used.

 Frequency Set:   9  Setup file default.  Used with PCAL = off
 LO sum=   1626.49  1626.49  1626.49  1626.49  1690.49  1690.49  1690.49  1690.49
 BBC fr=    673.51   673.51   673.51   673.51   609.51   609.51   609.51   609.51
 Bandwd=     32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00
  Matching frequency sets:   9

 Track assignments are:
  track1=   1,  2,  3,  4,  5,  6,  7,  8
  barrel=roll_off


======== Setup file: sess222.H512

 Setup group:   22         Station: TORUN            Total bit rate:   512
 Format: VDIF              Bits per sample: 2        Sample rate: 16.000
 Number of channels: 16    DBE type: DBBC_DDC        Speedup factor:   1.00

 Disk used to record data.
```

```
  1st LO=   2100.00   2100.00   2100.00   2100.00   2100.00   2100.00   2100.00   2100.00
            2100.00   2100.00   2100.00   2100.00   2100.00   2100.00   2100.00   2100.00
  Net SB=         L         L         U         U         L         L         U         U
                  L         L         U         U         L         L         U         U
  IF SB =         L         L         L         L         L         L         L         L
                  L         L         L         L         L         L         L         L
  Pol.  =       RCP       LCP       RCP       LCP       RCP       LCP       RCP       LCP
                RCP       LCP       RCP       LCP       RCP       LCP       RCP       LCP
  BBC   =         1         9         1         9         2        10         2        10
                  3        11         3        11         4        12         4        12
  BBC SB=         U         U         L         L         U         U         L         L
                  U         U         L         L         U         U         L         L
  IF    =        A1        B1        A1        B1        A1        B1        A1        B1
                 A1        B1        A1        B1        A1        B1        A1        B1

 The following frequency sets based on these setups were used.

  Frequency Set:  23  Setup file default.  Used with PCAL = off
  LO sum=   1370.25  1370.25  1370.25  1370.25  1386.25  1386.25  1386.25  1386.25
            1402.25  1402.25  1402.25  1402.25  1418.25  1418.25  1418.25  1418.25
  BBC fr=    729.75   729.75   729.75   729.75   713.75   713.75   713.75   713.75
             697.75   697.75   697.75   697.75   681.75   681.75   681.75   681.75
  Bandwd=      8.00     8.00     8.00     8.00     8.00     8.00     8.00     8.00
               8.00     8.00     8.00     8.00     8.00     8.00     8.00     8.00
   Matching frequency sets:  23

  Track assignments are:
   track1=   1,  2,  3,  4,  5,  6,  7,  8,  9, 10, 11, 12, 13, 14, 15, 16
   barrel=roll_off


POSITIONS OF SOURCES USED IN RECORDING SCANS

  Source                          Source position (RA/Dec)                        Error
                       (B1950)             (J2000)             (Date)             (mas)

  0953+254          09 53 59.738485   * 09 56 49.875379     09 58 04.929287       0.11
* J0956+2515        25 29 33.58574    * 25 15 16.04984      25 09 02.75573        0.10
                    rfc_2022a Petrov and Kovalev, in preparation  33748 observations
```

eb091btr

EB091 second epoch Ross867 astrometry

PI: *Paul Boven*

```
Address:  JIVE

Observing mode:

Schedule for TORUN     (Code Tr )                                  Page   2
               EB091 second epoch Ross867 astrometry
  UP:  D => Below limits;  H => Below horizon mask;  W => still slewing at end;  blank => Up.
  Early: Seconds between end of slew and start.   Dwell: On source seconds.
  Disk: GBytes recorded to this point.
  TPStart:  Recording start time.  Frequencies are LO sum (band edge).
  SYNC: Time correlator is expected to sync up.
-------------------------------------------------------------------------------------------
Start UT  Source               Start / Stop                 Early    Disk   TPStart
Stop UT                  LST      EL    AZ   HA  UP   ParA  Dwell   GBytes    SYNC
-------------------------------------------------------------------------------------------
 --- Thu  26 May 2022   Day 146 ---
 Next scan frequencies:  1626.49  1626.49  1626.49  1626.49  1690.49  1690.49  1690.49  1690.49
 Next BBC frequencies:    673.51   673.51   673.51   673.51   609.51   609.51   609.51   609.51
 Next scan bandwidths:     32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00

19 00 00  OQ208        12 31 34  59.5 134.8 -1.6     -28.9     0        0   19 00 00
19 09 00  ---          12 40 36  60.5 138.3 -1.5     -27.0   540       70   19 00 01

19 09 00  J1722+2458   12 40 36  31.1  89.0 -4.7     -41.5  -123       70   No stop
19 14 00  =1720+250    12 45 37  31.8  90.0 -4.6     -41.5   177      108   19 09 01

19 14 30  J1722+2458   12 46 07  31.9  90.1 -4.6     -41.5    24      108   19 14 30
19 15 40  =1720+250    12 47 17  32.1  90.3 -4.6     -41.5    70      117   19 14 31

19 15 40  J1722+2815   12 47 17  34.5  87.7 -4.6     -42.9   -23      117   No stop
19 17 20  =1720+282    12 48 57  34.8  88.1 -4.6     -42.9    77      130   19 15 41

19 17 20  J1716+2616   12 48 57  34.2  90.9 -4.5     -42.0   -20      130   No stop
19 19 00  ---          12 50 38  34.5  91.2 -4.5     -42.0    80      143   19 17 21

19 19 00  ROSS867      12 50 38  34.2  90.4 -4.5     -42.1   -13      143   No stop
19 24 00  ---          12 55 38  34.9  91.4 -4.4     -42.1   287      182   19 19 01

19 24 30  J1722+2458   12 56 08  33.4  92.1 -4.5     -41.4    11      182   19 24 30
19 25 40  =1720+250    12 57 19  33.6  92.4 -4.4     -41.4    70      191   19 24 31

19 25 40  J1722+2815   12 57 19  36.1  89.7 -4.4     -43.0   -23      191   No stop
19 27 20  =1720+282    12 58 59  36.3  90.1 -4.4     -43.0    77      204   19 25 41

19 27 20  J1716+2616   12 58 59  35.7  92.9 -4.3     -42.0   -20      204   No stop
19 29 00  ---          13 00 39  36.0  93.2 -4.3     -41.9    80      216   19 27 21

19 29 00  ROSS867      13 00 39  35.7  92.4 -4.3     -42.1   -13      216   No stop
19 34 00  ---          13 05 40  36.4  93.5 -4.3     -42.0   287      255   19 29 01

19 34 30  J1722+2458   13 06 10  34.9  94.2 -4.3     -41.3    11      255   19 34 30
19 35 40  =1720+250    13 07 20  35.1  94.4 -4.3     -41.3    70      264   19 34 31

19 35 40  J1722+2815   13 07 20  37.6  91.7 -4.3     -42.9   -23      264   No stop
19 37 20  =1720+282    13 09 01  37.8  92.1 -4.2     -42.9    77      277   19 35 41

19 37 20  J1716+2616   13 09 01  37.2  95.0 -4.1     -41.8   -20      277   No stop
19 39 00  ---          13 10 41  37.5  95.3 -4.1     -41.8    80      290   19 37 21
```

Schedule for TORUN (Code Tr) Page 3

EB091 second epoch Ross867 astrometry

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT	Source	Start / Stop						Early	Disk	TPStart
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC
--- Thu 26 May 2022 Day 146 ---										
19 39 00	ROSS867	13 10 41	37.2	94.5	-4.2		-42.0	-13	290	No stop
19 44 00	---	13 15 42	37.9	95.5	-4.1		-41.9	287	328	19 39 01
19 44 30	J1722+2458	13 16 12	36.4	96.3	-4.1		-41.2	11	328	19 44 30
19 45 40	=1720+250	13 17 22	36.6	96.5	-4.1		-41.1	70	338	19 44 31
19 45 40	J1722+2815	13 17 22	39.1	93.8	-4.1		-42.8	-23	338	No stop
19 47 20	=1720+282	13 19 02	39.3	94.2	-4.1		-42.8	77	350	19 45 41
19 47 20	J1716+2616	13 19 02	38.7	97.1	-4.0		-41.6	-20	350	No stop
19 49 00	---	13 20 42	39.0	97.5	-4.0		-41.6	80	363	19 47 21
19 49 00	ROSS867	13 20 42	38.7	96.6	-4.0		-41.8	-13	363	No stop
19 54 00	---	13 25 43	39.4	97.7	-3.9		-41.7	287	402	19 49 01
19 54 30	J1722+2458	13 26 13	37.9	98.4	-4.0		-40.9	11	402	19 54 30
19 55 40	=1720+250	13 27 24	38.1	98.7	-3.9		-40.9	70	411	19 54 31
19 55 40	J1722+2815	13 27 24	40.6	95.9	-3.9		-42.7	-23	411	No stop
19 57 20	=1720+282	13 29 04	40.8	96.3	-3.9		-42.6	77	424	19 55 41
19 57 20	J1716+2616	13 29 04	40.2	99.3	-3.8		-41.4	-21	424	No stop
19 59 00	---	13 30 44	40.5	99.7	-3.8		-41.3	79	437	19 57 21
19 59 00	ROSS867	13 30 44	40.2	98.8	-3.8		-41.5	-13	437	No stop
20 04 00	---	13 35 45	40.9	99.9	-3.8		-41.4	287	475	19 59 01
20 04 30	J1722+2458	13 36 15	39.4	100.6	-3.8		-40.6	11	475	20 04 30
20 05 40	=1720+250	13 37 25	39.6	100.9	-3.8		-40.6	70	484	20 04 31
20 05 40	J1722+2815	13 37 25	42.1	98.1	-3.8		-42.4	-23	484	No stop
20 07 20	=1720+282	13 39 05	42.3	98.4	-3.7		-42.4	77	497	20 05 41
20 07 20	J1716+2616	13 39 05	41.7	101.5	-3.6		-41.0	-21	497	No stop
20 09 00	---	13 40 46	41.9	101.9	-3.6		-40.9	79	510	20 07 21
20 09 00	ROSS867	13 40 46	41.7	101.0	-3.7		-41.2	-13	510	No stop
20 14 00	---	13 45 47	42.4	102.2	-3.6		-41.0	287	549	20 09 01
20 14 30	J1722+2458	13 46 17	40.9	102.9	-3.6		-40.2	11	549	20 14 30
20 15 40	=1720+250	13 47 27	41.0	103.2	-3.6		-40.2	70	558	20 14 31
20 15 40	J1722+2815	13 47 27	43.5	100.3	-3.6		-42.1	-23	558	No stop
20 17 20	=1720+282	13 49 07	43.8	100.7	-3.6		-42.0	77	571	20 15 41
20 17 20	J1716+2616	13 49 07	43.2	103.8	-3.5		-40.5	-21	571	No stop
20 19 00	---	13 50 47	43.4	104.2	-3.4		-40.5	79	584	20 17 21

Schedule for TORUN (Code Tr) Page 4

EB091 second epoch Ross867 astrometry

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT	Source	Start / Stop						Early	Disk	TPStart
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC
--- Thu 26 May 2022 Day 146 ---										
20 19 00	3C345	13 50 47	58.0	96.9	-2.9		-50.9	-69	584	No stop
20 27 00	---	13 58 49	59.2	98.8	-2.7		-50.5	411	645	20 19 01
20 27 15	3C345	13 59 04	59.2	98.8	-2.7		-50.5	9	645	20 27 15
20 28 00	---	13 59 49	59.3	99.0	-2.7		-50.5	45	651	20 27 16
20 28 00	J1722+2458	13 59 49	42.8	106.1	-3.4		-39.5	-75	651	No stop
20 30 00	=1720+250	14 01 49	43.1	106.5	-3.4		-39.4	45	667	20 28 01
20 30 30	J1722+2458	14 02 19	43.2	106.7	-3.4		-39.4	24	667	20 30 30
20 31 40	=1720+250	14 03 29	43.4	106.9	-3.3		-39.3	70	676	20 30 31
20 31 40	J1722+2815	14 03 29	45.9	104.0	-3.3		-41.4	-24	676	No stop
20 33 20	=1720+282	14 05 10	46.1	104.4	-3.3		-41.3	76	689	20 31 41
20 33 20	J1716+2616	14 05 10	45.5	107.7	-3.2		-39.6	-21	689	No stop
20 35 00	---	14 06 50	45.7	108.1	-3.2		-39.5	79	701	20 33 21
20 35 00	ROSS867	14 06 50	45.5	107.1	-3.2		-39.9	-14	701	No stop
20 40 00	---	14 11 51	46.2	108.4	-3.1		-39.5	286	740	20 35 01
20 40 30	J1722+2458	14 12 21	44.6	109.1	-3.2		-38.7	10	740	20 40 30
20 41 40	=1720+250	14 13 31	44.8	109.4	-3.2		-38.7	70	749	20 40 31
20 41 40	J1722+2815	14 13 31	47.3	106.4	-3.2		-40.8	-24	749	No stop
20 43 20	=1720+282	14 15 11	47.6	106.9	-3.1		-40.7	76	762	20 41 41
20 43 20	J1716+2616	14 15 11	46.9	110.2	-3.0		-38.9	-22	762	No stop
20 45 00	---	14 16 52	47.1	110.6	-3.0		-38.8	78	775	20 43 21
20 45 00	ROSS867	14 16 52	46.9	109.6	-3.1		-39.2	-14	775	No stop
20 50 00	---	14 21 52	47.6	110.9	-3.0		-38.8	286	813	20 45 01
20 50 30	J1722+2458	14 22 23	46.0	111.7	-3.0		-38.0	10	813	20 50 30
20 51 40	=1720+250	14 23 33	46.2	112.0	-3.0		-37.9	70	823	20 50 31
20 51 40	J1722+2815	14 23 33	48.8	109.0	-3.0		-40.1	-24	823	No stop
20 53 20	=1720+282	14 25 13	49.0	109.4	-3.0		-40.0	76	835	20 51 41
20 53 20	J1716+2616	14 25 13	48.3	112.8	-2.9		-38.1	-22	835	No stop
20 55 00	---	14 26 53	48.5	113.2	-2.8		-38.0	78	848	20 53 21
20 55 00	ROSS867	14 26 53	48.3	112.2	-2.9		-38.4	-14	848	No stop
21 00 00	---	14 31 54	49.0	113.6	-2.8		-37.9	286	887	20 55 01

Schedule for TORUN (Code Tr) Page 5

EB091 second epoch Ross867 astrometry

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	LST	Start / Stop EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Thu 26 May 2022 Day 146 ---										
21 00 30	J1722+2458	14 32 24	47.4	114.3	-2.9		-37.1	10	887	21 00 30
21 01 40	=1720+250	14 33 34	47.6	114.6	-2.8		-37.0	70	896	21 00 31
21 01 40	J1722+2815	14 33 34	50.2	111.6	-2.8		-39.3	-24	896	No stop
21 03 20	=1720+282	14 35 15	50.4	112.0	-2.8		-39.2	76	909	21 01 41
21 03 20	J1716+2616	14 35 15	49.7	115.5	-2.7		-37.2	-22	909	No stop
21 05 00	---	14 36 55	49.9	116.0	-2.7		-37.0	78	922	21 03 21
21 05 00	ROSS867	14 36 55	49.7	114.9	-2.7		-37.5	-14	922	No stop
21 10 00	---	14 41 56	50.4	116.3	-2.6		-37.0	286	960	21 05 01
21 10 30	J1722+2458	14 42 26	48.8	117.0	-2.7		-36.2	10	960	21 10 30
21 11 40	=1720+250	14 43 36	48.9	117.3	-2.7		-36.0	70	969	21 10 31
21 11 40	J1722+2815	14 43 36	51.6	114.3	-2.7		-38.4	-24	969	No stop
21 13 20	=1720+282	14 45 16	51.8	114.8	-2.6		-38.2	76	982	21 11 41
21 13 20	J1716+2616	14 45 16	51.0	118.3	-2.5		-36.1	-22	982	No stop
21 15 00	---	14 46 57	51.2	118.8	-2.5		-35.9	78	995	21 13 21
21 15 00	ROSS867	14 46 57	51.0	117.7	-2.6		-36.4	-14	995	No stop
21 20 00	---	14 51 57	51.7	119.2	-2.5		-35.9	286	1034	21 15 01
21 20 30	J1722+2458	14 52 27	50.1	119.9	-2.5		-35.1	10	1034	21 20 30
21 21 40	=1720+250	14 53 38	50.3	120.2	-2.5		-34.9	70	1043	21 20 31
21 21 40	J1722+2815	14 53 38	52.9	117.1	-2.5		-37.3	-24	1043	No stop
21 23 20	=1720+282	14 55 18	53.2	117.6	-2.5		-37.1	76	1056	21 21 41
21 23 20	J1716+2616	14 55 18	52.3	121.3	-2.4		-34.9	-22	1056	No stop
21 25 00	---	14 56 58	52.5	121.8	-2.3		-34.7	78	1069	21 23 21
21 25 00	ROSS867	14 56 58	52.3	120.7	-2.4		-35.2	-14	1069	No stop
21 30 00	---	15 01 59	53.0	122.2	-2.3		-34.6	286	1107	21 25 01
21 30 30	J1722+2458	15 02 29	51.4	122.8	-2.4		-33.8	10	1107	21 30 30
21 31 40	=1720+250	15 03 39	51.5	123.2	-2.3		-33.7	70	1116	21 30 31
21 31 40	J1722+2815	15 03 39	54.3	120.1	-2.3		-36.1	-24	1116	No stop
21 33 20	=1720+282	15 05 20	54.5	120.6	-2.3		-35.9	76	1129	21 31 41
21 33 20	J1716+2616	15 05 20	53.6	124.4	-2.2		-33.5	-22	1129	No stop
21 35 00	---	15 07 00	53.8	124.9	-2.2		-33.3	78	1142	21 33 21

Schedule for TORUN (Code Tr) Page 6

EB091 second epoch Ross867 astrometry

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT	Source	Start / Stop						Early	Disk	TPStart
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC
--- Thu 26 May 2022 Day 146 ---										
21 35 00	ROSS867	15 07 00	53.6	123.7	-2.2		-33.9	-14	1142	No stop
21 40 00	---	15 12 01	54.2	125.3	-2.1		-33.2	286	1181	21 35 01
21 40 30	J1722+2458	15 12 31	52.6	125.9	-2.2		-32.4	10	1181	21 40 30
21 41 40	=1720+250	15 13 41	52.8	126.3	-2.2		-32.3	70	1190	21 40 31
21 41 40	J1722+2815	15 13 41	55.5	123.3	-2.2		-34.7	-24	1190	No stop
21 43 20	=1720+282	15 15 21	55.7	123.8	-2.1		-34.5	76	1203	21 41 41
21 43 20	J1716+2616	15 15 21	54.8	127.6	-2.0		-32.0	-23	1203	No stop
21 45 00	---	15 17 01	55.0	128.2	-2.0		-31.8	77	1215	21 43 21
21 45 00	ROSS867	15 17 01	54.8	126.9	-2.1		-32.4	-15	1215	No stop
21 50 00	---	15 22 02	55.4	128.6	-2.0		-31.6	285	1254	21 45 01
21 50 30	J1722+2458	15 22 32	53.8	129.1	-2.0		-30.9	10	1254	21 50 30
21 51 40	=1720+250	15 23 43	54.0	129.5	-2.0		-30.7	70	1263	21 50 31
21 51 40	J1722+2815	15 23 43	56.8	126.6	-2.0		-33.2	-25	1263	No stop
21 53 20	=1720+282	15 25 23	57.0	127.1	-2.0		-32.9	75	1276	21 51 41
21 53 20	J1716+2616	15 25 23	56.0	131.0	-1.9		-30.4	-23	1276	No stop
21 55 00	---	15 27 03	56.2	131.6	-1.8		-30.1	77	1289	21 53 21
21 55 00	ROSS867	15 27 03	56.0	130.3	-1.9		-30.8	-15	1289	No stop
22 00 00	---	15 32 04	56.6	132.1	-1.8		-29.9	285	1327	21 55 01
22 00 30	J1722+2458	15 32 34	55.0	132.5	-1.9		-29.2	10	1327	22 00 30
22 01 40	=1720+250	15 33 44	55.1	132.9	-1.8		-29.0	70	1336	22 00 31
22 01 40	J1722+2815	15 33 44	58.0	130.0	-1.8		-31.5	-25	1336	No stop
22 03 20	=1720+282	15 35 25	58.1	130.6	-1.8		-31.2	75	1349	22 01 41
22 03 20	J1716+2616	15 35 25	57.1	134.5	-1.7		-28.5	-23	1349	No stop
22 05 00	---	15 37 05	57.2	135.1	-1.7		-28.2	77	1362	22 03 21
22 05 00	ROSS867	15 37 05	57.1	133.8	-1.7		-28.9	-15	1362	No stop
22 10 00	---	15 42 06	57.7	135.7	-1.6		-27.9	285	1401	22 05 01
22 10 30	J1722+2458	15 42 36	56.1	136.1	-1.7		-27.4	10	1401	22 10 30
22 11 40	=1720+250	15 43 46	56.2	136.5	-1.7		-27.1	70	1410	22 10 31
22 11 40	J1722+2815	15 43 46	59.1	133.7	-1.7		-29.5	-25	1410	No stop
22 13 20	=1720+282	15 45 26	59.3	134.3	-1.6		-29.2	75	1423	22 11 41

Schedule for TORUN (Code Tr) Page 7

EB091 second epoch Ross867 astrometry

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Thu 26 May 2022 Day 146 ---										
22 13 20	J1716+2616	15 45 26	58.1	138.3	-1.5		-26.5	-23	1423	No stop
22 15 00	---	15 47 06	58.3	138.9	-1.5		-26.1	77	1436	22 13 21
22 15 00	ROSS867	15 47 06	58.2	137.6	-1.6		-26.9	-15	1436	No stop
22 20 00	---	15 52 07	58.7	139.5	-1.5		-25.8	285	1474	22 15 01
22 20 30	J1722+2458	15 52 37	57.1	139.8	-1.5		-25.3	10	1474	22 20 30
22 21 40	=1720+250	15 53 48	57.2	140.2	-1.5		-25.1	70	1483	22 20 31
22 21 40	J1722+2815	15 53 48	60.1	137.5	-1.5		-27.4	-25	1483	No stop
22 23 20	=1720+282	15 55 28	60.3	138.2	-1.5		-27.0	75	1496	22 21 41
22 23 20	J1716+2616	15 55 28	59.1	142.2	-1.4		-24.2	-23	1496	No stop
22 25 00	---	15 57 08	59.2	142.8	-1.3		-23.9	77	1509	22 23 21
22 25 00	ROSS867	15 57 08	59.2	141.4	-1.4		-24.7	-15	1509	No stop
22 30 00	---	16 02 09	59.6	143.5	-1.3		-23.5	285	1548	22 25 01
22 30 30	J1722+2458	16 02 39	58.0	143.6	-1.4		-23.1	10	1548	22 30 30
22 31 40	=1720+250	16 03 49	58.1	144.1	-1.3		-22.9	70	1557	22 30 31
22 31 40	J1722+2815	16 03 49	61.1	141.5	-1.3		-25.1	-25	1557	No stop
22 33 20	=1720+282	16 05 29	61.3	142.2	-1.3		-24.7	75	1570	22 31 41
22 33 20	J1716+2616	16 05 29	60.0	146.2	-1.2		-21.8	-23	1570	No stop
22 35 00	---	16 07 10	60.1	146.9	-1.2		-21.4	77	1583	22 33 21
22 35 00	ROSS867	16 07 10	60.1	145.5	-1.2		-22.3	-15	1583	No stop
22 40 00	---	16 12 11	60.5	147.6	-1.1		-21.1	285	1621	22 35 01
22 40 30	J1722+2458	16 12 41	58.8	147.6	-1.2		-20.8	10	1621	22 40 30
22 41 40	=1720+250	16 13 51	58.9	148.1	-1.2		-20.5	70	1630	22 40 31
22 41 40	J1722+2815	16 13 51	62.0	145.8	-1.2		-22.5	-25	1630	No stop
22 43 20	=1720+282	16 15 31	62.1	146.5	-1.1		-22.1	75	1643	22 41 41
22 43 20	J1716+2616	16 15 31	60.7	150.5	-1.0		-19.3	-23	1643	No stop
22 45 00	---	16 17 11	60.9	151.2	-1.0		-18.8	77	1656	22 43 21
22 45 00	ROSS867	16 17 11	60.9	149.8	-1.1		-19.7	-16	1656	No stop
22 50 00	---	16 22 12	61.2	151.9	-1.0		-18.4	284	1695	22 45 01
22 50 30	J1722+2458	16 22 42	59.6	151.8	-1.0		-18.2	10	1695	22 50 30
22 51 40	=1720+250	16 23 52	59.7	152.3	-1.0		-17.9	70	1704	22 50 31

Schedule for TORUN (Code Tr) Page 8

EB091 second epoch Ross867 astrometry

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Thu 26 May 2022 Day 146 ---										
22 51 40	J1722+2815	16 23 52	62.8	150.2	-1.0		-19.8	-26	1704	No stop
22 53 20	=1720+282	16 25 33	62.9	151.0	-1.0		-19.3	74	1717	22 51 41
22 53 20	J1716+2616	16 25 33	61.4	154.9	-0.9		-16.5	-23	1717	No stop
22 55 00	---	16 27 13	61.5	155.7	-0.8		-16.0	77	1729	22 53 21
22 55 00	ROSS867	16 27 13	61.6	154.2	-0.9		-17.0	-16	1729	No stop
23 00 00	---	16 32 14	61.9	156.5	-0.8		-15.5	284	1768	22 55 01
23 00 30	J1722+2458	16 32 44	60.3	156.2	-0.9		-15.5	10	1768	23 00 30
23 01 40	=1720+250	16 33 54	60.3	156.7	-0.8		-15.2	70	1777	23 00 31
23 01 40	J1722+2815	16 33 54	63.5	154.9	-0.8		-16.8	-26	1777	No stop
23 03 20	=1720+282	16 35 34	63.6	155.7	-0.8		-16.3	74	1790	23 01 41
23 03 20	J1716+2616	16 35 34	62.0	159.5	-0.7		-13.6	-23	1790	No stop
23 05 00	---	16 37 15	62.1	160.3	-0.7		-13.1	77	1803	23 03 21
23 05 00	ROSS867	16 37 15	62.2	158.8	-0.7		-14.1	-16	1803	No stop
23 10 00	---	16 42 15	62.4	161.1	-0.6		-12.5	284	1841	23 05 01
23 10 30	J1722+2458	16 42 46	60.8	160.7	-0.7		-12.7	10	1841	23 10 30
23 11 40	=1720+250	16 43 56	60.9	161.2	-0.7		-12.3	70	1850	23 10 31
23 11 40	J1722+2815	16 43 56	64.1	159.7	-0.7		-13.7	-26	1850	No stop
23 13 20	=1720+282	16 45 36	64.2	160.5	-0.6		-13.1	74	1863	23 11 41
23 13 20	J1716+2616	16 45 36	62.5	164.2	-0.5		-10.5	-23	1863	No stop
23 15 00	---	16 47 16	62.6	165.0	-0.5		-10.0	77	1876	23 13 21
23 15 00	ROSS867	16 47 16	62.7	163.5	-0.6		-11.0	-16	1876	No stop
23 20 00	---	16 52 17	62.9	165.9	-0.5		-9.4	284	1915	23 15 01
23 20 30	J1722+2458	16 52 47	61.3	165.3	-0.5		-9.7	10	1915	23 20 30
23 21 40	=1720+250	16 53 57	61.3	165.8	-0.5		-9.3	70	1924	23 20 31
23 21 40	J1722+2815	16 53 57	64.5	164.7	-0.5		-10.4	-26	1924	No stop
23 23 20	=1720+282	16 55 38	64.6	165.5	-0.5		-9.8	74	1937	23 21 41
23 23 20	J1716+2616	16 55 38	62.8	169.1	-0.4		-7.3	-22	1937	No stop
23 25 00	---	16 57 18	62.9	169.9	-0.3		-6.8	78	1950	23 23 21
23 25 00	ROSS867	16 57 18	63.0	168.3	-0.4		-7.8	-16	1950	No stop
23 30 00	---	17 02 19	63.2	170.8	-0.3		-6.2	284	1988	23 25 01

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Schedule for TORUN     (Code Tr )                                  Page   9
               EB091 second epoch Ross867 astrometry
  UP:  D => Below limits;  H => Below horizon mask;  W => still slewing at end;  blank => Up.
  Early: Seconds between end of slew and start.   Dwell: On source seconds.
  Disk: GBytes recorded to this point.
  TPStart:  Recording start time.  Frequencies are LO sum (band edge).
  SYNC: Time correlator is expected to sync up.
-----------------------------------------------------------------------------------------
Start UT  Source               Start / Stop                 Early    Disk   TPStart
Stop UT                  LST      EL    AZ   HA  UP   ParA  Dwell   GBytes    SYNC
-----------------------------------------------------------------------------------------

 --- Thu  26 May 2022   Day 146 ---

23 30 30  J1722+2458   17 02 49  61.6 170.0 -0.4      -6.6    10     1988   23 30 30
23 31 40  =1720+250    17 03 59  61.6 170.5 -0.3      -6.3    70     1997   23 30 31

23 31 40  J1722+2815   17 03 59  64.9 169.8 -0.3      -6.9   -26     1997   No stop
23 33 20  =1720+282    17 05 39  64.9 170.6 -0.3      -6.4    74     2010   23 31 41

23 33 20  J1716+2616   17 05 39  63.1 174.0 -0.2      -4.0   -22     2010   No stop
23 35 00  ---          17 07 20  63.1 174.8 -0.2      -3.5    78     2023   23 33 21

23 35 00  ROSS867      17 07 20  63.3 173.3 -0.2      -4.5   -16     2023   No stop
23 40 00  ---          17 12 20  63.3 175.8 -0.1      -2.8   284     2062   23 35 01

23 40 30  J1722+2458   17 12 50  61.8 174.7 -0.2      -3.5    11     2062   23 40 30
23 41 40  =1720+250    17 14 01  61.8 175.3 -0.2      -3.1    70     2071   23 40 31

23 41 40  J1722+2815   17 14 01  65.1 175.0 -0.2      -3.4   -26     2071   No stop
23 43 20  =1720+282    17 15 41  65.1 175.9 -0.1      -2.8    74     2084   23 41 41

23 43 20  J1716+2616   17 15 41  63.1 179.0 -0.0      -0.7   -21     2084   No stop
23 45 00  ---          17 17 21  63.1 179.8 -0.0      -0.1    79     2097   23 43 21

23 45 00  ROSS867      17 17 21  63.4 178.3 -0.1      -1.2   -16     2097   No stop
23 50 00  ---          17 22 22  63.4 180.8  0.0       0.5   284     2135   23 45 01

23 50 30  J1722+2458   17 22 52  61.9 179.5 -0.0      -0.3    11     2135   23 50 30
23 51 40  =1720+250    17 24 02  61.9 180.1  0.0       0.1    70     2144   23 50 31

23 51 40  J1722+2815   17 24 02  65.1 180.2  0.0       0.2   -26     2144   No stop
23 53 20  =1720+282    17 25 43  65.1 181.1  0.0       0.8    74     2157   23 51 41

23 53 20  J1716+2616   17 25 43  63.1 183.9  0.1       2.6   -21     2157   No stop
23 55 00  ---          17 27 23  63.1 184.8  0.2       3.2    79     2170   23 53 21

 --- Start: Thu  26 May 2022   Day 146 -- Stop: Fri  27 May 2022   Day 147 ---

23 55 00  J1800+3848   17 27 23  74.6 154.5 -0.6     -19.4   -74     2170   No stop
00 03 00  =1758+388    17 35 24  75.0 160.2 -0.4     -15.1   406     2232   23 55 01

00 03 15  J1800+3848   17 35 39  75.1 160.4 -0.4     -15.0     8     2232   00 03 15
00 04 00  =1758+388    17 36 24  75.1 160.9 -0.4     -14.6    45     2238   00 03 16

00 05 30  J1722+2458   17 37 55  61.7 186.8  0.2       4.5    24     2238   00 05 30
00 06 40  =1720+250    17 39 05  61.7 187.3  0.3       4.8    70     2247   00 05 31
```

Schedule for TORUN (Code Tr) Page 10

EB091 second epoch Ross867 astrometry

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	LST	Start / Stop EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Fri 27 May 2022 Day 147 ---										
00 06 40	J1722+2815	17 39 05	65.0	188.1	0.3		5.5	-26	2247	No stop
00 08 20	=1720+282	17 40 45	64.9	188.9	0.3		6.1	74	2259	00 06 41
00 08 20	J1716+2616	17 40 45	62.8	191.3	0.4		7.6	-22	2259	No stop
00 10 00	---	17 42 25	62.8	192.1	0.4		8.1	78	2272	00 08 21
00 10 00	ROSS867	17 42 25	63.1	190.7	0.4		7.2	-15	2272	No stop
00 15 00	---	17 47 26	62.9	193.2	0.4		8.8	285	2311	00 10 01
00 15 30	J1722+2458	17 47 56	61.5	191.5	0.4		7.6	11	2311	00 15 30
00 16 40	=1720+250	17 49 06	61.5	192.1	0.4		8.0	70	2320	00 15 31
00 16 40	J1722+2815	17 49 06	64.7	193.2	0.4		9.0	-26	2320	No stop
00 18 20	=1720+282	17 50 47	64.6	194.1	0.5		9.5	74	2333	00 16 41
00 18 20	J1716+2616	17 50 47	62.5	196.2	0.5		10.7	-22	2333	No stop
00 20 00	---	17 52 27	62.4	196.9	0.6		11.3	78	2346	00 18 21
00 20 00	ROSS867	17 52 27	62.7	195.6	0.5		10.4	-15	2346	No stop
00 25 00	---	17 57 28	62.5	198.0	0.6		12.0	285	2384	00 20 01
00 25 30	J1722+2458	17 57 58	61.1	196.2	0.6		10.6	11	2384	00 25 30
00 26 40	=1720+250	17 59 08	61.1	196.7	0.6		11.0	70	2393	00 25 31
00 26 40	J1722+2815	17 59 08	64.3	198.3	0.6		12.3	-26	2393	No stop
00 28 20	=1720+282	18 00 48	64.2	199.1	0.6		12.9	74	2406	00 26 41
00 28 20	J1716+2616	18 00 48	62.0	200.9	0.7		13.8	-22	2406	No stop
00 30 00	---	18 02 29	61.9	201.6	0.7		14.3	78	2419	00 28 21
00 30 00	ROSS867	18 02 29	62.3	200.4	0.7		13.5	-15	2419	No stop
00 35 00	---	18 07 29	62.0	202.7	0.8		15.0	285	2458	00 30 01
00 35 30	J1722+2458	18 08 00	60.7	200.8	0.7		13.6	12	2458	00 35 30
00 36 40	=1720+250	18 09 10	60.6	201.3	0.8		13.9	70	2467	00 35 31
00 36 40	J1722+2815	18 09 10	63.7	203.2	0.8		15.6	-26	2467	No stop
00 38 20	=1720+282	18 10 50	63.6	204.0	0.8		16.1	74	2480	00 36 41
00 38 20	J1716+2616	18 10 50	61.4	205.4	0.9		16.7	-22	2480	No stop
00 40 00	---	18 12 30	61.3	206.2	0.9		17.2	78	2493	00 38 21
00 40 00	ROSS867	18 12 30	61.7	205.0	0.9		16.5	-15	2493	No stop
00 45 00	---	18 17 31	61.4	207.2	0.9		17.9	285	2531	00 40 01

Schedule for TORUN (Code Tr) Page 11

EB091 second epoch Ross867 astrometry

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	LST	Start / Stop EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Fri 27 May 2022 Day 147 ---										
00 45 30	J1722+2458	18 18 01	60.1	205.2	0.9		16.4	12	2531	00 45 30
00 46 40	=1720+250	18 19 11	60.0	205.7	0.9		16.7	70	2540	00 45 31
00 46 40	J1722+2815	18 19 11	63.1	207.9	0.9		18.6	-25	2540	No stop
00 48 20	=1720+282	18 20 52	63.0	208.7	1.0		19.1	75	2553	00 46 41
00 48 20	J1716+2616	18 20 52	60.7	209.9	1.1		19.5	-23	2553	No stop
00 50 00	---	18 22 32	60.6	210.6	1.1		19.9	77	2566	00 48 21
00 50 00	ROSS867	18 22 32	61.0	209.4	1.0		19.2	-14	2566	No stop
00 55 00	---	18 27 33	60.6	211.6	1.1		20.6	286	2605	00 50 01
00 55 30	J1722+2458	18 28 03	59.4	209.5	1.1		19.0	12	2605	00 55 30
00 56 40	=1720+250	18 29 13	59.3	210.0	1.1		19.3	70	2614	00 55 31
00 56 40	J1722+2815	18 29 13	62.3	212.4	1.1		21.4	-25	2614	No stop
00 58 20	=1720+282	18 30 53	62.2	213.2	1.1		21.9	75	2627	00 56 41
00 58 20	J1716+2616	18 30 53	59.9	214.1	1.2		22.0	-23	2627	No stop
01 00 00	---	18 32 34	59.7	214.8	1.2		22.5	77	2640	00 58 21
01 00 00	ROSS867	18 32 34	60.2	213.7	1.2		21.9	-14	2640	No stop
01 05 00	---	18 37 34	59.8	215.8	1.3		23.1	286	2678	01 00 01
01 05 30	J1722+2458	18 38 04	58.6	213.6	1.2		21.5	12	2678	01 05 30
01 06 40	=1720+250	18 39 15	58.5	214.1	1.3		21.8	70	2687	01 05 31
01 06 40	J1722+2815	18 39 15	61.5	216.7	1.3		24.1	-25	2687	No stop
01 08 20	=1720+282	18 40 55	61.3	217.4	1.3		24.5	75	2700	01 06 41
01 08 20	J1716+2616	18 40 55	59.0	218.2	1.4		24.4	-23	2700	No stop
01 10 00	---	18 42 35	58.8	218.8	1.4		24.8	77	2713	01 08 21
01 10 00	ROSS867	18 42 35	59.3	217.8	1.4		24.3	-14	2713	No stop
01 15 00	---	18 47 36	58.9	219.8	1.4		25.4	286	2752	01 10 01
01 15 30	J1722+2458	18 48 06	57.7	217.6	1.4		23.8	11	2752	01 15 30
01 16 40	=1720+250	18 49 16	57.6	218.1	1.4		24.1	70	2761	01 15 31
01 16 40	J1722+2815	18 49 16	60.5	220.9	1.4		26.5	-25	2761	No stop
01 18 20	=1720+282	18 50 57	60.4	221.5	1.5		26.9	75	2773	01 16 41
01 18 20	J1716+2616	18 50 57	58.0	222.0	1.6		26.6	-23	2773	No stop
01 20 00	---	18 52 37	57.9	222.7	1.6		27.0	77	2786	01 18 21

Schedule for TORUN (Code Tr) Page 12

EB091 second epoch Ross867 astrometry

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	LST	Start / Stop EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Fri 27 May 2022 Day 147 ---										
01 20 00	ROSS867	18 52 37	58.4	221.7	1.5		26.5	-13	2786	No stop
01 25 00	---	18 57 38	57.9	223.6	1.6		27.6	287	2825	01 20 01
01 25 30	J1722+2458	18 58 08	56.8	221.4	1.6		26.0	11	2825	01 25 30
01 26 40	=1720+250	18 59 18	56.6	221.9	1.6		26.2	70	2834	01 25 31
01 26 40	J1722+2815	18 59 18	59.5	224.8	1.6		28.7	-25	2834	No stop
01 28 20	=1720+282	19 00 58	59.3	225.4	1.6		29.0	75	2847	01 26 41
01 28 20	J1716+2616	19 00 58	57.0	225.8	1.7		28.7	-23	2847	No stop
01 30 00	---	19 02 38	56.8	226.4	1.7		29.0	77	2860	01 28 21
01 30 00	ROSS867	19 02 38	57.3	225.5	1.7		28.6	-13	2860	No stop
01 35 00	---	19 07 39	56.8	227.3	1.8		29.5	287	2898	01 30 01
01 35 30	J1722+2458	19 08 09	55.7	225.1	1.7		28.0	11	2898	01 35 30
01 36 40	=1720+250	19 09 20	55.6	225.5	1.8		28.2	70	2907	01 35 31
01 36 40	J1722+2815	19 09 20	58.4	228.5	1.8		30.7	-24	2907	No stop
01 38 20	=1720+282	19 11 00	58.2	229.1	1.8		31.0	76	2920	01 36 41
01 38 20	J1716+2616	19 11 00	55.9	229.3	1.9		30.5	-23	2920	No stop
01 40 00	---	19 12 40	55.7	229.9	1.9		30.8	77	2933	01 38 21
01 40 00	ROSS867	19 12 40	56.2	229.0	1.9		30.4	-13	2933	No stop
01 45 00	---	19 17 41	55.7	230.8	1.9		31.3	287	2972	01 40 01
01 45 30	J1722+2458	19 18 11	54.6	228.5	1.9		29.8	11	2972	01 45 30
01 46 40	=1720+250	19 19 21	54.5	228.9	1.9		30.0	70	2981	01 45 31
01 46 40	J1722+2815	19 19 21	57.3	232.0	1.9		32.5	-24	2981	No stop
01 48 20	=1720+282	19 21 01	57.1	232.6	2.0		32.8	76	2994	01 46 41
01 48 20	J1716+2616	19 21 01	54.7	232.7	2.1		32.2	-23	2994	No stop
01 50 00	---	19 22 42	54.5	233.2	2.1		32.4	77	3007	01 48 21
01 50 00	ROSS867	19 22 42	55.1	232.4	2.0		32.1	-13	3007	No stop
01 55 00	---	19 27 43	54.5	234.1	2.1		32.9	287	3045	01 50 01
01 55 30	J1722+2458	19 28 13	53.5	231.9	2.1		31.4	11	3045	01 55 30
01 56 40	=1720+250	19 29 23	53.3	232.3	2.1		31.6	70	3054	01 55 31
01 56 40	J1722+2815	19 29 23	56.1	235.4	2.1		34.1	-24	3054	No stop
01 58 20	=1720+282	19 31 03	55.8	235.9	2.1		34.4	76	3067	01 56 41

Schedule for TORUN (Code Tr) Page 13

EB091 second epoch Ross867 astrometry

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	LST	Start / Stop EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Fri 27 May 2022 Day 147 ---										
01 58 20	J1716+2616	19 31 03	53.5	235.9	2.2		33.7	-23	3067	No stop
02 00 00	---	19 32 43	53.3	236.4	2.2		33.9	77	3080	01 58 21
02 00 00	ROSS867	19 32 43	53.8	235.7	2.2		33.6	-14	3080	No stop
02 05 00	---	19 37 44	53.2	237.2	2.3		34.3	286	3119	02 00 01
02 05 30	J1722+2458	19 38 14	52.3	235.1	2.2		32.9	12	3119	02 05 30
02 06 40	=1720+250	19 39 24	52.1	235.4	2.3		33.1	70	3128	02 05 31
02 06 40	J1722+2815	19 39 24	54.8	238.6	2.3		35.6	-24	3128	No stop
02 08 20	=1720+282	19 41 05	54.6	239.1	2.3		35.8	76	3141	02 06 41
02 08 20	J1716+2616	19 41 05	52.2	239.0	2.4		35.0	-23	3141	No stop
02 10 00	---	19 42 45	52.0	239.5	2.4		35.2	77	3153	02 08 21
02 10 00	ROSS867	19 42 45	52.6	238.8	2.4		35.0	-14	3153	No stop
02 15 00	---	19 47 46	51.9	240.3	2.4		35.6	286	3192	02 10 01
02 15 30	J1722+2458	19 48 16	51.0	238.1	2.4		34.2	12	3192	02 15 30
02 16 40	=1720+250	19 49 26	50.9	238.5	2.4		34.4	70	3201	02 15 31
02 16 40	J1722+2815	19 49 26	53.5	241.6	2.4		36.9	-24	3201	No stop
02 18 20	=1720+282	19 51 06	53.3	242.1	2.5		37.0	76	3214	02 16 41
02 18 20	J1716+2616	19 51 06	50.9	241.9	2.6		36.2	-23	3214	No stop
02 20 00	---	19 52 47	50.7	242.4	2.6		36.4	77	3227	02 18 21
02 20 00	ROSS867	19 52 47	51.3	241.7	2.5		36.2	-14	3227	No stop
02 25 00	---	19 57 47	50.6	243.2	2.6		36.8	286	3266	02 20 01
02 25 30	J1722+2458	19 58 18	49.7	241.0	2.6		35.4	12	3266	02 25 30
02 26 40	=1720+250	19 59 28	49.6	241.4	2.6		35.5	70	3275	02 25 31
02 26 40	J1722+2815	19 59 28	52.1	244.5	2.6		38.0	-23	3275	No stop
02 28 20	=1720+282	20 01 08	51.9	245.0	2.6		38.2	77	3287	02 26 41
02 28 20	J1716+2616	20 01 08	49.6	244.7	2.7		37.3	-23	3287	No stop
02 30 00	---	20 02 48	49.3	245.2	2.8		37.4	77	3300	02 28 21
02 30 00	ROSS867	20 02 48	49.9	244.6	2.7		37.3	-14	3300	No stop
02 35 00	---	20 07 49	49.2	245.9	2.8		37.8	286	3339	02 30 01
02 35 30	J1722+2458	20 08 19	48.4	243.9	2.7		36.5	12	3339	02 35 30
02 36 40	=1720+250	20 09 29	48.2	244.2	2.8		36.6	70	3348	02 35 31

Schedule for TORUN (Code Tr) Page 14

EB091 second epoch Ross867 astrometry

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Fri 27 May 2022 Day 147 ---										
02 36 40	J1722+2815	20 09 29	50.8	247.3	2.8		39.0	-23	3348	No stop
02 38 20	=1720+282	20 11 10	50.5	247.8	2.8		39.1	77	3361	02 36 41
02 38 20	J1716+2616	20 11 10	48.2	247.4	2.9		38.2	-23	3361	No stop
02 40 00	---	20 12 50	48.0	247.9	2.9		38.3	77	3374	02 38 21
02 40 00	ROSS867	20 12 50	48.6	247.3	2.9		38.2	-14	3374	No stop
02 45 00	---	20 17 51	47.9	248.6	3.0		38.7	286	3412	02 40 01
02 45 30	J1722+2458	20 18 21	47.0	246.5	2.9		37.4	12	3412	02 45 30
02 46 40	=1720+250	20 19 31	46.8	246.9	2.9		37.5	70	3421	02 45 31
02 46 40	J1722+2815	20 19 31	49.4	250.0	2.9		39.8	-23	3421	No stop
02 48 20	=1720+282	20 21 11	49.1	250.4	3.0		39.9	77	3434	02 46 41
02 48 20	J1716+2616	20 21 11	46.8	250.0	3.1		39.0	-23	3434	No stop
02 50 00	---	20 22 52	46.5	250.4	3.1		39.1	77	3447	02 48 21
02 50 00	ROSS867	20 22 52	47.2	249.9	3.0		39.0	-14	3447	No stop
02 55 00	---	20 27 52	46.4	251.2	3.1		39.4	286	3486	02 50 01
02 55 30	J1722+2458	20 28 22	45.6	249.1	3.1		38.2	12	3486	02 55 30
02 56 40	=1720+250	20 29 33	45.4	249.4	3.1		38.3	70	3495	02 55 31
02 56 40	J1722+2815	20 29 33	47.9	252.5	3.1		40.5	-23	3495	No stop
02 58 20	=1720+282	20 31 13	47.7	252.9	3.1		40.7	77	3508	02 56 41
02 58 20	J1716+2616	20 31 13	45.4	252.5	3.2		39.7	-23	3508	No stop
03 00 00	---	20 32 53	45.1	252.9	3.3		39.8	77	3521	02 58 21
03 00 00	ROSS867	20 32 53	45.7	252.4	3.2		39.8	-14	3521	No stop
03 05 00	---	20 37 54	45.0	253.6	3.3		40.1	286	3559	03 00 01
03 05 30	J1722+2458	20 38 24	44.2	251.7	3.2		39.0	12	3559	03 05 30
03 06 40	=1720+250	20 39 34	44.0	251.9	3.3		39.0	70	3568	03 05 31
03 06 40	J1722+2815	20 39 34	46.5	255.0	3.3		41.2	-23	3568	No stop
03 08 20	=1720+282	20 41 15	46.3	255.4	3.3		41.3	77	3581	03 06 41
03 08 20	J1716+2616	20 41 15	43.9	254.9	3.4		40.3	-23	3581	No stop
03 10 00	---	20 42 55	43.7	255.3	3.4		40.4	77	3594	03 08 21
03 10 00	ROSS867	20 42 55	44.3	254.8	3.4		40.4	-14	3594	No stop
03 15 00	---	20 47 56	43.6	256.0	3.5		40.6	286	3633	03 10 01

Schedule for TORUN (Code Tr) Page 15

EB091 second epoch Ross867 astrometry

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT	Source	Start / Stop						Early	Disk	TPStart
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC
--- Fri 27 May 2022 Day 147 ---										
03 15 30	J1722+2458	20 48 26	42.8	254.1	3.4		39.6	12	3633	03 15 30
03 16 40	=1720+250	20 49 36	42.6	254.4	3.4		39.6	70	3642	03 15 31
03 16 40	J1722+2815	20 49 36	45.0	257.4	3.4		41.7	-23	3642	No stop
03 18 20	=1720+282	20 51 16	44.8	257.8	3.5		41.8	77	3655	03 16 41
03 18 20	J1716+2616	20 51 16	42.4	257.3	3.6		40.8	-23	3655	No stop
03 20 00	---	20 52 57	42.2	257.7	3.6		40.8	77	3667	03 18 21
03 20 00	ROSS867	20 52 57	42.8	257.2	3.5		40.9	-14	3667	No stop
03 25 00	---	20 57 57	42.1	258.3	3.6		41.1	286	3706	03 20 01
03 25 30	J1722+2458	20 58 27	41.3	256.4	3.6		40.1	12	3706	03 25 30
03 26 40	=1720+250	20 59 38	41.1	256.7	3.6		40.1	70	3715	03 25 31
03 26 40	J1722+2815	20 59 38	43.6	259.7	3.6		42.1	-23	3715	No stop
03 28 20	=1720+282	21 01 18	43.3	260.0	3.6		42.2	77	3728	03 26 41
03 28 20	J1716+2616	21 01 18	41.0	259.6	3.7		41.2	-23	3728	No stop
03 30 00	---	21 02 58	40.7	259.9	3.8		41.2	77	3741	03 28 21
03 30 00	ROSS867	21 02 58	41.3	259.5	3.7		41.3	-14	3741	No stop
03 35 00	---	21 07 59	40.6	260.6	3.8		41.4	286	3780	03 30 01
03 35 30	J1722+2458	21 08 29	39.8	258.7	3.7		40.5	13	3780	03 35 30
03 36 40	=1720+250	21 09 39	39.7	259.0	3.8		40.5	70	3789	03 35 31
03 36 40	J1722+2815	21 09 39	42.1	261.9	3.8		42.4	-23	3789	No stop
03 38 20	=1720+282	21 11 20	41.8	262.3	3.8		42.5	77	3801	03 36 41
03 38 20	J1716+2616	21 11 20	39.5	261.8	3.9		41.5	-23	3801	No stop
03 40 00	---	21 13 00	39.2	262.1	3.9		41.5	77	3814	03 38 21
03 40 00	ROSS867	21 13 00	39.9	261.7	3.9		41.6	-14	3814	No stop
03 45 00	---	21 18 01	39.1	262.8	4.0		41.7	286	3853	03 40 01
03 45 30	J1722+2458	21 18 31	38.3	260.9	3.9		40.8	13	3853	03 45 30
03 46 40	=1720+250	21 19 41	38.2	261.2	3.9		40.9	70	3862	03 45 31
03 46 40	J1722+2815	21 19 41	40.6	264.1	3.9		42.7	-23	3862	No stop
03 48 20	=1720+282	21 21 21	40.3	264.4	4.0		42.7	77	3875	03 46 41
03 48 20	J1716+2616	21 21 21	38.0	263.9	4.1		41.7	-23	3875	No stop
03 50 00	---	21 23 01	37.7	264.3	4.1		41.8	77	3888	03 48 21

Schedule for TORUN (Code Tr) Page 16

EB091 second epoch Ross867 astrometry

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Fri 27 May 2022 Day 147 ---										
03 50 00	ROSS867	21 23 01	38.4	263.8	4.0		41.8	-14	3888	No stop
03 55 00	---	21 28 02	37.6	264.9	4.1		41.9	286	3926	03 50 01
03 55 30	J1722+2458	21 28 32	36.9	263.1	4.1		41.1	13	3926	03 55 30
03 56 40	=1720+250	21 29 43	36.7	263.3	4.1		41.1	70	3935	03 55 31
03 56 40	J1722+2815	21 29 43	39.1	266.2	4.1		42.8	-23	3935	No stop
03 58 20	=1720+282	21 31 23	38.8	266.5	4.1		42.9	77	3948	03 56 41
03 58 20	J1716+2616	21 31 23	36.5	266.0	4.2		41.9	-23	3948	No stop
04 00 00	---	21 33 03	36.2	266.4	4.3		41.9	77	3961	03 58 21
04 00 00	ROSS867	21 33 03	36.9	265.9	4.2		42.0	-14	3961	No stop
04 05 00	---	21 38 04	36.1	267.0	4.3		42.1	286	4000	04 00 01
04 05 30	J1722+2458	21 38 34	35.4	265.2	4.2		41.3	13	4000	04 05 30
04 06 40	=1720+250	21 39 44	35.2	265.5	4.3		41.3	70	4009	04 05 31
04 06 40	J1722+2815	21 39 44	37.6	268.2	4.3		42.9	-23	4009	No stop
04 08 20	=1720+282	21 41 24	37.3	268.6	4.3		42.9	77	4022	04 06 41
04 08 20	J1716+2616	21 41 24	35.0	268.1	4.4		42.0	-23	4022	No stop
04 10 00	---	21 43 05	34.7	268.4	4.4		42.0	77	4035	04 08 21
04 10 00	ROSS867	21 43 05	35.4	268.0	4.4		42.1	-14	4035	No stop
04 15 00	---	21 48 06	34.6	269.0	4.5		42.1	286	4073	04 10 01
04 15 30	J1722+2458	21 48 36	33.9	267.3	4.4		41.4	13	4073	04 15 30
04 16 40	=1720+250	21 49 46	33.7	267.5	4.4		41.4	70	4082	04 15 31
04 16 40	J1722+2815	21 49 46	36.1	270.3	4.4		43.0	-23	4082	No stop
04 18 20	=1720+282	21 51 26	35.8	270.6	4.5		43.0	77	4095	04 16 41
04 18 20	J1716+2616	21 51 26	33.5	270.1	4.6		42.0	-23	4095	No stop
04 20 00	---	21 53 06	33.2	270.4	4.6		42.0	77	4108	04 18 21
04 20 00	ROSS867	21 53 06	33.9	270.0	4.5		42.1	-14	4108	No stop
04 25 00	---	21 58 07	33.1	271.0	4.6		42.1	286	4147	04 20 01
04 25 30	J1722+2458	21 58 37	32.4	269.3	4.6		41.5	13	4147	04 25 30
04 26 40	=1720+250	21 59 47	32.2	269.6	4.6		41.5	70	4156	04 25 31
04 26 40	J1722+2815	21 59 47	34.6	272.2	4.6		42.9	-23	4156	No stop
04 28 20	=1720+282	22 01 28	34.3	272.6	4.6		42.9	77	4169	04 26 41

Schedule for TORUN (Code Tr) Page 17

EB091 second epoch Ross867 astrometry

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Fri 27 May 2022 Day 147 ---										
04 28 20	J1716+2616	22 01 28	32.0	272.1	4.7		42.0	-23	4169	No stop
04 30 00	---	22 03 08	31.7	272.4	4.8		42.0	77	4181	04 28 21
04 30 00	ROSS867	22 03 08	32.4	272.0	4.7		42.1	-14	4181	No stop
04 35 00	---	22 08 09	31.6	273.0	4.8		42.1	286	4220	04 30 01
04 35 30	J1722+2458	22 08 39	30.8	271.3	4.7		41.5	13	4220	04 35 30
04 36 40	=1720+250	22 09 49	30.7	271.6	4.8		41.5	70	4229	04 35 31
04 36 40	J1722+2815	22 09 49	33.1	274.2	4.8		42.8	-23	4229	No stop
04 38 20	=1720+282	22 11 29	32.8	274.5	4.8		42.8	77	4242	04 36 41
04 38 20	J1716+2616	22 11 29	30.5	274.1	4.9		41.9	-23	4242	No stop
04 40 00	---	22 13 10	30.2	274.4	4.9		41.9	77	4255	04 38 21
04 40 00	ROSS867	22 13 10	30.9	274.0	4.9		42.0	-14	4255	No stop
04 45 00	---	22 18 10	30.1	274.9	5.0		41.9	286	4294	04 40 01
04 45 30	J1722+2458	22 18 41	29.3	273.3	4.9		41.4	13	4294	04 45 30
04 46 40	=1720+250	22 19 51	29.2	273.5	4.9		41.4	70	4303	04 45 31
04 46 40	J1722+2815	22 19 51	31.6	276.1	4.9		42.7	-23	4303	No stop
04 48 20	=1720+282	22 21 31	31.3	276.4	5.0		42.6	77	4315	04 46 41
04 48 20	J1716+2616	22 21 31	29.0	276.0	5.1		41.7	-23	4315	No stop
04 50 00	---	22 23 11	28.7	276.3	5.1		41.7	77	4328	04 48 21
04 50 00	ROSS867	22 23 11	29.4	275.9	5.0		41.9	-14	4328	No stop
04 55 00	---	22 28 12	28.6	276.9	5.1		41.8	286	4367	04 50 01
04 55 30	J1722+2458	22 28 42	27.8	275.2	5.1		41.3	13	4367	04 55 30
04 56 40	=1720+250	22 29 52	27.7	275.5	5.1		41.2	70	4376	04 55 31
04 56 40	J1722+2815	22 29 52	30.1	278.0	5.1		42.4	-23	4376	No stop
04 58 20	=1720+282	22 31 33	29.8	278.3	5.1		42.4	77	4389	04 56 41
04 58 20	J1716+2616	22 31 33	27.5	277.9	5.2		41.5	-23	4389	No stop
05 00 00	---	22 33 13	27.2	278.2	5.3		41.5	77	4402	04 58 21

SETUP FILE INFORMATION:
NOTE: If DOPPLER, FREQ, or BW were used, see the individual scans for the final BBC settings.

======== Setup file: sess222.L1024

Setup group: 8 Station: TORUN Total bit rate: 1024

```
Format: VDIF              Bits per sample: 2         Sample rate: 64.000
Number of channels:  8    DBE type: DBBC_DDC         Speedup factor:   1.00

Disk used to record data.
```

```
  1st LO=   2300.00   2300.00   2300.00   2300.00   2300.00   2300.00   2300.00   2300.00
  Net SB=         L         L         U         U         L         L         U         U
  IF SB =         L         L         L         L         L         L         L         L
  Pol.  =       RCP       LCP       RCP       LCP       RCP       LCP       RCP       LCP
  BBC   =         1         9         1         9         2        10         2        10
  BBC SB=         U         U         L         L         U         U         L         L
  IF    =        A1        B1        A1        B1        A1        B1        A1        B1

 The following frequency sets based on these setups were used.

  Frequency Set:   9  Setup file default.  Used with PCAL = off
  LO sum=   1626.49  1626.49  1626.49  1626.49  1690.49  1690.49  1690.49  1690.49
  BBC fr=    673.51   673.51   673.51   673.51   609.51   609.51   609.51   609.51
  Bandwd=     32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00
   Matching frequency sets:   9

  Track assignments are:
   track1=   1,  2,  3,  4,  5,  6,  7,  8
   barrel=roll_off



POSITIONS OF SOURCES USED IN RECORDING SCANS

  Source                          Source position (RA/Dec)                        Error
                       (B1950)             (J2000)             (Date)             (mas)

* ROSS867            17 17 51.729053   * 17 19 52.704417     17 20 47.674146       0.00
                     26 33 06.96932    * 26 30 08.17019      26 28 41.35523        0.00

* J1716+2616         17 14 50.448389   * 17 16 51.834100     17 17 46.989268       0.00
                     26 19 22.60014    * 26 16 10.83400      26 14 38.42258        0.00

* OQ208              14 04 45.615156   * 14 07 00.394415     14 08 01.364918       0.24
  J1407+2827         28 41 29.23515    * 28 27 14.69019      28 20 57.84030        0.35
  1404+286           /home/guest/rmc/SCHED/sched11.6/catalogs/sources.gsfc
  J1407+28           GSFC 2016a X/S astro solution,  68278 observations.

* 3C345              16 41 17.606229   * 16 42 58.809967     16 43 45.388539       0.79
  J1642+3948         39 54 10.81492    * 39 48 36.99399      39 46 02.83285        0.59
  1641+399           /home/guest/rmc/SCHED/sched11.6/catalogs/sources.gsfc
  J1642+39           GSFC 2016a X/S astro solution,  53724 observations.

  1720+282           17 20 43.804512   * 17 22 42.161577     17 23 35.991227       0.08
* J1722+2815         28 17 46.61570    * 28 15 00.07627      28 13 38.42746        0.12
                     /home/guest/rmc/SCHED/sched11.6/catalogs/sources.gsfc
                     GSFC 2016a X/S astro solution,    168 observations.

  1720+250           17 20 49.923363   * 17 22 52.989968     17 23 48.857261       0.12
* J1722+2458         25 01 20.62720    * 24 58 34.69119      24 57 13.57378        0.21
                     /home/guest/rmc/SCHED/sched11.6/catalogs/sources.gsfc
                     GSFC 2016a X/S astro solution,    109 observations.

  1758+388           17 58 44.703954   * 18 00 24.765363     18 01 10.564819       0.01
* J1800+3848         38 48 32.47350    * 38 48 30.69748      38 48 19.12768        0.01
  J1800+38           /home/guest/rmc/SCHED/sched11.6/catalogs/sources.gsfc
                     GSFC 2016a X/S astro solution,   5095 observations.
```

em164atr

Testing AGN evolution and feedback by combining the ILT and e-MERLI

PI: *John McKean*

```
Address:  ASTRON

Observing mode: 18cm 1024-8-2

Schedule for TORUN     (Code Tr )                                    Page   2
               Testing AGN evolution and feedback by combining the ILT and e-MERLIN/EVN
  UP:  D => Below limits;  H => Below horizon mask;  W => still slewing at end;  blank => Up.
  Early: Seconds between end of slew and start.   Dwell: On source seconds.
  Disk: GBytes recorded to this point.
  TPStart:  Recording start time.  Frequencies are LO sum (band edge).
  SYNC: Time correlator is expected to sync up.
-------------------------------------------------------------------------------------------
Start UT  Source               Start / Stop                 Early    Disk   TPStart
Stop UT                  LST      EL    AZ   HA  UP   ParA  Dwell   GBytes    SYNC
-------------------------------------------------------------------------------------------
 --- Fri  27 May 2022   Day 147 ---
 Next scan frequencies:  1626.49  1626.49  1626.49  1626.49  1690.49  1690.49  1690.49  1690.49
 Next BBC frequencies:    673.51   673.51   673.51   673.51   609.51   609.51   609.51   609.51
 Next scan bandwidths:     32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00

08 30 00  J1037+5711   02 03 47  27.8  28.6 -8.6     -31.9     0        0   08 30 00
08 31 30  ---          02 05 18  27.9  28.8 -8.6     -32.2    90       12   08 30 01

08 31 30  P30          02 05 18  28.3  27.1 -8.7     -31.2   -17       12   No stop
08 35 30  ---          02 09 18  28.5  27.6 -8.6     -31.8   223       43   08 31 31

08 36 00  J1037+5711   02 09 48  28.3  29.4 -8.5     -32.8    13       43   08 36 00
08 37 00  ---          02 10 49  28.3  29.5 -8.5     -33.0    60       50   08 36 01

08 37 00  P31          02 10 49  28.5  27.5 -8.6     -31.8   -17       50   No stop
08 41 00  ---          02 14 49  28.8  28.1 -8.6     -32.4   223       81   08 37 01

08 41 30  J1037+5711   02 15 19  28.7  30.1 -8.4     -33.6    12       81   08 41 30
08 42 30  ---          02 16 20  28.7  30.2 -8.4     -33.8    60       89   08 41 31

08 42 30  P38          02 16 20  28.9  28.7 -8.5     -32.9   -16       89   No stop
08 46 30  ---          02 20 20  29.2  29.2 -8.4     -33.5   224      120   08 42 31

08 47 00  J1037+5711   02 20 50  29.1  30.8 -8.3     -34.5    14      120   08 47 00
08 48 00  ---          02 21 50  29.2  30.9 -8.3     -34.6    60      128   08 47 01

08 48 00  P39          02 21 50  29.2  29.2 -8.4     -33.5   -17      128   No stop
08 52 00  ---          02 25 51  29.5  29.7 -8.4     -34.1   223      158   08 48 01

08 52 30  J1037+5711   02 26 21  29.5  31.5 -8.2     -35.3    13      158   08 52 30
08 53 30  ---          02 27 21  29.6  31.6 -8.2     -35.4    60      166   08 52 31

08 53 30  P40          02 27 21  29.5  29.7 -8.4     -34.1   -17      166   No stop
08 57 30  ---          02 31 22  29.8  30.2 -8.3     -34.7   223      197   08 53 31

08 58 00  J1037+5711   02 31 52  30.0  32.2 -8.1     -36.1    12      197   08 58 00
08 59 00  ---          02 32 52  30.0  32.3 -8.1     -36.2    60      205   08 58 01

08 59 00  P47          02 32 52  29.9  30.8 -8.2     -35.2   -16      205   No stop
09 03 00  ---          02 36 53  30.2  31.3 -8.2     -35.8   224      236   08 59 01

09 03 30  J1037+5711   02 37 23  30.4  32.9 -8.0     -36.9    14      236   09 03 30
09 04 30  ---          02 38 23  30.5  33.0 -8.0     -37.0    60      243   09 03 31
```

Schedule for TORUN (Code Tr) Page 3

Testing AGN evolution and feedback by combining the ILT and e-MERLIN/EVN

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT	Source	Start / Stop						Early	Disk	TPStart
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC
--- Fri 27 May 2022 Day 147 ---										
09 04 30	P48	02 38 23	30.2	31.3	-8.2		-35.8	-17	243	No stop
09 08 30	---	02 42 24	30.5	31.8	-8.1		-36.4	223	274	09 04 31
09 09 00	J1037+5711	02 42 54	30.9	33.6	-7.9		-37.7	13	274	09 09 00
09 10 00	---	02 43 54	30.9	33.7	-7.9		-37.8	60	282	09 09 01
09 10 00	P30	02 43 54	31.1	31.9	-8.1		-37.0	-17	282	No stop
09 14 00	---	02 47 55	31.4	32.4	-8.0		-37.6	223	313	09 10 01
09 14 30	J1037+5711	02 48 25	31.3	34.3	-7.8		-38.5	13	313	09 14 30
09 15 30	---	02 49 25	31.4	34.4	-7.8		-38.6	60	321	09 14 31
09 15 30	P31	02 49 25	31.4	32.4	-8.0		-37.6	-18	321	No stop
09 19 30	---	02 53 26	31.7	32.9	-7.9		-38.2	222	352	09 15 31
09 20 00	J1037+5711	02 53 56	31.8	35.0	-7.8		-39.3	12	352	09 20 00
09 21 00	---	02 54 56	31.9	35.1	-7.7		-39.4	60	359	09 20 01
09 21 00	P38	02 54 56	31.9	33.5	-7.9		-38.7	-16	359	No stop
09 25 00	---	02 58 56	32.3	34.0	-7.8		-39.3	224	390	09 21 01
09 25 30	J1037+5711	02 59 27	32.3	35.6	-7.7		-40.1	14	390	09 25 30
09 26 30	---	03 00 27	32.3	35.8	-7.6		-40.2	60	398	09 25 31
09 26 30	P39	03 00 27	32.2	34.0	-7.8		-39.2	-17	398	No stop
09 30 30	---	03 04 27	32.6	34.5	-7.7		-39.8	223	429	09 26 31
09 31 00	J1037+5711	03 04 57	32.7	36.3	-7.6		-40.9	13	429	09 31 00
09 32 00	---	03 05 58	32.8	36.4	-7.6		-41.0	60	437	09 31 01
09 32 00	P40	03 05 58	32.6	34.4	-7.7		-39.8	-18	437	No stop
09 36 00	---	03 09 58	32.9	34.9	-7.7		-40.4	222	468	09 32 01
09 36 30	J1037+5711	03 10 28	33.2	37.0	-7.5		-41.7	12	468	09 36 30
09 37 30	---	03 11 29	33.3	37.1	-7.5		-41.8	60	475	09 36 31
09 37 30	P47	03 11 29	33.1	35.6	-7.6		-40.9	-16	475	No stop
09 41 30	---	03 15 29	33.5	36.0	-7.5		-41.5	224	506	09 37 31
09 42 00	J1037+5711	03 15 59	33.7	37.7	-7.4		-42.5	14	506	09 42 00
09 43 00	---	03 16 59	33.8	37.8	-7.4		-42.6	60	514	09 42 01
09 43 00	P48	03 16 59	33.4	36.0	-7.5		-41.5	-17	514	No stop
09 47 00	---	03 21 00	33.8	36.5	-7.5		-42.0	223	545	09 43 01
09 47 30	J1037+5711	03 21 30	34.3	38.3	-7.3		-43.3	13	545	09 47 30
09 48 30	---	03 22 30	34.3	38.4	-7.3		-43.4	60	553	09 47 31

Schedule for TORUN (Code Tr) Page 4

Testing AGN evolution and feedback by combining the ILT and e-MERLIN/EVN

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Fri 27 May 2022 Day 147 ---										
09 48 30	P30	03 22 30	34.4	36.5	-7.4		-42.7	-17	553	No stop
09 52 30	---	03 26 31	34.7	37.0	-7.3		-43.3	223	584	09 48 31
09 53 00	J1037+5711	03 27 01	34.8	39.0	-7.2		-44.0	13	584	09 53 00
09 54 00	---	03 28 01	34.9	39.1	-7.2		-44.2	60	591	09 53 01
09 54 00	P31	03 28 01	34.7	37.0	-7.4		-43.2	-18	591	No stop
09 58 00	---	03 32 02	35.1	37.5	-7.3		-43.8	222	622	09 54 01
09 58 30	J1037+5711	03 32 32	35.3	39.6	-7.1		-44.8	12	622	09 58 30
09 59 30	---	03 33 32	35.4	39.7	-7.1		-45.0	60	630	09 58 31
09 59 30	P38	03 33 32	35.3	38.1	-7.2		-44.3	-16	630	No stop
10 03 30	---	03 37 33	35.7	38.6	-7.2		-44.9	224	661	09 59 31
10 04 00	J1037+5711	03 38 03	35.8	40.3	-7.0		-45.6	13	661	10 04 00
10 05 00	---	03 39 03	35.9	40.4	-7.0		-45.7	60	669	10 04 01
10 05 00	P39	03 39 03	35.7	38.5	-7.2		-44.9	-17	669	No stop
10 09 00	---	03 43 04	36.0	39.0	-7.1		-45.5	223	699	10 05 01
10 09 30	J1037+5711	03 43 34	36.4	40.9	-6.9		-46.4	13	699	10 09 30
10 10 30	---	03 44 34	36.5	41.0	-6.9		-46.5	60	707	10 09 31
10 10 30	P40	03 44 34	36.0	39.0	-7.1		-45.4	-18	707	No stop
10 14 30	---	03 48 35	36.4	39.4	-7.0		-46.0	222	738	10 10 31
10 15 00	J1037+5711	03 49 05	36.9	41.6	-6.8		-47.2	12	738	10 15 00
10 16 00	---	03 50 05	37.0	41.7	-6.8		-47.3	60	746	10 15 01
10 16 00	P47	03 50 05	36.7	40.1	-7.0		-46.5	-16	746	No stop
10 20 00	---	03 54 06	37.0	40.5	-6.9		-47.1	224	777	10 16 01
10 20 30	J1037+5711	03 54 36	37.5	42.2	-6.7		-47.9	14	777	10 20 30
10 21 30	---	03 55 36	37.6	42.3	-6.7		-48.1	60	785	10 20 31
10 21 30	P48	03 55 36	37.0	40.5	-6.9		-47.0	-17	785	No stop
10 25 30	---	03 59 36	37.4	41.0	-6.8		-47.6	223	815	10 21 31
10 26 00	J1037+5711	04 00 07	38.0	42.8	-6.7		-48.7	13	815	10 26 00
10 27 00	---	04 01 07	38.1	42.9	-6.6		-48.8	60	823	10 26 01
10 27 00	P30	04 01 07	38.0	41.0	-6.8		-48.3	-17	823	No stop
10 31 00	---	04 05 07	38.4	41.4	-6.7		-48.9	223	854	10 27 01

Schedule for TORUN (Code Tr) Page 5

Testing AGN evolution and feedback by combining the ILT and e-MERLIN/EVN

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT	Source	Start / Stop						Early	Disk	TPStart
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC
--- Fri 27 May 2022 Day 147 ---										
10 31 30	J1037+5711	04 05 37	38.6	43.5	-6.6		-49.5	12	854	10 31 30
10 32 30	---	04 06 38	38.7	43.6	-6.5		-49.6	60	862	10 31 31
10 32 30	P31	04 06 38	38.4	41.4	-6.7		-48.8	-18	862	No stop
10 36 30	---	04 10 38	38.8	41.8	-6.6		-49.4	222	893	10 32 31
10 37 00	J1037+5711	04 11 08	39.2	44.1	-6.5		-50.2	12	893	10 37 00
10 38 00	---	04 12 08	39.3	44.2	-6.5		-50.4	60	900	10 37 01
10 38 00	P38	04 12 08	39.1	42.5	-6.6		-49.9	-17	900	No stop
10 42 00	---	04 16 09	39.5	42.9	-6.5		-50.4	223	931	10 38 01
10 42 30	J1037+5711	04 16 39	39.7	44.7	-6.4		-51.0	13	931	10 42 30
10 43 30	---	04 17 39	39.8	44.8	-6.4		-51.1	60	939	10 42 31
10 43 30	P39	04 17 39	39.4	42.9	-6.5		-50.4	-17	939	No stop
10 47 30	---	04 21 40	39.9	43.3	-6.4		-51.0	223	970	10 43 31
10 48 00	J1037+5711	04 22 10	40.3	45.3	-6.3		-51.8	13	970	10 48 00
10 49 00	---	04 23 10	40.4	45.4	-6.3		-51.9	60	978	10 48 01
10 49 00	P40	04 23 10	39.8	43.3	-6.4		-50.9	-18	978	No stop
10 53 00	---	04 27 11	40.2	43.7	-6.4		-51.5	222	1009	10 49 01
10 53 30	J1037+5711	04 27 41	40.9	45.9	-6.2		-52.5	12	1009	10 53 30
10 54 30	---	04 28 41	41.0	46.0	-6.2		-52.7	60	1016	10 53 31
10 54 30	P47	04 28 41	40.6	44.4	-6.3		-52.0	-16	1016	No stop
10 58 30	---	04 32 42	41.0	44.8	-6.2		-52.5	224	1047	10 54 31
10 59 00	J1037+5711	04 33 12	41.5	46.5	-6.1		-53.3	14	1047	10 59 00
11 00 00	---	04 34 12	41.6	46.6	-6.1		-53.4	60	1055	10 59 01
11 00 00	P48	04 34 12	41.0	44.8	-6.3		-52.5	-17	1055	No stop
11 04 00	---	04 38 13	41.4	45.2	-6.2		-53.1	223	1086	11 00 01
11 04 30	J1037+5711	04 38 43	42.1	47.1	-6.0		-54.1	13	1086	11 04 30
11 05 30	---	04 39 43	42.2	47.2	-6.0		-54.2	60	1094	11 04 31
11 05 30	P30	04 39 43	42.0	45.1	-6.1		-53.8	-18	1094	No stop
11 09 30	---	04 43 44	42.4	45.6	-6.1		-54.4	222	1125	11 05 31
11 10 00	J1037+5711	04 44 14	42.7	47.7	-5.9		-54.8	12	1125	11 10 00
11 11 00	---	04 45 14	42.8	47.8	-5.9		-54.9	60	1132	11 10 01

Schedule for TORUN (Code Tr) Page 6

Testing AGN evolution and feedback by combining the ILT and e-MERLIN/EVN

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	LST	Start / Stop EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Fri 27 May 2022 Day 147 ---										
11 11 00	P31	04 45 14	42.4	45.5	-6.1		-54.3	-18	1132	No stop
11 15 00	---	04 49 15	42.8	45.9	-6.0		-54.9	222	1163	11 11 01
11 15 30	J1037+5711	04 49 45	43.3	48.3	-5.8		-55.6	11	1163	11 15 30
11 16 30	---	04 50 45	43.5	48.4	-5.8		-55.7	60	1171	11 15 31
11 16 30	P38	04 50 45	43.1	46.6	-5.9		-55.3	-17	1171	No stop
11 20 30	---	04 54 45	43.6	47.0	-5.9		-55.9	223	1202	11 16 31
11 21 00	J1037+5711	04 55 16	44.0	48.9	-5.7		-56.3	13	1202	11 21 00
11 22 00	---	04 56 16	44.1	49.0	-5.7		-56.5	60	1210	11 21 01
11 22 00	P39	04 56 16	43.5	47.0	-5.9		-55.9	-17	1210	No stop
11 26 00	---	05 00 16	44.0	47.4	-5.8		-56.4	223	1241	11 22 01
11 26 30	J1037+5711	05 00 46	44.6	49.4	-5.6		-57.1	12	1241	11 26 30
11 27 30	---	05 01 47	44.7	49.5	-5.6		-57.2	60	1248	11 26 31
11 27 30	P40	05 01 47	44.0	47.4	-5.8		-56.4	-18	1248	No stop
11 31 30	---	05 05 47	44.4	47.8	-5.7		-57.0	222	1279	11 27 31
11 32 00	J1037+5711	05 06 17	45.2	50.0	-5.5		-57.8	12	1279	11 32 00
11 33 00	---	05 07 18	45.3	50.1	-5.5		-58.0	60	1287	11 32 01
11 33 00	P47	05 07 18	44.8	48.4	-5.7		-57.4	-16	1287	No stop
11 37 00	---	05 11 18	45.2	48.8	-5.6		-58.0	224	1318	11 33 01
11 37 30	J1037+5711	05 11 48	45.9	50.6	-5.5		-58.6	13	1318	11 37 30
11 38 30	---	05 12 48	46.0	50.7	-5.4		-58.7	60	1326	11 37 31
11 38 30	P48	05 12 48	45.2	48.8	-5.6		-57.9	-17	1326	No stop
11 42 30	---	05 16 49	45.6	49.2	-5.5		-58.5	223	1356	11 38 31
11 43 00	J1037+5711	05 17 19	46.5	51.1	-5.4		-59.3	13	1356	11 43 00
11 44 00	---	05 18 19	46.6	51.2	-5.3		-59.5	60	1364	11 43 01
---------- Fringe Finder 1 ----------										
11 47 30	4C39.25	05 21 50	46.4	83.2	-4.1		-50.0	132	1364	11 47 30
11 52 30	---	05 26 51	47.2	84.1	-4.0		-50.2	300	1403	11 47 31
11 54 30	J1037+5711	05 28 51	47.9	52.3	-5.2		-60.9	41	1403	11 54 30
11 56 00	---	05 30 21	48.0	52.4	-5.1		-61.1	90	1414	11 54 31

Schedule for TORUN (Code Tr) Page 7

Testing AGN evolution and feedback by combining the ILT and e-MERLIN/EVN

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT	Source	Start / Stop						Early	Disk	TPStart
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC
--- Fri 27 May 2022 Day 147 ---										
11 56 00	P30	05 30 21	47.6	50.2	-5.3		-61.0	-18	1414	No stop
12 00 00	---	05 34 22	48.0	50.6	-5.2		-61.6	222	1445	11 56 01
12 00 30	J1037+5711	05 34 52	48.6	52.9	-5.1		-61.8	12	1445	12 00 30
12 01 30	---	05 35 52	48.7	53.0	-5.1		-61.9	60	1453	12 00 31
12 01 30	P31	05 35 52	48.0	50.5	-5.2		-61.5	-19	1453	No stop
12 05 30	---	05 39 53	48.5	50.9	-5.2		-62.1	221	1484	12 01 31
12 06 00	J1037+5711	05 40 23	49.2	53.4	-5.0		-62.5	11	1484	12 06 00
12 07 00	---	05 41 23	49.4	53.5	-5.0		-62.6	60	1492	12 06 01
12 07 00	P38	05 41 23	48.9	51.6	-5.1		-62.5	-17	1492	No stop
12 11 00	---	05 45 24	49.3	51.9	-5.0		-63.1	223	1523	12 07 01
12 11 30	J1037+5711	05 45 54	49.9	53.9	-4.9		-63.3	13	1523	12 11 30
12 12 30	---	05 46 54	50.0	54.0	-4.9		-63.4	60	1530	12 11 31
12 12 30	P39	05 46 54	49.3	51.9	-5.0		-63.0	-18	1530	No stop
12 16 30	---	05 50 55	49.8	52.3	-5.0		-63.6	222	1561	12 12 31
12 17 00	J1037+5711	05 51 25	50.6	54.4	-4.8		-64.0	12	1561	12 17 00
12 18 00	---	05 52 25	50.7	54.5	-4.8		-64.2	60	1569	12 17 01
12 18 00	P40	05 52 25	49.8	52.3	-5.0		-63.6	-18	1569	No stop
12 22 00	---	05 56 26	50.2	52.6	-4.9		-64.1	222	1600	12 18 01
12 22 30	J1037+5711	05 56 56	51.3	54.9	-4.7		-64.8	11	1600	12 22 30
12 23 30	---	05 57 56	51.4	55.0	-4.7		-64.9	60	1608	12 22 31
12 23 30	P47	05 57 56	50.6	53.3	-4.8		-64.5	-17	1608	No stop
12 27 30	---	06 01 56	51.1	53.7	-4.8		-65.1	223	1639	12 23 31
12 28 00	J1037+5711	06 02 27	51.9	55.5	-4.6		-65.5	13	1639	12 28 00
12 29 00	---	06 03 27	52.1	55.5	-4.6		-65.7	60	1646	12 28 01
12 29 00	P48	06 03 27	51.1	53.6	-4.8		-65.0	-17	1646	No stop
12 33 00	---	06 07 27	51.6	54.0	-4.7		-65.6	223	1677	12 29 01
12 33 30	J1037+5711	06 07 57	52.6	56.0	-4.5		-66.3	13	1677	12 33 30
12 34 30	---	06 08 58	52.7	56.0	-4.5		-66.4	60	1685	12 33 31
12 34 30	P30	06 08 58	52.1	53.7	-4.6		-66.6	-19	1685	No stop
12 38 30	---	06 12 58	52.6	54.0	-4.6		-67.1	221	1716	12 34 31

Schedule for TORUN (Code Tr) Page 8

Testing AGN evolution and feedback by combining the ILT and e-MERLIN/EVN

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	LST	Start / Stop EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Fri 27 May 2022 Day 147 ---										
12 39 00	J1037+5711	06 13 28	53.3	56.4	-4.4		-67.1	11	1716	12 39 00
12 40 00	---	06 14 29	53.4	56.5	-4.4		-67.2	60	1724	12 39 01
12 40 00	P31	06 14 29	52.6	54.0	-4.6		-67.1	-19	1724	No stop
12 44 00	---	06 18 29	53.1	54.3	-4.5		-67.7	221	1755	12 40 01
12 44 30	J1037+5711	06 18 59	54.0	56.9	-4.3		-67.8	11	1755	12 44 30
12 45 30	---	06 19 59	54.1	57.0	-4.3		-68.0	60	1762	12 44 31
12 45 30	P38	06 19 59	53.5	55.0	-4.4		-68.0	-18	1762	No stop
12 49 30	---	06 24 00	54.0	55.3	-4.4		-68.6	222	1793	12 45 31
12 50 00	J1037+5711	06 24 30	54.7	57.4	-4.2		-68.6	12	1793	12 50 00
12 51 00	---	06 25 30	54.8	57.5	-4.2		-68.7	60	1801	12 50 01
12 51 00	P39	06 25 30	54.0	55.3	-4.4		-68.6	-18	1801	No stop
12 55 00	---	06 29 31	54.5	55.6	-4.3		-69.2	222	1832	12 51 01
12 55 30	J1037+5711	06 30 01	55.4	57.9	-4.2		-69.4	12	1832	12 55 30
12 56 30	---	06 31 01	55.5	58.0	-4.1		-69.5	60	1840	12 55 31
12 56 30	P40	06 31 01	54.5	55.6	-4.3		-69.1	-19	1840	No stop
13 00 30	---	06 35 02	54.9	55.9	-4.3		-69.7	221	1870	12 56 31
13 01 00	J1037+5711	06 35 32	56.1	58.3	-4.1		-70.2	11	1870	13 01 00
13 02 00	---	06 36 32	56.2	58.4	-4.0		-70.3	60	1878	13 01 01
13 02 00	P47	06 36 32	55.4	56.6	-4.2		-70.0	-17	1878	No stop
13 06 00	---	06 40 33	55.9	56.9	-4.1		-70.6	223	1909	13 02 01
13 06 30	J1037+5711	06 41 03	56.8	58.8	-4.0		-70.9	13	1909	13 06 30
13 07 30	---	06 42 03	56.9	58.9	-4.0		-71.1	60	1917	13 06 31
13 07 30	P48	06 42 03	55.9	56.9	-4.1		-70.6	-18	1917	No stop
13 11 30	---	06 46 04	56.4	57.2	-4.1		-71.2	222	1948	13 07 31
13 12 00	J1037+5711	06 46 34	57.5	59.2	-3.9		-71.7	12	1948	13 12 00
13 13 00	---	06 47 34	57.6	59.3	-3.9		-71.9	60	1955	13 12 01
13 13 00	P30	06 47 34	56.9	56.8	-4.0		-72.2	-19	1955	No stop
13 17 00	---	06 51 35	57.4	57.1	-3.9		-72.8	221	1986	13 13 01
13 17 30	J1037+5711	06 52 05	58.2	59.7	-3.8		-72.5	11	1986	13 17 30
13 18 30	---	06 53 05	58.4	59.7	-3.8		-72.7	60	1994	13 17 31

Schedule for TORUN (Code Tr) Page 9

Testing AGN evolution and feedback by combining the ILT and e-MERLIN/EVN

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT	Source	Start / Stop						Early	Disk	TPStart
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC
--- Fri 27 May 2022 Day 147 ---										
13 18 30	P31	06 53 05	57.4	57.0	-3.9		-72.8	-20	1994	No stop
13 22 30	---	06 57 05	57.9	57.3	-3.9		-73.4	220	2025	13 18 31
13 23 00	J1037+5711	06 57 36	58.9	60.1	-3.7		-73.3	10	2025	13 23 00
13 24 00	---	06 58 36	59.1	60.2	-3.7		-73.5	60	2033	13 23 01
13 24 00	P38	06 58 36	58.4	58.0	-3.8		-73.7	-18	2033	No stop
13 28 00	---	07 02 36	58.9	58.3	-3.7		-74.3	222	2064	13 24 01
13 28 30	J1037+5711	07 03 06	59.7	60.5	-3.6		-74.1	12	2064	13 28 30
13 29 30	---	07 04 07	59.8	60.6	-3.6		-74.3	60	2071	13 28 31
13 29 30	P39	07 04 07	58.8	58.2	-3.7		-74.3	-19	2071	No stop
13 33 30	---	07 08 07	59.3	58.5	-3.7		-74.9	221	2102	13 29 31
13 34 00	J1037+5711	07 08 37	60.4	60.9	-3.5		-74.9	11	2102	13 34 00
13 35 00	---	07 09 38	60.5	61.0	-3.5		-75.1	60	2110	13 34 01
13 35 00	P40	07 09 38	59.3	58.5	-3.7		-74.9	-19	2110	No stop
13 39 00	---	07 13 38	59.8	58.8	-3.6		-75.5	221	2141	13 35 01
13 39 30	J1037+5711	07 14 08	61.1	61.3	-3.4		-75.7	11	2141	13 39 30
13 40 30	---	07 15 08	61.2	61.4	-3.4		-75.9	60	2149	13 39 31
13 40 30	P47	07 15 08	60.3	59.4	-3.5		-75.8	-17	2149	No stop
13 44 30	---	07 19 09	60.8	59.7	-3.5		-76.4	223	2180	13 40 31
13 45 00	J1037+5711	07 19 39	61.8	61.7	-3.3		-76.6	13	2180	13 45 00
13 46 00	---	07 20 39	62.0	61.7	-3.3		-76.7	60	2187	13 45 01
13 46 00	P48	07 20 39	60.8	59.7	-3.5		-76.4	-18	2187	No stop
13 50 00	---	07 24 40	61.3	59.9	-3.4		-77.0	222	2218	13 46 01
13 50 30	J1037+5711	07 25 10	62.6	62.0	-3.2		-77.4	12	2218	13 50 30
13 51 30	---	07 26 10	62.7	62.1	-3.2		-77.6	60	2226	13 50 31
13 51 30	P30	07 26 10	61.8	59.3	-3.4		-78.3	-20	2226	No stop
13 55 30	---	07 30 11	62.3	59.5	-3.3		-78.9	220	2257	13 51 31
13 56 00	J1037+5711	07 30 41	63.3	62.4	-3.1		-78.3	10	2257	13 56 00
13 57 00	---	07 31 41	63.4	62.4	-3.1		-78.4	60	2265	13 56 01
13 57 00	P31	07 31 41	62.3	59.5	-3.3		-78.9	-20	2265	No stop
14 01 00	---	07 35 42	62.8	59.7	-3.2		-79.5	220	2296	13 57 01

Schedule for TORUN (Code Tr) Page 10

Testing AGN evolution and feedback by combining the ILT and e-MERLIN/EVN

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT	Source	Start / Stop						Early	Disk	TPStart
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC
--- Fri 27 May 2022 Day 147 ---										
14 01 30	J1037+5711	07 36 12	64.0	62.7	-3.0		-79.1	10	2296	14 01 30
14 02 30	---	07 37 12	64.2	62.8	-3.0		-79.3	60	2303	14 01 31
14 02 30	P38	07 37 12	63.3	60.4	-3.2		-79.8	-19	2303	No stop
14 06 30	---	07 41 13	63.9	60.6	-3.1		-80.5	221	2334	14 02 31
14 07 00	J1037+5711	07 41 43	64.8	63.0	-3.0		-80.0	11	2334	14 07 00
14 08 00	---	07 42 43	64.9	63.1	-2.9		-80.2	60	2342	14 07 01
14 08 00	P39	07 42 43	63.8	60.6	-3.1		-80.5	-19	2342	No stop
14 12 00	---	07 46 44	64.4	60.8	-3.0		-81.1	221	2373	14 08 01
14 12 30	J1037+5711	07 47 14	65.5	63.3	-2.9		-80.9	11	2373	14 12 30
14 13 30	---	07 48 14	65.6	63.4	-2.8		-81.0	60	2381	14 12 31
14 13 30	P40	07 48 14	64.3	60.8	-3.0		-81.1	-19	2381	No stop
14 17 30	---	07 52 15	64.8	60.9	-3.0		-81.8	221	2411	14 13 31
14 18 00	J1037+5711	07 52 45	66.2	63.6	-2.8		-81.8	10	2411	14 18 00
14 19 00	---	07 53 45	66.4	63.6	-2.8		-82.0	60	2419	14 18 01
14 19 00	P47	07 53 45	65.4	61.6	-2.9		-82.1	-18	2419	No stop
14 23 00	---	07 57 45	65.9	61.8	-2.8		-82.7	222	2450	14 19 01
14 23 30	J1037+5711	07 58 16	67.0	63.8	-2.7		-82.7	12	2450	14 23 30
14 24 30	---	07 59 16	67.1	63.9	-2.7		-82.9	60	2458	14 23 31
14 24 30	P48	07 59 16	65.9	61.8	-2.8		-82.7	-18	2458	No stop
14 28 30	---	08 03 16	66.4	61.9	-2.8		-83.4	222	2489	14 24 31
14 29 00	J1037+5711	08 03 46	67.7	64.1	-2.6		-83.7	12	2489	14 29 00
14 30 00	---	08 04 47	67.9	64.1	-2.6		-83.8	60	2497	14 29 01
14 30 00	P30	08 04 47	66.9	61.0	-2.7		-84.9	-21	2497	No stop
14 34 00	---	08 08 47	67.4	61.1	-2.6		-85.7	219	2527	14 30 01
14 34 30	J1037+5711	08 09 17	68.5	64.3	-2.5		-84.6	9	2527	14 34 30
14 35 30	---	08 10 17	68.6	64.3	-2.5		-84.8	60	2535	14 34 31
14 35 30	P31	08 10 17	67.4	61.1	-2.6		-85.6	-21	2535	No stop
14 39 30	---	08 14 18	67.9	61.2	-2.6		-86.4	219	2566	14 35 31
14 40 00	J1037+5711	08 14 48	69.2	64.5	-2.4		-85.6	9	2566	14 40 00
14 41 00	---	08 15 48	69.4	64.5	-2.4		-85.8	60	2574	14 40 01

Schedule for TORUN (Code Tr) Page 11

Testing AGN evolution and feedback by combining the ILT and e-MERLIN/EVN

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Fri 27 May 2022 Day 147 ---										
14 41 00	P38	08 15 48	68.4	61.8	-2.5		-86.7	-19	2574	No stop
14 45 00	---	08 19 49	68.9	61.9	-2.4		-87.5	221	2605	14 41 01
14 45 30	J1037+5711	08 20 19	70.0	64.6	-2.3		-86.6	10	2605	14 45 30
14 46 30	---	08 21 19	70.1	64.6	-2.3		-86.8	60	2612	14 45 31
14 46 30	P39	08 21 19	68.9	61.9	-2.5		-87.4	-20	2612	No stop
14 50 30	---	08 25 20	69.4	62.0	-2.4		-88.2	220	2643	14 46 31
14 51 00	J1037+5711	08 25 50	70.7	64.7	-2.2		-87.7	10	2643	14 51 00
14 52 00	---	08 26 50	70.9	64.7	-2.2		-87.9	60	2651	14 51 01
14 52 00	P40	08 26 50	69.4	62.0	-2.4		-88.2	-20	2651	No stop
14 56 00	---	08 30 51	69.9	62.0	-2.3		-89.0	220	2682	14 52 01
14 56 30	J1037+5711	08 31 21	71.5	64.8	-2.1		-88.8	10	2682	14 56 30
14 57 30	---	08 32 21	71.6	64.8	-2.1		-89.0	60	2690	14 56 31
14 57 30	P47	08 32 21	70.5	62.6	-2.3		-89.3	-18	2690	No stop
15 01 30	---	08 36 22	71.0	62.6	-2.2		-90.1	222	2721	14 57 31
15 02 00	J1037+5711	08 36 52	72.2	64.8	-2.0		-89.9	12	2721	15 02 00
15 03 00	---	08 37 52	72.4	64.8	-2.0		-90.1	60	2728	15 02 01
15 03 00	P48	08 37 52	71.0	62.6	-2.2		-90.1	-18	2728	No stop
15 07 00	---	08 41 53	71.5	62.6	-2.1		-90.9	222	2759	15 03 01
15 07 30	J1037+5711	08 42 23	73.0	64.8	-1.9		-91.1	11	2759	15 07 30
15 08 30	---	08 43 23	73.1	64.8	-1.9		-91.3	60	2767	15 07 31
15 08 30	P30	08 43 23	71.9	61.3	-2.1		-92.9	-22	2767	No stop
15 12 30	---	08 47 24	72.5	61.2	-2.0		-93.8	218	2798	15 08 31
15 13 00	J1037+5711	08 47 54	73.7	64.7	-1.9		-92.3	8	2798	15 13 00
15 14 00	---	08 48 54	73.9	64.7	-1.8		-92.6	60	2806	15 13 01
15 14 00	P31	08 48 54	72.4	61.2	-2.0		-93.7	-22	2806	No stop
15 18 00	---	08 52 54	73.0	61.1	-1.9		-94.7	218	2837	15 14 01
15 18 30	J1037+5711	08 53 25	74.5	64.6	-1.8		-93.6	8	2837	15 18 30
15 19 30	---	08 54 25	74.6	64.5	-1.7		-93.9	60	2844	15 18 31
15 19 30	P38	08 54 25	73.5	61.6	-1.9		-95.1	-20	2844	No stop
15 23 30	---	08 58 25	74.1	61.4	-1.8		-96.1	220	2875	15 19 31

Schedule for TORUN (Code Tr) Page 12

Testing AGN evolution and feedback by combining the ILT and e-MERLIN/EVN

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	LST	Start / Stop EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Fri 27 May 2022 Day 147 ---										
15 24 00	J1037+5711	08 58 55	75.2	64.3	-1.7		-95.0	10	2875	15 24 00
15 25 00	---	08 59 56	75.3	64.3	-1.7		-95.2	60	2883	15 24 01
15 25 00	P39	08 59 56	74.0	61.4	-1.8		-96.1	-20	2883	No stop
15 29 00	---	09 03 56	74.6	61.2	-1.7		-97.1	220	2914	15 25 01
15 29 30	J1037+5711	09 04 26	76.0	64.0	-1.6		-96.4	10	2914	15 29 30
15 30 30	---	09 05 27	76.1	64.0	-1.6		-96.7	60	2922	15 29 31
15 30 30	P40	09 05 27	74.5	61.2	-1.7		-97.1	-20	2922	No stop
15 34 30	---	09 09 27	75.0	61.0	-1.7		-98.2	220	2953	15 30 31
15 35 00	J1037+5711	09 09 57	76.7	63.6	-1.5		-98.0	10	2953	15 35 00
15 36 00	---	09 10 57	76.8	63.6	-1.5		-98.3	60	2960	15 35 01
15 36 00	P47	09 10 57	75.6	61.4	-1.6		-98.6	-18	2960	No stop
15 40 00	---	09 14 58	76.1	61.1	-1.5		-99.8	222	2991	15 36 01
15 40 30	J1037+5711	09 15 28	77.4	63.1	-1.4		-99.6	12	2991	15 40 30
15 41 30	---	09 16 28	77.6	63.0	-1.4		-99.9	60	2999	15 40 31
15 41 30	P48	09 16 28	76.1	61.1	-1.5		-99.7	-19	2999	No stop
15 45 30	---	09 20 29	76.6	60.7	-1.5		-100.9	221	3030	15 41 31
15 46 00	J1037+5711	09 20 59	78.2	62.5	-1.3		-101.4	11	3030	15 46 00
15 47 00	---	09 21 59	78.3	62.4	-1.3		-101.8	60	3038	15 46 01
15 47 00	P30	09 21 59	77.0	58.6	-1.4		-103.7	-22	3038	No stop
15 51 00	---	09 26 00	77.5	58.0	-1.4		-105.1	218	3068	15 47 01
15 51 30	J1037+5711	09 26 30	78.9	61.7	-1.2		-103.4	8	3068	15 51 30
15 52 30	---	09 27 30	79.0	61.5	-1.2		-103.8	60	3076	15 51 31
15 52 30	P31	09 27 30	77.5	58.0	-1.4		-105.0	-22	3076	No stop
15 56 30	---	09 31 31	78.0	57.3	-1.3		-106.6	218	3107	15 52 31
15 57 00	J1037+5711	09 32 01	79.6	60.7	-1.1		-105.5	9	3107	15 57 00
15 58 00	---	09 33 01	79.8	60.5	-1.1		-105.9	60	3115	15 57 01
15 58 00	P38	09 33 01	78.5	57.5	-1.2		-107.3	-21	3115	No stop
16 02 00	---	09 37 02	79.1	56.6	-1.2		-109.0	219	3146	15 58 01
16 02 30	J1037+5711	09 37 32	80.4	59.4	-1.0		-107.9	10	3146	16 02 30
16 03 30	---	09 38 32	80.5	59.2	-1.0		-108.4	60	3153	16 02 31

Schedule for TORUN (Code Tr) Page 13

Testing AGN evolution and feedback by combining the ILT and e-MERLIN/EVN

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT	Source	Start / Stop						Early	Disk	TPStart
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC
--- Fri 27 May 2022 Day 147 ---										
16 03 30	P39	09 38 32	79.0	56.7	-1.2		-108.8	-19	3153	No stop
16 07 30	---	09 42 33	79.5	55.7	-1.1		-110.6	221	3184	16 03 31
16 08 00	J1037+5711	09 43 03	81.1	57.9	-0.9		-110.6	11	3184	16 08 00
16 09 00	---	09 44 03	81.2	57.6	-0.9		-111.1	60	3192	16 08 01
16 09 00	P40	09 44 03	79.5	55.8	-1.1		-110.5	-20	3192	No stop
16 13 00	---	09 48 04	80.0	54.7	-1.0		-112.5	220	3223	16 09 01
16 13 30	J1037+5711	09 48 34	81.8	56.0	-0.8		-113.6	10	3223	16 13 30
16 14 30	---	09 49 34	81.9	55.6	-0.8		-114.2	60	3231	16 13 31
16 14 30	P47	09 49 34	80.6	54.5	-1.0		-113.5	-18	3231	No stop
16 18 30	---	09 53 34	81.1	53.1	-0.9		-115.7	222	3262	16 14 31
16 19 00	J1037+5711	09 54 04	82.4	53.7	-0.8		-117.0	12	3262	16 19 00
16 20 00	---	09 55 05	82.6	53.2	-0.7		-117.7	60	3269	16 19 01
16 20 00	P48	09 55 05	81.0	53.2	-0.9		-115.6	-19	3269	No stop
16 24 00	---	09 59 05	81.5	51.6	-0.8		-118.0	221	3300	16 20 01
16 24 30	J1037+5711	09 59 35	83.1	50.8	-0.7		-121.1	11	3300	16 24 30
16 25 30	---	10 00 36	83.2	50.2	-0.6		-121.9	60	3308	16 24 31
16 25 30	P30	10 00 36	81.7	47.8	-0.8		-122.5	-19	3308	No stop
16 29 30	---	10 04 36	82.1	45.7	-0.7		-125.4	221	3339	16 25 31
16 30 00	J1037+5711	10 05 06	83.7	47.2	-0.6		-125.8	11	3339	16 30 00
16 31 00	---	10 06 06	83.8	46.5	-0.6		-126.7	60	3347	16 30 01
16 31 00	P31	10 06 06	82.1	45.8	-0.7		-125.2	-20	3347	No stop
16 35 00	---	10 10 07	82.5	43.5	-0.7		-128.4	220	3378	16 31 01
16 35 30	J1037+5711	10 10 37	84.3	42.7	-0.5		-131.4	10	3378	16 35 30
16 36 30	---	10 11 37	84.4	41.8	-0.5		-132.5	60	3385	16 35 31
16 36 30	P38	10 11 37	83.1	41.9	-0.6		-130.9	-18	3385	No stop
16 40 30	---	10 15 38	83.4	38.8	-0.5		-134.8	222	3416	16 36 31
16 41 00	J1037+5711	10 16 08	84.8	37.2	-0.4		-138.1	12	3416	16 41 00
16 42 00	---	10 17 08	84.9	36.0	-0.4		-139.5	60	3424	16 41 01
16 42 00	P39	10 17 08	83.4	39.0	-0.5		-134.5	-20	3424	No stop
16 46 00	---	10 21 09	83.8	35.6	-0.5		-138.8	220	3455	16 42 01

Schedule for TORUN (Code Tr) Page 14

Testing AGN evolution and feedback by combining the ILT and e-MERLIN/EVN

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	LST	Start / Stop EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Fri 27 May 2022 Day 147 ---										
16 46 30	J1037+5711	10 21 39	85.3	30.3	-0.3		-146.1	5	3455	16 46 30
16 47 30	---	10 22 39	85.4	28.9	-0.3		-147.7	60	3463	16 46 31
16 47 30	P40	10 22 39	83.8	35.8	-0.5		-138.5	-28	3463	No stop
16 51 30	---	10 26 40	84.1	31.9	-0.4		-143.3	212	3494	16 47 31
16 52 00	J1037+5711	10 27 10	85.7	22.0	-0.2		-155.5	-5	3494	16 52 00
16 53 00	---	10 28 10	85.7	20.4	-0.2		-157.4	55	3501	16 52 01
16 53 00	P47	10 28 10	84.6	28.4	-0.3		-147.6	-30	3501	No stop
16 57 00	---	10 32 11	84.8	23.4	-0.3		-153.4	210	3532	16 53 01
16 57 30	J1037+5711	10 32 41	85.9	12.4	-0.1		-166.3	-7	3532	16 57 30
16 58 30	---	10 33 41	85.9	10.5	-0.1		-168.4	53	3540	16 57 31
16 58 30	P48	10 33 41	84.8	23.7	-0.3		-153.1	-40	3540	No stop
17 02 30	---	10 37 42	85.0	18.2	-0.2		-159.5	200	3571	16 58 31
17 03 00	J1037+5711	10 38 12	86.0	1.9	-0.0		-177.9	-18	3571	17 03 00
17 04 00	---	10 39 12	86.0	-0.1	0.0		179.9	42	3579	17 03 01
17 04 00	P30	10 39 12	84.8	12.2	-0.1		-166.1	-38	3579	No stop
17 08 00	---	10 43 13	84.9	6.4	-0.1		-172.7	202	3610	17 04 01
17 08 30	J1037+5711	10 43 43	86.0	-8.8	0.1		170.2	-16	3610	17 08 30
17 09 30	---	10 44 43	85.9	-10.7	0.1		168.1	44	3617	17 08 31
17 09 30	P31	10 44 43	84.9	6.8	-0.1		-172.3	-48	3617	No stop
17 13 30	---	10 48 43	84.9	0.8	-0.0		-179.1	192	3648	17 09 31
17 14 00	J1037+5711	10 49 14	85.8	-18.8	0.2		159.1	-25	3648	17 14 00
17 15 00	---	10 50 14	85.7	-20.5	0.2		157.2	35	3656	17 14 01
17 15 00	P38	10 50 14	85.1	-5.6	0.1		173.7	-43	3656	No stop
17 19 00	---	10 54 14	85.0	-11.6	0.1		166.8	197	3687	17 15 01
17 19 30	J1037+5711	10 54 44	85.4	-27.6	0.3		149.2	-17	3687	17 19 30
17 20 30	---	10 55 45	85.4	-29.1	0.3		147.5	43	3695	17 19 31
17 20 30	P39	10 55 45	85.0	-11.3	0.1		167.2	-48	3695	No stop
17 24 30	---	10 59 45	84.9	-17.1	0.2		160.6	192	3725	17 20 31
17 25 00	J1037+5711	11 00 15	85.0	-35.0	0.4		140.7	-21	3725	17 25 00
17 26 00	---	11 01 16	84.9	-36.1	0.4		139.3	39	3733	17 25 01

Schedule for TORUN (Code Tr) Page 15

Testing AGN evolution and feedback by combining the ILT and e-MERLIN/EVN

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	LST	Start / Stop EL	 AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Fri 27 May 2022 Day 147 ---										
17 26 00	P40	11 01 16	84.9	-16.7	0.2		161.0	-52	3733	No stop
17 30 00	---	11 05 16	84.7	-22.2	0.3		154.7	188	3764	17 26 01
17 30 30	J1037+5711	11 05 46	84.5	-41.0	0.4		133.6	-23	3764	17 30 30
17 31 30	---	11 06 46	84.4	-41.9	0.5		132.4	37	3772	17 30 31
17 31 30	P47	11 06 46	84.6	-28.3	0.3		147.7	-41	3772	No stop
17 35 30	---	11 10 47	84.3	-32.8	0.4		142.4	199	3803	17 31 31
17 36 00	J1037+5711	11 11 17	83.9	-45.8	0.5		127.6	-11	3803	17 36 00
17 37 00	---	11 12 17	83.8	-46.6	0.6		126.6	49	3810	17 36 01
17 37 00	P48	11 12 17	84.3	-32.6	0.4		142.7	-42	3810	No stop
17 41 00	---	11 16 18	84.0	-36.6	0.5		137.8	198	3841	17 37 01
17 41 30	J1037+5711	11 16 48	83.3	-49.7	0.6		122.6	-11	3841	17 41 30
17 42 30	---	11 17 48	83.2	-50.3	0.6		121.8	49	3849	17 41 31
17 42 30	P30	11 17 48	83.4	-37.0	0.5		136.7	-41	3849	No stop
17 46 30	---	11 21 49	83.0	-40.2	0.6		132.8	199	3880	17 42 31
17 47 00	J1037+5711	11 22 19	82.7	-52.8	0.7		118.4	-10	3880	17 47 00
17 48 00	---	11 23 19	82.5	-53.3	0.7		117.7	50	3888	17 47 01
17 48 00	P31	11 23 19	83.0	-40.0	0.6		133.0	-41	3888	No stop
17 52 00	---	11 27 20	82.6	-42.8	0.6		129.4	199	3919	17 48 01
17 52 30	J1037+5711	11 27 50	82.0	-55.3	0.8		114.7	-10	3919	17 52 30
17 53 30	---	11 28 50	81.9	-55.7	0.8		114.1	50	3926	17 52 31
17 53 30	P38	11 28 50	82.3	-46.5	0.7		124.8	-33	3926	No stop
17 57 30	---	11 32 51	81.9	-48.6	0.8		121.8	207	3957	17 53 31
17 58 00	J1037+5711	11 33 21	81.3	-57.3	0.9		111.6	-2	3957	17 58 00
17 59 00	---	11 34 21	81.2	-57.6	0.9		111.0	58	3965	17 58 01
17 59 00	P39	11 34 21	81.9	-48.5	0.8		122.0	-33	3965	No stop
18 03 00	---	11 38 22	81.4	-50.4	0.8		119.3	207	3996	17 59 01
18 03 30	J1037+5711	11 38 52	80.6	-58.9	1.0		108.8	-2	3996	18 03 30
18 04 30	---	11 39 52	80.5	-59.2	1.0		108.3	58	4004	18 03 31
18 04 30	P40	11 39 52	81.5	-50.3	0.8		119.5	-32	4004	No stop
18 08 30	---	11 43 52	81.0	-51.9	0.9		117.0	208	4035	18 04 31

```
Schedule for TORUN     (Code Tr )                                  Page  16
               Testing AGN evolution and feedback by combining the ILT and e-MERLIN/EVN
  UP:  D => Below limits;  H => Below horizon mask;  W => still slewing at end;  blank => Up.
  Early: Seconds between end of slew and start.   Dwell: On source seconds.
  Disk: GBytes recorded to this point.
  TPStart:  Recording start time.  Frequencies are LO sum (band edge).
  SYNC: Time correlator is expected to sync up.
-----------------------------------------------------------------------------------------
Start UT  Source               Start / Stop                 Early    Disk   TPStart
Stop UT                  LST      EL    AZ   HA  UP   ParA  Dwell   GBytes    SYNC
-----------------------------------------------------------------------------------------

 --- Fri  27 May 2022   Day 147 ---

18 09 00  J1037+5711   11 44 23  79.9 -60.3  1.1     106.3    -2     4035   18 09 00
18 10 00  ---          11 45 23  79.8 -60.5  1.1     105.9    58     4042   18 09 01

18 10 00  P47          11 45 23  80.6 -54.5  1.0     113.6   -27     4042   No stop
18 14 00  ---          11 49 23  80.1 -55.7  1.0     111.5   213     4073   18 10 01

18 14 30  J1037+5711   11 49 53  79.2 -61.4  1.2     104.1     4     4073   18 14 30
18 15 30  ---          11 50 54  79.0 -61.5  1.2     103.7    60     4081   18 14 31

18 15 30  P48          11 50 54  80.1 -55.7  1.0     111.6   -27     4081   No stop
18 19 30  ---          11 54 54  79.6 -56.7  1.1     109.7   213     4112   18 15 31

18 20 00  J1037+5711   11 55 24  78.4 -62.2  1.3     102.1     4     4112   18 20 00
18 21 00  ---          11 56 25  78.3 -62.4  1.3     101.7    60     4120   18 20 01

 ---------- Fringe Finder 2 ----------

18 26 30  3C345        12 01 55  41.8  76.2 -4.7     -49.3    38     4120   18 26 30
18 31 30  ---          12 06 56  42.5  77.0 -4.6     -49.6   300     4158   18 26 31

18 37 00  J1037+5711   12 12 27  76.1 -64.0  1.6      96.8    33     4158   18 37 00
18 38 30  ---          12 13 57  75.9 -64.1  1.6      96.4    90     4170   18 37 01

18 38 30  P30          12 13 57  76.9 -58.7  1.4     103.4   -26     4170   No stop
18 42 30  ---          12 17 58  76.3 -59.2  1.5     102.0   214     4201   18 38 31

18 43 00  J1037+5711   12 18 28  75.3 -64.3  1.7      95.2     5     4201   18 43 00
18 44 00  ---          12 19 28  75.2 -64.4  1.7      95.0    60     4209   18 43 01

18 44 00  P31          12 19 28  76.4 -59.2  1.5     102.1   -25     4209   No stop
18 48 00  ---          12 23 29  75.9 -59.6  1.6     100.8   215     4239   18 44 01

18 48 30  J1037+5711   12 23 59  74.6 -64.5  1.7      93.8     5     4239   18 48 30
18 49 30  ---          12 24 59  74.4 -64.6  1.8      93.6    60     4247   18 48 31

18 49 30  P38          12 24 59  75.4 -60.8  1.6      98.8   -22     4247   No stop
18 53 30  ---          12 29 00  74.8 -61.1  1.7      97.7   218     4278   18 49 31

18 54 00  J1037+5711   12 29 30  73.8 -64.7  1.8      92.5     8     4278   18 54 00
18 55 00  ---          12 30 30  73.7 -64.7  1.9      92.3    60     4286   18 54 01

18 55 00  P39          12 30 30  74.9 -61.1  1.7      97.8   -22     4286   No stop
18 59 00  ---          12 34 31  74.3 -61.3  1.8      96.7   218     4317   18 55 01
```

Schedule for TORUN (Code Tr) Page 17

Testing AGN evolution and feedback by combining the ILT and e-MERLIN/EVN

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Fri 27 May 2022 Day 147 ---										
18 59 30	J1037+5711	12 35 01	73.1	-64.8	1.9		91.3	8	4317	18 59 30
19 00 30	---	12 36 01	73.0	-64.8	1.9		91.1	60	4324	18 59 31
19 00 30	P40	12 36 01	74.4	-61.3	1.8		96.7	-22	4324	No stop
19 04 30	---	12 40 02	73.8	-61.5	1.8		95.7	218	4355	19 00 31
19 05 00	J1037+5711	12 40 32	72.3	-64.8	2.0		90.1	9	4355	19 05 00
19 06 00	---	12 41 32	72.2	-64.8	2.0		89.9	60	4363	19 05 01
19 06 00	P47	12 41 32	73.3	-62.4	1.9		94.0	-19	4363	No stop
19 10 00	---	12 45 33	72.8	-62.5	2.0		93.0	221	4394	19 06 01
19 10 30	J1037+5711	12 46 03	71.6	-64.8	2.1		89.0	11	4394	19 10 30
19 11 30	---	12 47 03	71.5	-64.8	2.1		88.8	60	4402	19 10 31
19 11 30	P48	12 47 03	72.8	-62.5	2.0		93.1	-19	4402	No stop
19 15 30	---	12 51 03	72.3	-62.6	2.0		92.2	221	4433	19 11 31
19 16 00	J1037+5711	12 51 34	70.8	-64.7	2.2		87.9	11	4433	19 16 00
19 17 00	---	12 52 34	70.7	-64.7	2.2		87.7	60	4440	19 16 01
19 17 00	P30	12 52 34	71.8	-61.3	2.1		92.6	-21	4440	No stop
19 21 00	---	12 56 34	71.3	-61.4	2.2		91.7	219	4471	19 17 01
19 21 30	J1037+5711	12 57 04	70.1	-64.6	2.3		86.8	9	4471	19 21 30
19 22 30	---	12 58 05	70.0	-64.6	2.3		86.6	60	4479	19 21 31
19 22 30	P31	12 58 05	71.3	-61.4	2.1		91.8	-21	4479	No stop
19 26 30	---	13 02 05	70.8	-61.4	2.2		90.9	219	4510	19 22 31
19 27 00	J1037+5711	13 02 35	69.3	-64.5	2.4		85.8	9	4510	19 27 00
19 28 00	---	13 03 36	69.2	-64.4	2.4		85.6	60	4518	19 27 01
19 28 00	P38	13 03 36	70.3	-62.0	2.3		89.5	-19	4518	No stop
19 32 00	---	13 07 36	69.7	-62.0	2.3		88.6	221	4549	19 28 01
19 32 30	J1037+5711	13 08 06	68.6	-64.3	2.5		84.8	11	4549	19 32 30
19 33 30	---	13 09 06	68.5	-64.3	2.5		84.6	60	4556	19 32 31
19 33 30	P39	13 09 06	69.8	-62.0	2.3		88.7	-18	4556	No stop
19 37 30	---	13 13 07	69.2	-62.0	2.4		87.9	222	4587	19 33 31
19 38 00	J1037+5711	13 13 37	67.9	-64.1	2.6		83.8	12	4587	19 38 00
19 39 00	---	13 14 37	67.7	-64.1	2.6		83.6	60	4595	19 38 01

Schedule for TORUN (Code Tr) Page 18

Testing AGN evolution and feedback by combining the ILT and e-MERLIN/EVN

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Fri 27 May 2022 Day 147 ---										
19 39 00	P40	13 14 37	69.3	-62.0	2.4		87.9	-19	4595	No stop
19 43 00	---	13 18 38	68.7	-61.9	2.5		87.1	221	4626	19 39 01
19 43 30	J1037+5711	13 19 08	67.1	-63.9	2.7		82.9	10	4626	19 43 30
19 44 30	---	13 20 08	67.0	-63.8	2.7		82.7	60	4634	19 43 31
19 44 30	P47	13 20 08	68.2	-62.3	2.5		85.8	-17	4634	No stop
19 48 30	---	13 24 09	67.6	-62.2	2.6		85.1	223	4665	19 44 31
19 49 00	J1037+5711	13 24 39	66.4	-63.6	2.8		81.9	12	4665	19 49 00
19 50 00	---	13 25 39	66.2	-63.6	2.8		81.8	60	4672	19 49 01
19 50 00	P48	13 25 39	67.7	-62.2	2.6		85.1	-19	4672	No stop
19 54 00	---	13 29 40	67.1	-62.1	2.7		84.4	221	4703	19 50 01
19 54 30	J1037+5711	13 30 10	65.6	-63.4	2.9		81.0	11	4703	19 54 30
19 55 30	---	13 31 10	65.5	-63.3	2.9		80.9	60	4711	19 54 31
19 55 30	P30	13 31 10	66.7	-61.0	2.7		84.7	-19	4711	No stop
19 59 30	---	13 35 11	66.2	-60.9	2.8		84.0	221	4742	19 55 31
20 00 00	J1037+5711	13 35 41	64.9	-63.1	2.9		80.1	12	4742	20 00 00
20 01 00	---	13 36 41	64.8	-63.0	3.0		80.0	60	4750	20 00 01
20 01 00	P31	13 36 41	66.2	-60.9	2.8		84.1	-19	4750	No stop
20 05 00	---	13 40 42	65.7	-60.7	2.9		83.3	221	4780	20 01 01
20 05 30	J1037+5711	13 41 12	64.2	-62.7	3.0		79.3	11	4780	20 05 30
20 06 30	---	13 42 12	64.0	-62.7	3.1		79.1	60	4788	20 05 31
20 06 30	P38	13 42 12	65.2	-61.0	2.9		82.2	-17	4788	No stop
20 10 30	---	13 46 13	64.6	-60.9	3.0		81.5	223	4819	20 06 31
20 11 00	J1037+5711	13 46 43	63.4	-62.4	3.1		78.4	12	4819	20 11 00
20 12 00	---	13 47 43	63.3	-62.4	3.1		78.2	60	4827	20 11 01
20 12 00	P39	13 47 43	64.7	-60.9	3.0		81.5	-18	4827	No stop
20 16 00	---	13 51 43	64.1	-60.7	3.1		80.8	222	4858	20 12 01
20 16 30	J1037+5711	13 52 14	62.7	-62.1	3.2		77.6	11	4858	20 16 30
20 17 30	---	13 53 14	62.5	-62.0	3.2		77.4	60	4865	20 16 31
20 17 30	P40	13 53 14	64.2	-60.7	3.1		80.9	-20	4865	No stop
20 21 30	---	13 57 14	63.6	-60.5	3.1		80.2	220	4896	20 17 31

Schedule for TORUN (Code Tr) Page 19

Testing AGN evolution and feedback by combining the ILT and e-MERLIN/EVN

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	LST	Start / Stop EL	 AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Fri 27 May 2022 Day 147 ---										
20 22 00	J1037+5711	13 57 44	62.0	-61.7	3.3		76.7	10	4896	20 22 00
20 23 00	---	13 58 45	61.8	-61.7	3.3		76.6	60	4904	20 22 01
20 23 00	P47	13 58 45	63.1	-60.7	3.2		79.1	-18	4904	No stop
20 27 00	---	14 02 45	62.5	-60.5	3.3		78.5	222	4935	20 23 01
20 27 30	J1037+5711	14 03 15	61.2	-61.3	3.4		75.9	12	4935	20 27 30
20 28 30	---	14 04 15	61.1	-61.3	3.4		75.7	60	4943	20 27 31
20 28 30	P48	14 04 15	62.6	-60.5	3.3		78.5	-19	4943	No stop
20 32 30	---	14 08 16	62.0	-60.3	3.3		77.9	221	4974	20 28 31
20 33 00	J1037+5711	14 08 46	60.5	-61.0	3.5		75.1	11	4974	20 33 00
20 34 00	---	14 09 46	60.4	-60.9	3.5		74.9	60	4981	20 33 01
20 34 00	P30	14 09 46	61.7	-59.3	3.4		78.1	-18	4981	No stop
20 38 00	---	14 13 47	61.2	-59.0	3.4		77.5	222	5012	20 34 01
20 38 30	J1037+5711	14 14 17	59.8	-60.6	3.6		74.2	11	5012	20 38 30
20 39 30	---	14 15 17	59.6	-60.5	3.6		74.1	60	5020	20 38 31
20 39 30	P31	14 15 17	61.2	-59.0	3.4		77.5	-19	5020	No stop
20 43 30	---	14 19 18	60.7	-58.8	3.5		76.9	221	5051	20 39 31
20 44 00	J1037+5711	14 19 48	59.1	-60.2	3.7		73.4	10	5051	20 44 00
20 45 00	---	14 20 48	58.9	-60.1	3.7		73.3	60	5059	20 44 01
20 45 00	P38	14 20 48	60.1	-58.9	3.6		75.9	-18	5059	No stop
20 49 00	---	14 24 49	59.6	-58.7	3.6		75.3	222	5090	20 45 01
20 49 30	J1037+5711	14 25 19	58.3	-59.7	3.8		72.6	12	5090	20 49 30
20 50 30	---	14 26 19	58.2	-59.7	3.8		72.5	60	5097	20 49 31
20 50 30	P39	14 26 19	59.6	-58.7	3.6		75.3	-19	5097	No stop
20 54 30	---	14 30 20	59.1	-58.4	3.7		74.7	221	5128	20 50 31
20 55 00	J1037+5711	14 30 50	57.6	-59.3	3.9		71.9	11	5128	20 55 00
20 56 00	---	14 31 50	57.5	-59.2	3.9		71.7	60	5136	20 55 01
20 56 00	P40	14 31 50	59.2	-58.4	3.7		74.7	-20	5136	No stop
21 00 00	---	14 35 51	58.7	-58.1	3.8		74.1	220	5167	20 56 01
21 00 30	J1037+5711	14 36 21	56.9	-58.9	4.0		71.1	10	5167	21 00 30
21 01 30	---	14 37 21	56.8	-58.8	4.0		70.9	60	5175	21 00 31

```
Schedule for TORUN     (Code Tr )                                  Page  20
               Testing AGN evolution and feedback by combining the ILT and e-MERLIN/EVN
  UP:  D => Below limits;  H => Below horizon mask;  W => still slewing at end;  blank => Up.
  Early: Seconds between end of slew and start.   Dwell: On source seconds.
  Disk: GBytes recorded to this point.
  TPStart:  Recording start time.  Frequencies are LO sum (band edge).
  SYNC: Time correlator is expected to sync up.
-----------------------------------------------------------------------------------------
Start UT  Source               Start / Stop                 Early    Disk   TPStart
Stop UT                  LST      EL    AZ   HA  UP   ParA  Dwell   GBytes    SYNC
-----------------------------------------------------------------------------------------

 --- Fri  27 May 2022   Day 147 ---

21 01 30  P47          14 37 21  58.1 -58.2  3.8      73.2   -18     5175   No stop
21 05 30  ---          14 41 22  57.6 -57.9  3.9      72.6   222     5206   21 01 31

21 06 00  J1037+5711   14 41 52  56.2 -58.4  4.0      70.3    12     5206   21 06 00
21 07 00  ---          14 42 52  56.1 -58.3  4.1      70.1    60     5213   21 06 01

21 07 00  P48          14 42 52  57.6 -57.9  3.9      72.6   -19     5213   No stop
21 11 00  ---          14 46 52  57.1 -57.6  4.0      72.0   221     5244   21 07 01

21 11 30  J1037+5711   14 47 23  55.5 -58.0  4.1      69.5    11     5244   21 11 30
21 12 30  ---          14 48 23  55.4 -57.9  4.2      69.4    60     5252   21 11 31

21 12 30  P30          14 48 23  56.8 -56.7  4.0      72.1   -19     5252   No stop
21 16 30  ---          14 52 23  56.3 -56.4  4.1      71.5   221     5283   21 12 31

21 17 00  J1037+5711   14 52 53  54.8 -57.5  4.2      68.7    11     5283   21 17 00
21 18 00  ---          14 53 54  54.7 -57.4  4.2      68.6    60     5291   21 17 01

21 18 00  P31          14 53 54  56.3 -56.4  4.1      71.5   -20     5291   No stop
21 22 00  ---          14 57 54  55.8 -56.1  4.1      70.9   220     5322   21 18 01

21 22 30  J1037+5711   14 58 24  54.1 -57.0  4.3      68.0    10     5322   21 22 30
21 23 30  ---          14 59 25  54.0 -56.9  4.3      67.8    60     5329   21 22 31

21 23 30  P38          14 59 25  55.2 -56.1  4.2      70.1   -18     5329   No stop
21 27 30  ---          15 03 25  54.7 -55.8  4.3      69.5   222     5360   21 23 31

21 28 00  J1037+5711   15 03 55  53.4 -56.5  4.4      67.2    12     5360   21 28 00
21 29 00  ---          15 04 55  53.3 -56.4  4.4      67.1    60     5368   21 28 01

21 29 00  P39          15 04 55  54.8 -55.8  4.3      69.5   -19     5368   No stop
21 33 00  ---          15 08 56  54.3 -55.5  4.3      68.9   221     5399   21 29 01

21 33 30  J1037+5711   15 09 26  52.7 -56.0  4.5      66.4    11     5399   21 33 30
21 34 30  ---          15 10 26  52.6 -55.9  4.5      66.3    60     5407   21 33 31

21 34 30  P40          15 10 26  54.3 -55.5  4.3      69.0   -20     5407   No stop
21 38 30  ---          15 14 27  53.8 -55.2  4.4      68.4   220     5437   21 34 31

21 39 00  J1037+5711   15 14 57  52.0 -55.5  4.6      65.7    10     5437   21 39 00
21 40 00  ---          15 15 57  51.9 -55.4  4.6      65.5    60     5445   21 39 01

21 40 00  P47          15 15 57  53.2 -55.2  4.5      67.5   -18     5445   No stop
21 44 00  ---          15 19 58  52.7 -54.8  4.5      67.0   222     5476   21 40 01
```

Schedule for TORUN (Code Tr) Page 21

Testing AGN evolution and feedback by combining the ILT and e-MERLIN/EVN

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT	Source	Start / Stop						Early	Disk	TPStart
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC
--- Fri 27 May 2022 Day 147 ---										
21 44 30	J1037+5711	15 20 28	51.4	-55.0	4.7		64.9	12	5476	21 44 30
21 45 30	---	15 21 28	51.2	-54.9	4.7		64.8	60	5484	21 44 31
21 45 30	P48	15 21 28	52.8	-54.8	4.5		67.0	-19	5484	No stop
21 49 30	---	15 25 29	52.3	-54.5	4.6		66.4	221	5515	21 45 31
21 50 00	J1037+5711	15 25 59	50.7	-54.5	4.8		64.1	11	5515	21 50 00
21 51 00	---	15 26 59	50.6	-54.4	4.8		64.0	60	5522	21 50 01
21 51 00	P30	15 26 59	52.0	-53.6	4.7		66.4	-19	5522	No stop
21 55 00	---	15 31 00	51.6	-53.3	4.7		65.8	221	5553	21 51 01
21 55 30	J1037+5711	15 31 30	50.0	-54.0	4.9		63.4	11	5553	21 55 30
21 56 30	---	15 32 30	49.9	-53.9	4.9		63.3	60	5561	21 55 31
21 56 30	P31	15 32 30	51.6	-53.3	4.7		65.9	-20	5561	No stop
22 00 30	---	15 36 31	51.1	-52.9	4.8		65.3	220	5592	21 56 31
22 01 00	J1037+5711	15 37 01	49.3	-53.5	5.0		62.6	10	5592	22 01 00
22 02 00	---	15 38 01	49.2	-53.4	5.0		62.5	60	5600	22 01 01
22 02 00	P38	15 38 01	50.5	-52.8	4.9		64.5	-18	5600	No stop
22 06 00	---	15 42 01	50.0	-52.5	4.9		63.9	222	5631	22 02 01
22 06 30	J1037+5711	15 42 32	48.7	-52.9	5.1		61.9	12	5631	22 06 30
22 07 30	---	15 43 32	48.6	-52.8	5.1		61.7	60	5638	22 06 31
22 07 30	P39	15 43 32	50.1	-52.5	4.9		63.9	-19	5638	No stop
22 11 30	---	15 47 32	49.6	-52.1	5.0		63.4	221	5669	22 07 31
22 12 00	J1037+5711	15 48 02	48.0	-52.4	5.1		61.1	11	5669	22 12 00
22 13 00	---	15 49 03	47.9	-52.3	5.2		61.0	60	5677	22 12 01
22 13 00	P40	15 49 03	49.6	-52.2	5.0		63.4	-20	5677	No stop
22 17 00	---	15 53 03	49.1	-51.8	5.0		62.8	220	5708	22 13 01
22 17 30	J1037+5711	15 53 33	47.4	-51.9	5.2		60.4	10	5708	22 17 30
22 18 30	---	15 54 34	47.3	-51.8	5.3		60.2	60	5716	22 17 31
22 18 30	P47	15 54 34	48.6	-51.7	5.1		62.1	-18	5716	No stop
22 22 30	---	15 58 34	48.1	-51.3	5.2		61.5	222	5747	22 18 31
22 23 00	J1037+5711	15 59 04	46.7	-51.3	5.3		59.6	12	5747	22 23 00
22 24 00	---	16 00 04	46.6	-51.2	5.3		59.5	60	5754	22 23 01

Schedule for TORUN (Code Tr) Page 22

Testing AGN evolution and feedback by combining the ILT and e-MERLIN/EVN

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	LST	Start / Stop EL	 AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Fri 27 May 2022 Day 147 ---										
22 24 00	P48	16 00 04	48.1	-51.3	5.2		61.5	-19	5754	No stop
22 28 00	---	16 04 05	47.7	-50.9	5.2		61.0	221	5785	22 24 01
22 28 30	J1037+5711	16 04 35	46.1	-50.8	5.4		58.9	11	5785	22 28 30
22 29 30	---	16 05 35	46.0	-50.7	5.4		58.7	60	5793	22 28 31
---------- Fringe Finder 3 ----------										
22 31 30	4C39.25	16 07 36	25.0	-57.8	6.7		40.8	28	5793	22 31 30
22 36 30	---	16 12 37	24.4	-57.0	6.7		40.3	300	5832	22 31 31
22 38 30	J1037+5711	16 14 37	44.9	-49.7	5.6		57.5	29	5832	22 38 30
22 40 00	---	16 16 07	44.8	-49.6	5.6		57.3	90	5843	22 38 31
22 40 00	P30	16 16 07	46.3	-49.1	5.5		59.4	-19	5843	No stop
22 44 00	---	16 20 08	45.8	-48.7	5.5		58.8	221	5874	22 40 01
22 44 30	J1037+5711	16 20 38	44.2	-49.1	5.7		56.7	11	5874	22 44 30
22 45 30	---	16 21 38	44.1	-49.0	5.7		56.5	60	5882	22 44 31
22 45 30	P31	16 21 38	45.8	-48.7	5.5		58.8	-20	5882	No stop
22 49 30	---	16 25 39	45.4	-48.3	5.6		58.3	220	5913	22 45 31
22 50 00	J1037+5711	16 26 09	43.6	-48.5	5.8		55.9	10	5913	22 50 00
22 51 00	---	16 27 09	43.5	-48.4	5.8		55.8	60	5921	22 50 01
22 51 00	P38	16 27 09	44.8	-48.2	5.7		57.5	-18	5921	No stop
22 55 00	---	16 31 10	44.4	-47.8	5.7		57.0	222	5951	22 51 01
22 55 30	J1037+5711	16 31 40	43.0	-47.9	5.9		55.1	12	5951	22 55 30
22 56 30	---	16 32 40	42.9	-47.8	5.9		55.0	60	5959	22 55 31
22 56 30	P39	16 32 40	44.4	-47.8	5.7		57.0	-19	5959	No stop
23 00 30	---	16 36 40	44.0	-47.4	5.8		56.4	221	5990	22 56 31
23 01 00	J1037+5711	16 37 11	42.4	-47.4	6.0		54.4	11	5990	23 01 00
23 02 00	---	16 38 11	42.3	-47.2	6.0		54.2	60	5998	23 01 01
23 02 00	P40	16 38 11	44.0	-47.4	5.8		56.5	-20	5998	No stop
23 06 00	---	16 42 11	43.5	-47.0	5.9		55.9	220	6029	23 02 01
23 06 30	J1037+5711	16 42 41	41.8	-46.8	6.1		53.6	10	6029	23 06 30
23 07 30	---	16 43 42	41.7	-46.7	6.1		53.5	60	6036	23 06 31

Schedule for TORUN (Code Tr) Page 23

Testing AGN evolution and feedback by combining the ILT and e-MERLIN/EVN

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Fri 27 May 2022 Day 147 ---										
23 07 30	P47	16 43 42	43.0	-46.8	5.9		55.2	-18	6036	No stop
23 11 30	---	16 47 42	42.5	-46.4	6.0		54.6	222	6067	23 07 31
23 12 00	J1037+5711	16 48 12	41.2	-46.2	6.2		52.9	12	6067	23 12 00
23 13 00	---	16 49 13	41.1	-46.1	6.2		52.7	60	6075	23 12 01
23 13 00	P48	16 49 13	42.6	-46.4	6.0		54.6	-19	6075	No stop
23 17 00	---	16 53 13	42.1	-46.0	6.1		54.1	221	6106	23 13 01
23 17 30	J1037+5711	16 53 43	40.6	-45.6	6.2		52.1	11	6106	23 17 30
23 18 30	---	16 54 43	40.5	-45.5	6.3		52.0	60	6114	23 17 31
23 18 30	P30	16 54 43	42.0	-45.2	6.1		53.9	-19	6114	No stop
23 22 30	---	16 58 44	41.6	-44.8	6.2		53.3	221	6145	23 18 31
23 23 00	J1037+5711	16 59 14	40.0	-45.0	6.3		51.3	11	6145	23 23 00
23 24 00	---	17 00 14	39.9	-44.8	6.4		51.2	60	6152	23 23 01
23 24 00	P31	17 00 14	41.6	-44.8	6.2		53.4	-20	6152	No stop
23 28 00	---	17 04 15	41.2	-44.4	6.2		52.8	220	6183	23 24 01
23 28 30	J1037+5711	17 04 45	39.4	-44.3	6.4		50.6	10	6183	23 28 30
23 29 30	---	17 05 45	39.3	-44.2	6.4		50.4	60	6191	23 28 31
23 29 30	P38	17 05 45	40.6	-44.2	6.3		52.1	-18	6191	No stop
23 33 30	---	17 09 46	40.2	-43.7	6.4		51.5	222	6222	23 29 31
23 34 00	J1037+5711	17 10 16	38.8	-43.7	6.5		49.8	12	6222	23 34 00
23 35 00	---	17 11 16	38.7	-43.6	6.5		49.7	60	6230	23 34 01
23 35 00	P39	17 11 16	40.3	-43.7	6.4		51.5	-19	6230	No stop
23 39 00	---	17 15 17	39.8	-43.3	6.4		51.0	221	6261	23 35 01
23 39 30	J1037+5711	17 15 47	38.3	-43.1	6.6		49.0	11	6261	23 39 30
23 40 30	---	17 16 47	38.2	-43.0	6.6		48.9	60	6268	23 39 31
23 40 30	P40	17 16 47	39.9	-43.3	6.4		51.0	-20	6268	No stop
23 44 30	---	17 20 48	39.5	-42.9	6.5		50.4	220	6299	23 40 31
23 45 00	J1037+5711	17 21 18	37.7	-42.5	6.7		48.3	10	6299	23 45 00
23 46 00	---	17 22 18	37.6	-42.4	6.7		48.1	60	6307	23 45 01
23 46 00	P47	17 22 18	38.9	-42.6	6.6		49.7	-18	6307	No stop
23 50 00	---	17 26 19	38.5	-42.2	6.6		49.1	222	6338	23 46 01

Schedule for TORUN (Code Tr) Page 24

Testing AGN evolution and feedback by combining the ILT and e-MERLIN/EVN

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT	Source	Start / Stop						Early	Disk	TPStart
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC
--- Fri 27 May 2022 Day 147 ---										
23 50 30	J1037+5711	17 26 49	37.2	-41.8	6.8		47.5	12	6338	23 50 30
23 51 30	---	17 27 49	37.1	-41.7	6.8		47.3	60	6346	23 50 31
23 51 30	P48	17 27 49	38.5	-42.2	6.6		49.2	-19	6346	No stop
23 55 30	---	17 31 49	38.1	-41.8	6.7		48.6	221	6377	23 51 31
23 56 00	J1037+5711	17 32 20	36.6	-41.2	6.9		46.7	11	6377	23 56 00
23 57 00	---	17 33 20	36.5	-41.1	6.9		46.6	60	6384	23 56 01
--- Start: Fri 27 May 2022 Day 147 -- Stop: Sat 28 May 2022 Day 148 ---										
23 57 00	P30	17 33 20	38.1	-41.0	6.8		48.4	-19	6384	No stop
00 01 00	---	17 37 20	37.7	-40.6	6.8		47.8	221	6415	23 57 01
00 01 30	J1037+5711	17 37 50	36.1	-40.6	7.0		45.9	10	6415	00 01 30
00 02 30	---	17 38 51	36.0	-40.4	7.0		45.8	60	6423	00 01 31
00 02 30	P31	17 38 51	37.7	-40.6	6.8		47.8	-20	6423	No stop
00 06 30	---	17 42 51	37.3	-40.2	6.9		47.3	220	6454	00 02 31
00 07 00	J1037+5711	17 43 21	35.5	-39.9	7.1		45.2	10	6454	00 07 00
00 08 00	---	17 44 22	35.4	-39.8	7.1		45.0	60	6462	00 07 01
00 08 00	P38	17 44 22	36.8	-39.9	7.0		46.5	-18	6462	No stop
00 12 00	---	17 48 22	36.4	-39.4	7.0		46.0	222	6492	00 08 01
00 12 30	J1037+5711	17 48 52	35.0	-39.3	7.2		44.4	12	6492	00 12 30
00 13 30	---	17 49 52	34.9	-39.1	7.2		44.2	60	6500	00 12 31
00 13 30	P39	17 49 52	36.4	-39.4	7.0		46.0	-19	6500	No stop
00 17 30	---	17 53 53	36.0	-39.0	7.1		45.4	221	6531	00 13 31
00 18 00	J1037+5711	17 54 23	34.5	-38.6	7.3		43.6	11	6531	00 18 00
00 19 00	---	17 55 23	34.4	-38.5	7.3		43.5	60	6539	00 18 01
00 19 00	P40	17 55 23	36.0	-39.0	7.1		45.5	-20	6539	No stop
00 23 00	---	17 59 24	35.7	-38.6	7.2		44.9	220	6570	00 19 01
00 23 30	J1037+5711	17 59 54	34.0	-37.9	7.3		42.8	10	6570	00 23 30
00 24 30	---	18 00 54	33.9	-37.8	7.4		42.7	60	6577	00 23 31
00 24 30	P47	18 00 54	35.1	-38.2	7.2		44.2	-18	6577	No stop
00 28 30	---	18 04 55	34.8	-37.8	7.3		43.6	222	6608	00 24 31

Schedule for TORUN (Code Tr) Page 25

Testing AGN evolution and feedback by combining the ILT and e-MERLIN/EVN

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	LST	Start / Stop EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Sat 28 May 2022 Day 148 ---										
00 29 00	J1037+5711	18 05 25	33.5	-37.3	7.4		42.0	12	6608	00 29 00
00 30 00	---	18 06 25	33.4	-37.2	7.5		41.9	60	6616	00 29 01
00 30 00	P48	18 06 25	34.8	-37.8	7.3		43.6	-19	6616	No stop
00 34 00	---	18 10 26	34.4	-37.3	7.4		43.1	221	6647	00 30 01
00 34 30	J1037+5711	18 10 56	33.0	-36.6	7.5		41.2	11	6647	00 34 30
00 35 30	---	18 11 56	32.9	-36.5	7.5		41.1	60	6655	00 34 31
00 35 30	P30	18 11 56	34.4	-36.6	7.4		42.8	-19	6655	No stop
00 39 30	---	18 15 57	34.1	-36.1	7.5		42.2	221	6686	00 35 31
00 40 00	J1037+5711	18 16 27	32.5	-35.9	7.6		40.4	11	6686	00 40 00
00 41 00	---	18 17 27	32.4	-35.8	7.6		40.3	60	6693	00 40 01
00 41 00	P31	18 17 27	34.1	-36.2	7.5		42.2	-20	6693	No stop
00 45 00	---	18 21 28	33.7	-35.7	7.5		41.6	220	6724	00 41 01
00 45 30	J1037+5711	18 21 58	32.0	-35.3	7.7		39.6	10	6724	00 45 30
00 46 30	---	18 22 58	31.9	-35.1	7.7		39.5	60	6732	00 45 31
00 46 30	P38	18 22 58	33.2	-35.4	7.6		40.9	-18	6732	No stop
00 50 30	---	18 26 59	32.9	-34.9	7.7		40.4	222	6763	00 46 31
00 51 00	J1037+5711	18 27 29	31.5	-34.6	7.8		38.8	12	6763	00 51 00
00 52 00	---	18 28 29	31.4	-34.5	7.8		38.7	60	6771	00 51 01
00 52 00	P39	18 28 29	32.9	-34.9	7.7		40.4	-19	6771	No stop
00 56 00	---	18 32 29	32.6	-34.4	7.7		39.8	221	6802	00 52 01
00 56 30	J1037+5711	18 33 00	31.1	-33.9	7.9		38.0	11	6802	00 56 30
00 57 30	---	18 34 00	31.0	-33.8	7.9		37.9	60	6809	00 56 31
00 57 30	P40	18 34 00	32.6	-34.5	7.7		39.8	-20	6809	No stop
01 01 30	---	18 38 00	32.2	-34.0	7.8		39.3	220	6840	00 57 31
01 02 00	J1037+5711	18 38 30	30.6	-33.2	8.0		37.2	10	6840	01 02 00
01 03 00	---	18 39 31	30.5	-33.1	8.0		37.1	60	6848	01 02 01
01 03 00	P47	18 39 31	31.7	-33.6	7.9		38.6	-18	6848	No stop
01 07 00	---	18 43 31	31.4	-33.1	7.9		38.0	222	6879	01 03 01
01 07 30	J1037+5711	18 44 01	30.1	-32.5	8.1		36.4	12	6879	01 07 30
01 08 30	---	18 45 01	30.1	-32.4	8.1		36.3	60	6887	01 07 31

Schedule for TORUN (Code Tr) Page 26

Testing AGN evolution and feedback by combining the ILT and e-MERLIN/EVN

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Sat 28 May 2022 Day 148 ---										
01 08 30	P48	18 45 01	31.4	-33.2	7.9		38.0	-18	6887	No stop
01 12 30	---	18 49 02	31.1	-32.7	8.0		37.4	222	6918	01 08 31
01 13 00	J1037+5711	18 49 32	29.7	-31.8	8.2		35.6	11	6918	01 13 00
01 14 00	---	18 50 32	29.6	-31.7	8.2		35.5	60	6925	01 13 01
01 14 00	P30	18 50 32	31.2	-32.0	8.1		37.1	-19	6925	No stop
01 18 00	---	18 54 33	30.8	-31.5	8.1		36.5	221	6956	01 14 01
01 18 30	J1037+5711	18 55 03	29.3	-31.1	8.3		34.8	11	6956	01 18 30
01 19 30	---	18 56 03	29.2	-31.0	8.3		34.7	60	6964	01 18 31
01 19 30	P31	18 56 03	30.9	-31.5	8.1		36.5	-20	6964	No stop
01 23 30	---	19 00 04	30.6	-31.0	8.2		35.9	220	6995	01 19 31
01 24 00	J1037+5711	19 00 34	28.8	-30.4	8.4		34.0	10	6995	01 24 00
01 25 00	---	19 01 34	28.8	-30.3	8.4		33.8	60	7003	01 24 01
01 25 00	P38	19 01 34	30.1	-30.6	8.2		35.2	-18	7003	No stop
01 29 00	---	19 05 35	29.8	-30.1	8.3		34.6	222	7034	01 25 01
01 29 30	J1037+5711	19 06 05	28.4	-29.7	8.4		33.2	12	7034	01 29 30
01 30 30	---	19 07 05	28.4	-29.6	8.5		33.0	60	7041	01 29 31
01 30 30	P39	19 07 05	29.8	-30.2	8.3		34.7	-19	7041	No stop
01 34 30	---	19 11 06	29.5	-29.7	8.4		34.1	221	7072	01 30 31
01 35 00	J1037+5711	19 11 36	28.0	-29.0	8.5		32.4	11	7072	01 35 00
01 36 00	---	19 12 36	28.0	-28.8	8.6		32.2	60	7080	01 35 01
01 36 00	P40	19 12 36	29.5	-29.7	8.4		34.1	-19	7080	No stop
01 40 00	---	19 16 37	29.2	-29.2	8.4		33.5	221	7111	01 36 01
01 40 30	J1037+5711	19 17 07	27.6	-28.2	8.6		31.5	11	7111	01 40 30
01 41 30	---	19 18 07	27.6	-28.1	8.6		31.4	60	7119	01 40 31
01 41 30	P47	19 18 07	28.7	-28.8	8.5		32.8	-17	7119	No stop
01 45 30	---	19 22 08	28.5	-28.3	8.6		32.2	223	7149	01 41 31
01 46 00	J1037+5711	19 22 38	27.2	-27.5	8.7		30.7	12	7149	01 46 00
01 47 00	---	19 23 38	27.2	-27.4	8.7		30.6	60	7157	01 46 01
01 47 00	P48	19 23 38	28.5	-28.3	8.6		32.3	-18	7157	No stop
01 51 00	---	19 27 38	28.2	-27.8	8.6		31.7	222	7188	01 47 01

Schedule for TORUN (Code Tr) Page 27

Testing AGN evolution and feedback by combining the ILT and e-MERLIN/EVN

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	LST	Start / Stop EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Sat 28 May 2022 Day 148 ---										
01 51 30	J1037+5711	19 28 09	26.9	-26.8	8.8		29.9	12	7188	01 51 30
01 52 30	---	19 29 09	26.8	-26.7	8.8		29.7	60	7196	01 51 31
01 52 30	P30	19 29 09	28.3	-27.1	8.7		31.3	-19	7196	No stop
01 56 15	---	19 32 54	28.0	-26.7	8.8		30.7	206	7225	01 52 31
01 56 45	J1037+5711	19 33 24	26.5	-26.1	8.9		29.1	11	7225	01 56 45
01 57 45	---	19 34 25	26.4	-26.0	8.9		28.9	60	7233	01 56 46
01 57 45	P31	19 34 25	28.1	-26.7	8.8		30.8	-20	7233	No stop
02 01 30	---	19 38 10	27.8	-26.2	8.8		30.2	205	7262	01 57 46
02 02 00	J1037+5711	19 38 40	26.2	-25.4	9.0		28.3	10	7262	02 02 00
02 03 00	---	19 39 40	26.1	-25.3	9.0		28.1	60	7269	02 02 01
02 03 00	P38	19 39 40	27.4	-25.8	8.9		29.5	-18	7269	No stop
02 06 45	---	19 43 26	27.1	-25.3	8.9		28.9	207	7298	02 03 01
02 07 15	J1037+5711	19 43 56	25.8	-24.7	9.1		27.5	12	7298	02 07 15
02 08 15	---	19 44 56	25.8	-24.6	9.1		27.4	60	7306	02 07 16
02 08 15	P39	19 44 56	27.1	-25.3	8.9		29.0	-18	7306	No stop
02 12 00	---	19 48 42	26.9	-24.8	9.0		28.4	207	7335	02 08 16
02 12 30	J1037+5711	19 49 12	25.5	-24.0	9.2		26.7	11	7335	02 12 30
02 13 30	---	19 50 12	25.5	-23.9	9.2		26.6	60	7343	02 12 31
02 13 30	P40	19 50 12	26.9	-24.9	9.0		28.4	-19	7343	No stop
02 17 30	---	19 54 13	26.7	-24.3	9.1		27.8	221	7374	02 13 31
02 18 00	J1037+5711	19 54 43	25.2	-23.3	9.3		25.9	11	7374	02 18 00
02 19 00	---	19 55 43	25.1	-23.1	9.3		25.7	60	7381	02 18 01
02 19 00	P47	19 55 43	26.2	-23.9	9.1		27.1	-17	7381	No stop
02 23 00	---	19 59 44	26.0	-23.4	9.2		26.5	223	7412	02 19 01
02 23 30	J1037+5711	20 00 14	24.9	-22.5	9.4		25.0	13	7412	02 23 30
02 24 30	---	20 01 14	24.8	-22.4	9.4		24.9	60	7420	02 23 31
02 24 30	P48	20 01 14	26.0	-23.4	9.2		26.6	-18	7420	No stop
02 28 30	---	20 05 15	25.8	-22.9	9.3		25.9	222	7451	02 24 31
02 29 00	J1037+5711	20 05 45	24.5	-21.8	9.4		24.2	12	7451	02 29 00
02 30 00	---	20 06 45	24.5	-21.6	9.5		24.0	60	7459	02 29 01

SETUP FILE INFORMATION:

```
  NOTE: If DOPPLER, FREQ, or BW were used, see the individual scans for the final BBC settings.


======== Setup file: sess222.L1024

  Setup group:    7         Station: TORUN            Total bit rate:  1024
  Format: VDIF              Bits per sample: 2        Sample rate: 64.000
  Number of channels:  8    DBE type: DBBC_DDC        Speedup factor:   1.00

  Disk used to record data.
```

```
  1st LO=   2300.00   2300.00   2300.00   2300.00   2300.00   2300.00   2300.00   2300.00
  Net SB=         L         L         U         U         L         L         U         U
  IF SB =         L         L         L         L         L         L         L         L
  Pol.  =       RCP       LCP       RCP       LCP       RCP       LCP       RCP       LCP
  BBC   =         1         9         1         9         2        10         2        10
  BBC SB=         U         U         L         L         U         U         L         L
  IF    =        A1        B1        A1        B1        A1        B1        A1        B1

 The following frequency sets based on these setups were used.

  Frequency Set:   8  Setup file default.  Used with PCAL = off
  LO sum=   1626.49  1626.49  1626.49  1626.49  1690.49  1690.49  1690.49  1690.49
  BBC fr=    673.51   673.51   673.51   673.51   609.51   609.51   609.51   609.51
  Bandwd=     32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00
   Matching frequency sets:   8

  Track assignments are:
   track1=   1,  2,  3,  4,  5,  6,  7,  8
   barrel=roll_off



POSITIONS OF SOURCES USED IN RECORDING SCANS

  Source                          Source position (RA/Dec)                        Error
                      (B1950)             (J2000)             (Date)             (mas)

* P30               10 42 58.263820   * 10 46 07.139800     10 47 30.875143       0.00
                    58 32 50.02389    * 58 17 01.98300      58 10 17.98069        0.00

* P31               10 44 44.777924   * 10 47 52.860100     10 49 16.267898       0.00
                    58 32 52.49485    * 58 17 01.98300      58 10 16.87462        0.00

* P38               10 42 05.884790   * 10 45 14.874400     10 46 38.648357       0.00
                    58 20 46.80220    * 58 05 00.00000      57 58 16.50714        0.00

* P39               10 43 51.792512   * 10 47 00.000000     10 48 23.451274       0.00
                    58 20 49.28704    * 58 05 00.00000      57 58 15.39556        0.00

* P40               10 45 37.702200   * 10 48 45.125500     10 50 08.253200       0.00
                    58 20 51.71601    * 58 05 00.00000      57 58 14.30746        0.00

* P47               10 42 59.405791   * 10 46 07.730600     10 47 31.222097       0.00
                    58 08 46.07818    * 57 52 58.01600      57 46 13.91500        0.00

* P48               10 44 44.717207   * 10 47 52.269300     10 49 15.441998       0.00
                    58 08 48.52124    * 57 52 58.01600      57 46 12.82129        0.00

* J1037+5711        10 34 33.292410   * 10 37 44.307800     10 39 08.881058       0.00
                    57 27 31.17081    * 57 11 55.62900      57 05 16.95924        0.00

* 4C39.25           09 23 55.319216   * 09 27 03.013937     09 28 25.548739       0.31
  J0927+3902        39 15 23.56644    * 39 02 20.85185      38 56 44.71580        0.16
  0923+392          /home/guest/rmc/SCHED/sched11.6/catalogs/sources.gsfc2016
  J0927+39          GSFC 2016a X/S astro solution, 250526 observations.

* 3C345             16 41 17.606229   * 16 42 58.809967     16 43 45.392184       0.79
  J1642+3948        39 54 10.81492    * 39 48 36.99399      39 46 03.01560        0.59
  1641+399          /home/guest/rmc/SCHED/sched11.6/catalogs/sources.gsfc2016
  J1642+39          GSFC 2016a X/S astro solution,  53724 observations.
```

ev024ctr

EV024C

PI: *Vaddi*

```
Address:  Arecibo Observatory

Phone during observation: +1 7879837566
Observing mode: 18cm continuum, multiple phase center correlation

Schedule for TORUN     (Code Tr )                                  Page   2
               EV024C
  UP:  D => Below limits;  H => Below horizon mask;  W => still slewing at end;  blank => Up.
  Early: Seconds between end of slew and start.   Dwell: On source seconds.
  Disk: GBytes recorded to this point.
  TPStart:  Recording start time.  Frequencies are LO sum (band edge).
  SYNC: Time correlator is expected to sync up.
-----------------------------------------------------------------------------------------
Start UT  Source               Start / Stop                 Early    Disk   TPStart
Stop UT                  LST      EL    AZ   HA  UP   ParA  Dwell   GBytes    SYNC
-----------------------------------------------------------------------------------------
 --- Sat  28 May 2022   Day 148 ---
 Next scan frequencies:  1626.49  1626.49  1626.49  1626.49  1690.49  1690.49  1690.49  1690.49
 Next BBC frequencies:    673.51   673.51   673.51   673.51   609.51   609.51   609.51   609.51
 Next scan bandwidths:     32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00

03 00 00  0133+476     20 36 50  44.1  64.4 -5.0     -54.0     0        0   03 00 00
03 05 00  ---          20 41 51  44.7  65.1 -4.9     -54.4   300       39   03 00 01

03 07 00  UGC1837      20 43 51  35.7  63.6 -5.7     -47.5    72       39   03 07 00
03 20 00  ---          20 56 53  37.5  65.6 -5.5     -48.5   780      139   03 07 01

03 20 30  UGC1837      20 57 23  37.5  65.7 -5.4     -48.6    24      139   03 20 30
03 35 00  ---          21 11 56  39.6  67.9 -5.2     -49.7   870      251   03 20 31

03 35 30  UGC1837      21 12 26  39.6  68.0 -5.2     -49.7    24      251   03 35 30
03 50 00  ---          21 26 58  41.7  70.2 -5.0     -50.7   870      363   03 35 31

03 50 30  UGC1837      21 27 28  41.7  70.3 -4.9     -50.7    24      363   03 50 30
04 05 00  ---          21 42 00  43.8  72.6 -4.7     -51.7   870      475   03 50 31

04 05 30  UGC1837      21 42 31  43.9  72.6 -4.7     -51.7    24      475   04 05 30
04 20 00  ---          21 57 03  46.0  74.9 -4.5     -52.6   870      587   04 05 31

04 20 30  UGC1837      21 57 33  46.0  75.0 -4.4     -52.6    24      587   04 20 30
04 35 00  ---          22 12 05  48.2  77.4 -4.2     -53.4   870      699   04 20 31

04 35 30  UGC1837      22 12 35  48.2  77.4 -4.2     -53.4    24      699   04 35 30
04 50 00  ---          22 27 08  50.4  79.9 -4.0     -54.1   870      812   04 35 31

04 50 30  UGC1837      22 27 38  50.5  79.9 -3.9     -54.1    24      812   04 50 30
05 05 00  ---          22 42 10  52.6  82.4 -3.7     -54.6   870      924   04 50 31

05 05 30  UGC1837      22 42 40  52.7  82.5 -3.7     -54.6    24      924   05 05 30
05 20 00  ---          22 57 13  54.9  85.1 -3.5     -55.0   870     1036   05 05 31

05 20 30  UGC1837      22 57 43  54.9  85.2 -3.4     -55.0    24     1036   05 20 30
05 35 00  ---          23 12 15  57.1  87.9 -3.2     -55.3   870     1148   05 20 31

05 35 30  UGC1837      23 12 45  57.2  88.0 -3.2     -55.3    24     1148   05 35 30
05 50 00  ---          23 27 18  59.4  90.9 -3.0     -55.3   870     1260   05 35 31

05 50 30  UGC1837      23 27 48  59.4  91.0 -2.9     -55.3    24     1260   05 50 30
06 05 00  ---          23 42 20  61.6  94.0 -2.7     -55.1   870     1372   05 50 31
```

Schedule for TORUN (Code Tr) Page 3
EV024C

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	LST	Start / Stop EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Sat 28 May 2022 Day 148 ---										
06 05 30	UGC1837	23 42 50	61.7	94.2	-2.7		-55.1	24	1372	06 05 30
06 20 00	---	23 57 23	63.9	97.5	-2.4		-54.6	870	1484	06 05 31
06 20 30	UGC1837	23 57 53	63.9	97.6	-2.4		-54.6	24	1484	06 20 30
06 35 00	---	00 12 25	66.1	101.3	-2.2		-53.8	870	1596	06 20 31
06 35 30	UGC1837	00 12 55	66.2	101.4	-2.2		-53.7	24	1596	06 35 30
06 50 00	---	00 27 28	68.3	105.5	-1.9		-52.4	870	1708	06 35 31
06 50 30	UGC1837	00 27 58	68.4	105.7	-1.9		-52.4	24	1708	06 50 30
07 05 00	---	00 42 30	70.4	110.4	-1.7		-50.4	870	1820	06 50 31
07 07 00	0133+476	00 44 30	80.1	115.6	-0.9		-54.0	71	1820	07 07 00
07 12 00	---	00 49 31	80.7	118.7	-0.8		-51.9	300	1859	07 07 01
07 14 00	UGC1837	00 51 32	71.7	113.7	-1.5		-48.9	72	1859	07 14 00
07 29 00	---	01 06 34	73.7	120.0	-1.3		-45.4	900	1975	07 14 01
07 29 30	UGC1837	01 07 04	73.8	120.2	-1.3		-45.3	23	1975	07 29 30
07 44 00	---	01 21 36	75.6	127.5	-1.0		-40.7	870	2087	07 29 31
07 44 30	UGC1837	01 22 07	75.6	127.8	-1.0		-40.5	23	2087	07 44 30
07 59 00	---	01 36 39	77.3	136.8	-0.8		-34.2	870	2199	07 44 31
07 59 30	UGC1837	01 37 09	77.3	137.2	-0.8		-34.0	23	2199	07 59 30
08 14 00	---	01 51 41	78.6	148.2	-0.5		-25.7	870	2311	07 59 31
08 14 30	UGC1837	01 52 11	78.7	148.7	-0.5		-25.3	22	2311	08 14 30
08 29 00	---	02 06 44	79.6	161.9	-0.3		-14.8	870	2423	08 14 31
08 29 30	UGC1837	02 07 14	79.6	162.4	-0.3		-14.4	22	2423	08 29 30
08 44 00	---	02 21 46	80.0	177.3	-0.0		-2.2	870	2535	08 29 31
08 44 30	UGC1837	02 22 16	80.0	177.8	-0.0		-1.8	22	2535	08 44 30
08 59 00	---	02 36 49	79.8	193.0	0.2		10.6	870	2647	08 44 31
08 59 30	UGC1837	02 37 19	79.8	193.5	0.2		11.0	22	2647	08 59 30
09 14 00	---	02 51 51	79.0	207.3	0.5		22.2	870	2759	08 59 31
09 14 30	UGC1837	02 52 21	79.0	207.8	0.5		22.5	22	2759	09 14 30
09 29 00	---	03 06 54	77.8	219.5	0.7		31.6	870	2871	09 14 31
09 29 30	UGC1837	03 07 24	77.7	219.9	0.7		31.8	23	2871	09 29 30
09 44 00	---	03 21 56	76.2	229.5	1.0		38.7	870	2983	09 29 31
09 44 30	UGC1837	03 22 26	76.1	229.8	1.0		38.9	23	2983	09 44 30
09 59 00	---	03 36 59	74.4	237.6	1.2		44.0	870	3096	09 44 31

Schedule for TORUN (Code Tr) Page 4
EV024C

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Sat 28 May 2022 Day 148 ---										
09 59 30	UGC1837	03 37 29	74.3	237.9	1.2		44.1	23	3096	09 59 30
10 14 00	---	03 52 01	72.4	244.3	1.5		47.8	870	3208	09 59 31
10 14 30	UGC1837	03 52 31	72.3	244.5	1.5		47.9	24	3208	10 14 30
10 29 00	---	04 07 04	70.3	249.9	1.7		50.6	870	3320	10 14 31
10 29 30	UGC1837	04 07 34	70.2	250.1	1.7		50.7	24	3320	10 29 30
10 44 00	---	04 22 06	68.2	254.7	2.0		52.5	870	3432	10 29 31
10 44 30	UGC1837	04 22 36	68.1	254.9	2.0		52.6	24	3432	10 44 30
10 59 00	---	04 37 08	66.0	258.9	2.2		53.8	870	3544	10 44 31
10 59 30	UGC1837	04 37 39	65.9	259.1	2.2		53.9	24	3544	10 59 30
11 14 00	---	04 52 11	63.7	262.7	2.5		54.7	870	3656	10 59 31
11 14 30	UGC1837	04 52 41	63.7	262.8	2.5		54.7	24	3656	11 14 30
11 29 00	---	05 07 13	61.5	266.1	2.7		55.2	870	3768	11 14 31
11 29 30	UGC1837	05 07 43	61.4	266.3	2.7		55.2	24	3768	11 29 30
11 44 00	---	05 22 16	59.2	269.3	3.0		55.3	870	3880	11 29 31
11 47 00	0133+476	05 25 16	54.5	285.2	3.8		59.9	134	3880	11 47 00
11 52 00	---	05 30 17	53.8	285.9	3.9		59.6	300	3919	11 47 01
11 55 00	UGC1837	05 33 18	57.6	271.5	3.1		55.3	135	3919	11 55 00
12 08 00	---	05 46 20	55.6	274.0	3.4		55.1	780	4019	11 55 01
12 08 30	UGC1837	05 46 50	55.5	274.1	3.4		55.1	24	4019	12 08 30
12 23 00	---	06 01 22	53.4	276.7	3.6		54.8	870	4131	12 08 31
12 23 30	UGC1837	06 01 52	53.3	276.8	3.6		54.8	24	4131	12 23 30
12 38 00	---	06 16 25	51.1	279.3	3.9		54.3	870	4243	12 23 31
12 38 30	UGC1837	06 16 55	51.1	279.4	3.9		54.2	24	4243	12 38 30
12 53 00	---	06 31 27	48.9	281.8	4.1		53.6	870	4355	12 38 31
12 53 30	UGC1837	06 31 57	48.8	281.9	4.1		53.6	24	4355	12 53 30
13 08 00	---	06 46 30	46.7	284.2	4.4		52.9	870	4467	12 53 31
13 08 30	UGC1837	06 47 00	46.6	284.3	4.4		52.8	24	4467	13 08 30
13 23 00	---	07 01 32	44.5	286.6	4.6		52.0	870	4580	13 08 31
13 23 30	UGC1837	07 02 02	44.5	286.7	4.6		52.0	24	4580	13 23 30
13 38 00	---	07 16 35	42.4	289.0	4.9		51.1	870	4692	13 23 31

```
Schedule for TORUN     (Code Tr )                                  Page   5
               EV024C
  UP:  D => Below limits;  H => Below horizon mask;  W => still slewing at end;  blank => Up.
  Early: Seconds between end of slew and start.   Dwell: On source seconds.
  Disk: GBytes recorded to this point.
  TPStart:  Recording start time.  Frequencies are LO sum (band edge).
  SYNC: Time correlator is expected to sync up.
-----------------------------------------------------------------------------------------
Start UT  Source               Start / Stop                 Early    Disk   TPStart
Stop UT                  LST      EL    AZ   HA  UP   ParA  Dwell   GBytes    SYNC
-----------------------------------------------------------------------------------------

 --- Sat  28 May 2022   Day 148 ---

13 38 30  UGC1837      07 17 05  42.3 289.1  4.9      51.0    24     4692   13 38 30
13 53 00  ---          07 31 37  40.3 291.3  5.1      50.0   870     4804   13 38 31

13 53 30  UGC1837      07 32 07  40.2 291.4  5.1      50.0    24     4804   13 53 30
14 08 00  ---          07 46 40  38.2 293.6  5.4      48.9   870     4916   13 53 31

14 08 30  UGC1837      07 47 10  38.1 293.7  5.4      48.9    24     4916   14 08 30
14 23 00  ---          08 01 42  36.1 295.9  5.6      47.7   870     5028   14 08 31

14 23 30  UGC1837      08 02 12  36.1 296.0  5.6      47.7    24     5028   14 23 30
14 38 00  ---          08 16 44  34.1 298.2  5.9      46.5   870     5140   14 23 31

14 38 30  UGC1837      08 17 15  34.1 298.3  5.9      46.4    24     5140   14 38 30
14 53 00  ---          08 31 47  32.2 300.5  6.1      45.1   870     5252   14 38 31

14 55 00  0133+476     08 33 47  29.8 311.5  6.9      42.2    83     5252   14 55 00
15 00 00  ---          08 38 48  29.3 312.2  7.0      41.6   300     5291   14 55 01



SETUP FILE INFORMATION:
   NOTE: If DOPPLER, FREQ, or BW were used, see the individual scans for the final BBC settings.


 ======== Setup file: sess222.L1024

   Setup group:    7         Station: TORUN            Total bit rate:  1024
   Format: VDIF              Bits per sample: 2        Sample rate: 64.000
   Number of channels:  8    DBE type: DBBC_DDC        Speedup factor:   1.00

   Disk used to record data.
```

```
 1st LO=   2300.00   2300.00   2300.00   2300.00   2300.00   2300.00   2300.00   2300.00
 Net SB=         L         L         U         U         L         L         U         U
 IF SB =         L         L         L         L         L         L         L         L
 Pol.  =       RCP       LCP       RCP       LCP       RCP       LCP       RCP       LCP
 BBC   =         1         9         1         9         2        10         2        10
 BBC SB=         U         U         L         L         U         U         L         L
 IF    =        A1        B1        A1        B1        A1        B1        A1        B1

 The following frequency sets based on these setups were used.

 Frequency Set:   9  Setup file default.  Used with PCAL = off
 LO sum=   1626.49  1626.49  1626.49  1626.49  1690.49  1690.49  1690.49  1690.49
 BBC fr=    673.51   673.51   673.51   673.51   609.51   609.51   609.51   609.51
 Bandwd=     32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00
  Matching frequency sets:   9

 Track assignments are:
  track1=   1,  2,  3,  4,  5,  6,  7,  8
  barrel=roll_off
```

POSITIONS OF SOURCES USED IN RECORDING SCANS

```
 Source                          Source position (RA/Dec)                        Error
                      (B1950)            (J2000)            (Date)            (mas)

* UGC1837           02 19 48.798538   * 02 22 58.467000     02 24 20.857001       0.00
                    42 47 05.64667    * 43 00 42.84400      43 06 35.40197        0.00

* 0133+476          01 33 55.103060   * 01 36 58.594805     01 38 18.321830       0.00
  J0136+4751        47 36 12.85364    * 47 51 29.10003      47 58 02.59413        0.00
  J0136+47          /home/guest/rmc/SCHED/sched11.6/catalogs/sources.gsfc
                    GSFC 2016a X/S astro solution, 193511 observations.
```

gm081atr

Radio AGN feedback

PI: *Suma Murthy*

```
Address:  JIVE

Observing mode: vlbi
Schedule for TORUN     (Code Tr )                                  Page   2
               Radio AGN feedback
  UP:  D => Below limits;  H => Below horizon mask;  W => still slewing at end;  blank => Up.
  Early: Seconds between end of slew and start.   Dwell: On source seconds.
  Disk: GBytes recorded to this point.
  TPStart:  Recording start time.  Frequencies are LO sum (band edge).
  SYNC: Time correlator is expected to sync up.
-------------------------------------------------------------------------------------------
Start UT  Source               Start / Stop                 Early    Disk   TPStart
Stop UT                  LST      EL    AZ   HA  UP   ParA  Dwell   GBytes    SYNC
-------------------------------------------------------------------------------------------
 --- Sat  28 May 2022   Day 148 ---
 Next scan frequencies:  1346.50  1346.50  1346.50  1346.50  1362.50  1362.50  1362.50  1362.50
                         1378.50  1378.50  1378.50  1378.50  1394.50  1394.50  1394.50  1394.50
 Next BBC frequencies:    753.50   753.50   753.50   753.50   737.50   737.50   737.50   737.50
                          721.50   721.50   721.50   721.50   705.50   705.50   705.50   705.50
 Next scan bandwidths:      8.00     8.00     8.00     8.00     8.00     8.00     8.00     8.00
                            8.00     8.00     8.00     8.00     8.00     8.00     8.00     8.00

16 00 00  J1048+7143   09 38 58  69.9  16.3 -1.2    -147.7     0        0   16 00 00
16 05 00  =1044+719    09 43 59  70.1  15.3 -1.1    -149.9   300       19   16 00 01

16 07 00  J0921+6215   09 45 59  80.4 -16.1  0.4     159.1    43       19   16 07 00
16 10 00  ---          09 49 00  80.3 -18.0  0.4     156.5   180       31   16 07 01

16 10 00  J0935+6121   09 49 00  81.7  -9.6  0.2     168.0   -31       31   No stop
16 15 30  ---          09 54 30  81.5 -14.0  0.3     162.4   299       52   16 10 01

16 16 00  J0921+6215   09 55 01  80.0 -21.7  0.5     151.6     0       52   16 16 00
16 17 30  ---          09 56 31  79.9 -22.6  0.6     150.4    90       58   16 16 01

16 17 30  J0935+6121   09 56 31  81.4 -15.5  0.3     160.5   -29       58   No stop
16 23 00  ---          10 02 02  81.2 -19.6  0.4     155.2   301       79   16 17 31

16 23 00  J0921+6215   10 02 02  79.6 -25.7  0.6     146.1   -28       79   No stop
16 25 00  ---          10 04 02  79.4 -26.7  0.7     144.6    92       87   16 23 01

16 25 00  J0935+6121   10 04 02  81.1 -21.0  0.4     153.4   -26       87   No stop
16 30 00  ---          10 09 03  80.8 -24.4  0.5     149.0   274      106   16 25 01

16 30 30  J0921+6215   10 09 33  79.0 -29.5  0.8     140.7     5      106   16 30 30
16 32 00  ---          10 11 03  78.9 -30.2  0.8     139.7    90      112   16 30 31

16 32 00  J0935+6121   10 11 03  80.7 -25.6  0.6     147.3   -24      112   No stop
16 37 00  ---          10 16 04  80.3 -28.6  0.6     143.2   276      131   16 32 01

16 37 30  J0921+6215   10 16 34  78.5 -32.6  0.9     136.1     7      131   16 37 30
16 39 00  ---          10 18 04  78.4 -33.3  0.9     135.1    90      137   16 37 31

16 39 00  J0935+6121   10 18 04  80.2 -29.8  0.7     141.7   -21      137   No stop
16 44 00  ---          10 23 05  79.8 -32.4  0.8     138.0   279      157   16 39 01

16 44 30  J0921+6215   10 23 35  77.9 -35.4  1.0     131.8     9      157   16 44 30
16 46 00  ---          10 25 05  77.8 -36.0  1.0     130.9    90      162   16 44 31
```

Schedule for TORUN (Code Tr) Page 3

Radio AGN feedback

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT	Source	Start / Stop						Early	Disk	TPStart
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC
--- Sat 28 May 2022 Day 148 ---										
16 46 00	J0935+6121	10 25 05	79.6	-33.4	0.8		136.6	-21	162	No stop
16 51 00	---	10 30 06	79.2	-35.7	0.9		133.2	279	182	16 46 01
16 51 30	J0921+6215	10 30 36	77.3	-37.9	1.1		127.9	9	182	16 51 30
16 53 00	---	10 32 07	77.1	-38.3	1.1		127.1	90	187	16 51 31
16 53 00	J0935+6121	10 32 07	79.0	-36.6	0.9		131.9	-21	187	No stop
16 58 00	---	10 37 07	78.6	-38.6	1.0		128.8	279	207	16 53 01
16 58 30	J0921+6215	10 37 38	76.6	-40.0	1.2		124.2	9	207	16 58 30
17 00 00	---	10 39 08	76.5	-40.4	1.3		123.5	90	213	16 58 31
17 00 00	J0935+6121	10 39 08	78.4	-39.3	1.0		127.7	-21	213	No stop
17 05 00	---	10 44 09	77.9	-41.1	1.1		124.9	279	232	17 00 01
17 05 30	J0921+6215	10 44 39	75.9	-41.9	1.4		120.9	9	232	17 05 30
17 07 00	---	10 46 09	75.8	-42.2	1.4		120.2	90	238	17 05 31
17 07 00	J0935+6121	10 46 09	77.7	-41.7	1.1		123.8	-21	238	No stop
17 12 00	---	10 51 10	77.2	-43.2	1.2		121.2	279	257	17 07 01
17 12 30	J0921+6215	10 51 40	75.2	-43.5	1.5		117.8	9	257	17 12 30
17 14 00	---	10 53 10	75.1	-43.8	1.5		117.1	90	263	17 12 31
17 14 00	J0935+6121	10 53 10	77.0	-43.8	1.3		120.3	-21	263	No stop
17 19 00	---	10 58 11	76.5	-45.0	1.3		117.9	279	282	17 14 01
17 19 30	J0921+6215	10 58 41	74.5	-44.9	1.6		114.9	9	282	17 19 30
17 21 00	---	11 00 11	74.3	-45.1	1.6		114.3	90	288	17 19 31
17 21 00	J0935+6121	11 00 11	76.2	-45.5	1.4		117.0	-21	288	No stop
17 26 00	---	11 05 12	75.7	-46.6	1.5		114.9	279	307	17 21 01
17 26 30	J0921+6215	11 05 42	73.7	-46.0	1.7		112.2	9	307	17 26 30
17 28 00	---	11 07 12	73.6	-46.3	1.7		111.6	90	313	17 26 31
17 28 00	J0935+6121	11 07 12	75.5	-47.0	1.5		114.0	-21	313	No stop
17 33 00	---	11 12 13	74.9	-47.9	1.6		112.1	279	332	17 28 01
17 33 30	J0921+6215	11 12 43	73.0	-47.1	1.8		109.6	9	332	17 33 30
17 35 00	---	11 14 14	72.8	-47.3	1.8		109.1	90	338	17 33 31
17 35 00	J0935+6121	11 14 14	74.7	-48.3	1.6		111.3	-21	338	No stop
17 40 00	---	11 19 14	74.1	-49.0	1.7		109.4	279	357	17 35 01
17 40 30	J0921+6215	11 19 44	72.2	-47.9	1.9		107.3	9	357	17 40 30
17 42 00	---	11 21 15	72.0	-48.1	2.0		106.8	90	363	17 40 31

Schedule for TORUN (Code Tr) Page 4

Radio AGN feedback

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Sat 28 May 2022 Day 148 ---										
17 42 00	J0935+6121	11 21 15	73.9	-49.3	1.7		108.7	-21	363	No stop
17 47 00	---	11 26 16	73.3	-50.0	1.8		107.0	279	383	17 42 01
17 47 30	J0921+6215	11 26 46	71.4	-48.7	2.1		105.0	9	383	17 47 30
17 49 00	---	11 28 16	71.2	-48.8	2.1		104.6	90	388	17 47 31
17 49 00	J0935+6121	11 28 16	73.1	-50.2	1.8		106.3	-21	388	No stop
17 54 00	---	11 33 17	72.5	-50.8	1.9		104.7	279	408	17 49 01
17 54 30	J0921+6215	11 33 47	70.6	-49.3	2.2		102.9	9	408	17 54 30
17 56 00	---	11 35 17	70.4	-49.4	2.2		102.4	90	414	17 54 31
17 56 00	J0935+6121	11 35 17	72.3	-51.0	2.0		104.1	-21	414	No stop
18 01 00	---	11 40 18	71.7	-51.4	2.0		102.5	279	433	17 56 01
18 01 30	J0921+6215	11 40 48	69.8	-49.8	2.3		100.9	9	433	18 01 30
18 03 00	---	11 42 18	69.6	-49.9	2.3		100.4	90	439	18 01 31
18 03 00	J0935+6121	11 42 18	71.5	-51.6	2.1		102.0	-20	439	No stop
18 08 00	---	11 47 19	70.9	-51.9	2.2		100.5	280	458	18 03 01
18 08 30	J0921+6215	11 47 49	69.0	-50.2	2.4		98.9	9	458	18 08 30
18 10 00	---	11 49 19	68.8	-50.2	2.4		98.5	90	464	18 08 31
18 10 00	J0935+6121	11 49 19	70.6	-52.1	2.2		99.9	-20	464	No stop
18 15 00	---	11 54 20	70.0	-52.4	2.3		98.6	280	483	18 10 01
18 15 30	J0921+6215	11 54 50	68.2	-50.5	2.5		97.1	9	483	18 15 30
18 17 00	---	11 56 20	68.0	-50.5	2.6		96.7	90	489	18 15 31
18 17 00	J0935+6121	11 56 20	69.8	-52.5	2.3		98.0	-20	489	No stop
18 22 00	---	12 01 21	69.2	-52.7	2.4		96.7	280	508	18 17 01
18 22 30	J0921+6215	12 01 51	67.4	-50.7	2.6		95.3	10	508	18 22 30
18 24 00	---	12 03 22	67.2	-50.8	2.7		95.0	90	514	18 22 31
18 24 00	J0935+6121	12 03 22	69.0	-52.8	2.4		96.2	-20	514	No stop
18 29 00	---	12 08 22	68.4	-52.9	2.5		95.0	280	533	18 24 01
18 29 30	J0921+6215	12 08 52	66.6	-50.9	2.8		93.6	10	533	18 29 30
18 31 00	---	12 10 23	66.4	-50.9	2.8		93.3	90	539	18 29 31
18 31 00	J0935+6121	12 10 23	68.1	-53.0	2.5		94.5	-20	539	No stop
18 36 00	---	12 15 24	67.5	-53.1	2.6		93.3	280	558	18 31 01

Schedule for TORUN (Code Tr) Page 5

Radio AGN feedback

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Sat 28 May 2022 Day 148 ---										
18 36 30	J0921+6215	12 15 54	65.7	-51.0	2.9		92.0	10	558	18 36 30
18 38 00	---	12 17 24	65.6	-51.0	2.9		91.6	90	564	18 36 31
18 38 00	J0935+6121	12 17 24	67.3	-53.1	2.7		92.8	-20	564	No stop
18 43 00	---	12 22 25	66.7	-53.2	2.7		91.7	280	584	18 38 01
18 43 30	J0921+6215	12 22 55	64.9	-51.0	3.0		90.4	10	584	18 43 30
18 45 00	---	12 24 25	64.7	-51.0	3.0		90.1	90	589	18 43 31
18 45 00	J0935+6121	12 24 25	66.4	-53.2	2.8		91.2	-20	589	No stop
18 50 00	---	12 29 26	65.8	-53.2	2.9		90.1	280	609	18 45 01
18 50 30	J0921+6215	12 29 56	64.1	-51.0	3.1		88.9	10	609	18 50 30
18 52 00	---	12 31 26	63.9	-51.0	3.1		88.5	90	614	18 50 31
18 52 00	J0935+6121	12 31 26	65.6	-53.2	2.9		89.7	-20	614	No stop
18 57 00	---	12 36 27	65.0	-53.2	3.0		88.6	280	634	18 52 01
18 57 30	J0921+6215	12 36 57	63.3	-50.9	3.2		87.4	10	634	18 57 30
18 59 00	---	12 38 27	63.1	-50.9	3.3		87.0	90	640	18 57 31
18 59 00	J0935+6121	12 38 27	64.8	-53.2	3.0		88.2	-20	640	No stop
19 04 00	---	12 43 28	64.1	-53.1	3.1		87.1	280	659	18 59 01
19 04 30	J0921+6215	12 43 58	62.5	-50.8	3.3		85.9	10	659	19 04 30
19 06 00	---	12 45 28	62.3	-50.8	3.4		85.6	90	665	19 04 31
19 08 40	J1048+7143	12 48 09	67.5	-23.9	2.0		129.5	91	665	19 08 40
19 13 00	=1044+719	12 52 30	67.2	-24.5	2.0		127.9	260	681	19 08 41
19 15 30	J0921+6215	12 55 00	61.2	-50.6	3.5		83.7	83	681	19 15 30
19 18 00	---	12 57 30	60.9	-50.5	3.6		83.2	150	691	19 15 31
19 18 00	J0935+6121	12 57 30	62.5	-52.8	3.3		84.3	-19	691	No stop
19 23 00	---	13 02 31	61.9	-52.7	3.4		83.3	281	710	19 18 01
19 23 30	J0921+6215	13 03 01	60.3	-50.4	3.7		82.1	10	710	19 23 30
19 25 00	---	13 04 32	60.1	-50.3	3.7		81.8	90	716	19 23 31
19 25 00	J0935+6121	13 04 32	61.6	-52.6	3.5		82.9	-19	716	No stop
19 30 00	---	13 09 32	61.0	-52.5	3.5		82.0	281	736	19 25 01
19 30 30	J0921+6215	13 10 03	59.4	-50.1	3.8		80.8	11	736	19 30 30
19 32 00	---	13 11 33	59.3	-50.1	3.8		80.5	90	741	19 30 31

Schedule for TORUN (Code Tr) Page 6

Radio AGN feedback

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Sat 28 May 2022 Day 148 ---										
19 32 00	J0935+6121	13 11 33	60.8	-52.4	3.6		81.6	-19	741	No stop
19 37 00	---	13 16 34	60.2	-52.2	3.7		80.7	281	761	19 32 01
19 37 30	J0921+6215	13 17 04	58.6	-49.8	3.9		79.5	11	761	19 37 30
19 39 00	---	13 18 34	58.5	-49.8	3.9		79.2	90	766	19 37 31
19 39 00	J0935+6121	13 18 34	60.0	-52.1	3.7		80.3	-19	766	No stop
19 44 00	---	13 23 35	59.4	-51.9	3.8		79.4	281	786	19 39 01
19 44 30	J0921+6215	13 24 05	57.8	-49.5	4.0		78.2	11	786	19 44 30
19 46 00	---	13 25 35	57.7	-49.5	4.0		77.9	90	792	19 44 31
19 46 00	J0935+6121	13 25 35	59.1	-51.8	3.8		79.0	-19	792	No stop
19 51 00	---	13 30 36	58.5	-51.6	3.9		78.1	281	811	19 46 01
19 51 30	J0921+6215	13 31 06	57.0	-49.2	4.1		76.9	11	811	19 51 30
19 53 00	---	13 32 36	56.9	-49.1	4.2		76.6	90	817	19 51 31
19 53 00	J0935+6121	13 32 36	58.3	-51.5	3.9		77.7	-19	817	No stop
19 58 00	---	13 37 37	57.7	-51.2	4.0		76.9	281	836	19 53 01
19 58 30	J0921+6215	13 38 07	56.2	-48.9	4.2		75.6	11	836	19 58 30
20 00 00	---	13 39 37	56.1	-48.8	4.3		75.4	90	842	19 58 31
20 00 00	J0935+6121	13 39 37	57.5	-51.1	4.0		76.5	-19	842	No stop
20 05 00	---	13 44 38	56.9	-50.9	4.1		75.6	281	861	20 00 01
20 05 30	J0921+6215	13 45 08	55.4	-48.5	4.4		74.4	11	861	20 05 30
20 07 00	---	13 46 39	55.3	-48.4	4.4		74.1	90	867	20 05 31
20 07 00	J0935+6121	13 46 39	56.7	-50.8	4.2		75.3	-19	867	No stop
20 12 00	---	13 51 39	56.1	-50.5	4.2		74.4	281	886	20 07 01
20 12 30	J0921+6215	13 52 09	54.7	-48.1	4.5		73.2	11	886	20 12 30
20 14 00	---	13 53 40	54.5	-48.0	4.5		72.9	90	892	20 12 31
20 14 00	J0935+6121	13 53 40	55.8	-50.4	4.3		74.1	-19	892	No stop
20 19 00	---	13 58 40	55.3	-50.1	4.4		73.2	281	911	20 14 01
20 19 30	J0921+6215	13 59 11	53.9	-47.7	4.6		72.0	11	911	20 19 30
20 21 00	---	14 00 41	53.7	-47.6	4.6		71.7	90	917	20 19 31
20 21 00	J0935+6121	14 00 41	55.0	-49.9	4.4		72.9	-19	917	No stop
20 26 00	---	14 05 42	54.5	-49.6	4.5		72.0	281	937	20 21 01

Schedule for TORUN (Code Tr) Page 7

Radio AGN feedback

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	LST	Start / Stop EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Sat 28 May 2022 Day 148 ---										
20 26 30	J0921+6215	14 06 12	53.1	-47.2	4.7		70.8	11	937	20 26 30
20 28 00	---	14 07 42	52.9	-47.1	4.7		70.5	90	942	20 26 31
20 28 00	J0935+6121	14 07 42	54.2	-49.5	4.5		71.7	-19	942	No stop
20 33 00	---	14 12 43	53.7	-49.2	4.6		70.9	281	962	20 28 01
20 33 30	J0921+6215	14 13 13	52.3	-46.8	4.8		69.6	11	962	20 33 30
20 35 00	---	14 14 43	52.2	-46.7	4.9		69.3	90	967	20 33 31
20 35 00	J0935+6121	14 14 43	53.4	-49.0	4.6		70.5	-19	967	No stop
20 40 00	---	14 19 44	52.9	-48.7	4.7		69.7	281	987	20 35 01
20 40 30	J0921+6215	14 20 14	51.6	-46.3	4.9		68.4	11	987	20 40 30
20 42 00	---	14 21 44	51.4	-46.2	5.0		68.1	90	993	20 40 31
20 42 00	J0935+6121	14 21 44	52.6	-48.6	4.7		69.4	-19	993	No stop
20 47 00	---	14 26 45	52.1	-48.2	4.8		68.6	281	1012	20 42 01
20 47 30	J0921+6215	14 27 15	50.8	-45.8	5.1		67.2	11	1012	20 47 30
20 49 00	---	14 28 45	50.6	-45.7	5.1		67.0	90	1018	20 47 31
20 49 00	J0935+6121	14 28 45	51.9	-48.1	4.9		68.2	-19	1018	No stop
20 54 00	---	14 33 46	51.3	-47.7	4.9		67.4	281	1037	20 49 01
20 54 30	J0921+6215	14 34 16	50.1	-45.3	5.2		66.1	11	1037	20 54 30
20 56 00	---	14 35 47	49.9	-45.2	5.2		65.8	90	1043	20 54 31
20 56 00	J0935+6121	14 35 47	51.1	-47.5	5.0		67.1	-19	1043	No stop
21 01 00	---	14 40 47	50.5	-47.2	5.1		66.3	281	1062	20 56 01
21 01 30	J0921+6215	14 41 17	49.3	-44.7	5.3		64.9	11	1062	21 01 30
21 03 00	---	14 42 48	49.2	-44.6	5.3		64.7	90	1068	21 01 31
21 03 00	J0935+6121	14 42 48	50.3	-47.0	5.1		66.0	-19	1068	No stop
21 08 00	---	14 47 49	49.8	-46.6	5.2		65.2	281	1087	21 03 01
21 08 30	J0921+6215	14 48 19	48.6	-44.2	5.4		63.8	11	1087	21 08 30
21 10 00	---	14 49 49	48.4	-44.1	5.4		63.5	90	1093	21 08 31
21 10 00	J0935+6121	14 49 49	49.5	-46.5	5.2		64.9	-19	1093	No stop
21 15 00	---	14 54 50	49.0	-46.1	5.3		64.1	281	1112	21 10 01
21 15 30	J0921+6215	14 55 20	47.8	-43.7	5.5		62.6	11	1112	21 15 30
21 17 00	---	14 56 50	47.7	-43.5	5.6		62.4	90	1118	21 15 31

Schedule for TORUN (Code Tr) Page 8

Radio AGN feedback

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	LST	Start / Stop EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Sat 28 May 2022 Day 148 ---										
21 17 00	J0935+6121	14 56 50	48.8	-45.9	5.3		63.7	-19	1118	No stop
21 22 00	---	15 01 51	48.2	-45.5	5.4		63.0	281	1137	21 17 01
21 22 30	J0921+6215	15 02 21	47.1	-43.1	5.7		61.5	11	1137	21 22 30
21 24 00	---	15 03 51	47.0	-43.0	5.7		61.3	90	1143	21 22 31
21 26 00	0923+392	15 05 51	33.3	-67.8	5.6		45.6	55	1143	21 26 00
21 31 00	---	15 10 52	32.6	-67.0	5.7		45.3	300	1163	21 26 01
21 33 30	J0921+6215	15 13 23	46.0	-42.2	5.8		59.7	85	1163	21 33 30
21 36 00	---	15 15 53	45.7	-42.0	5.9		59.3	150	1172	21 33 31
21 36 00	J0935+6121	15 15 53	46.7	-44.3	5.6		60.7	-19	1172	No stop
21 41 00	---	15 20 54	46.2	-43.9	5.7		60.0	281	1192	21 36 01
21 41 30	J0921+6215	15 21 24	45.2	-41.5	6.0		58.4	11	1192	21 41 30
21 43 00	---	15 22 54	45.0	-41.4	6.0		58.2	90	1197	21 41 31
21 43 00	J0935+6121	15 22 54	46.0	-43.7	5.8		59.6	-19	1197	No stop
21 48 00	---	15 27 55	45.5	-43.3	5.8		58.9	281	1217	21 43 01
21 48 30	J0921+6215	15 28 25	44.5	-40.9	6.1		57.3	11	1217	21 48 30
21 50 00	---	15 29 55	44.4	-40.7	6.1		57.1	90	1222	21 48 31
21 50 00	J0935+6121	15 29 55	45.3	-43.1	5.9		58.5	-19	1222	No stop
21 55 00	---	15 34 56	44.8	-42.6	6.0		57.8	281	1242	21 50 01
21 55 30	J0921+6215	15 35 26	43.8	-40.2	6.2		56.2	11	1242	21 55 30
21 57 00	---	15 36 57	43.7	-40.1	6.2		56.0	90	1248	21 55 31
21 57 00	J0935+6121	15 36 57	44.6	-42.5	6.0		57.5	-19	1248	No stop
22 02 00	---	15 41 57	44.1	-42.0	6.1		56.7	281	1267	21 57 01
22 02 30	J0921+6215	15 42 27	43.1	-39.6	6.3		55.1	11	1267	22 02 30
22 04 00	---	15 43 58	43.0	-39.5	6.3		54.9	90	1273	22 02 31
22 04 00	J0935+6121	15 43 58	43.9	-41.8	6.1		56.4	-19	1273	No stop
22 09 00	---	15 48 59	43.4	-41.3	6.2		55.6	281	1292	22 04 01
22 09 30	J0921+6215	15 49 29	42.5	-39.0	6.4		54.0	11	1292	22 09 30
22 11 00	---	15 50 59	42.3	-38.8	6.5		53.7	90	1298	22 09 31
22 11 00	J0935+6121	15 50 59	43.2	-41.2	6.2		55.3	-19	1298	No stop
22 16 00	---	15 56 00	42.7	-40.7	6.3		54.5	281	1317	22 11 01

Schedule for TORUN (Code Tr) Page 9

Radio AGN feedback

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Sat 28 May 2022 Day 148 ---										
22 16 30	J0921+6215	15 56 30	41.8	-38.3	6.6		52.9	11	1317	22 16 30
22 18 00	---	15 58 00	41.7	-38.2	6.6		52.6	90	1323	22 16 31
22 18 00	J0935+6121	15 58 00	42.5	-40.5	6.3		54.2	-19	1323	No stop
22 23 00	---	16 03 01	42.0	-40.0	6.4		53.4	281	1342	22 18 01
22 23 30	J0921+6215	16 03 31	41.2	-37.6	6.7		51.8	11	1342	22 23 30
22 25 00	---	16 05 01	41.0	-37.5	6.7		51.5	90	1348	22 23 31
22 25 00	J0935+6121	16 05 01	41.8	-39.8	6.5		53.1	-19	1348	No stop
22 30 00	---	16 10 02	41.3	-39.3	6.5		52.3	281	1367	22 25 01
22 30 30	J0921+6215	16 10 32	40.5	-37.0	6.8		50.7	11	1367	22 30 30
22 32 00	---	16 12 02	40.4	-36.8	6.8		50.4	90	1373	22 30 31
22 32 00	J0935+6121	16 12 02	41.1	-39.1	6.6		52.0	-19	1373	No stop
22 37 00	---	16 17 03	40.7	-38.6	6.7		51.2	281	1393	22 32 01
22 37 30	J0921+6215	16 17 33	39.9	-36.3	6.9		49.5	11	1393	22 37 30
22 39 00	---	16 19 03	39.8	-36.1	6.9		49.3	90	1398	22 37 31
22 39 00	J0935+6121	16 19 03	40.5	-38.4	6.7		50.9	-19	1398	No stop
22 44 00	---	16 24 04	40.0	-37.9	6.8		50.2	281	1418	22 39 01
22 44 30	J0921+6215	16 24 34	39.3	-35.6	7.0		48.4	11	1418	22 44 30
22 46 00	---	16 26 05	39.2	-35.4	7.0		48.2	90	1423	22 44 31
22 46 00	J0935+6121	16 26 05	39.8	-37.7	6.8		49.8	-19	1423	No stop
22 51 00	---	16 31 05	39.4	-37.2	6.9		49.1	281	1443	22 46 01
22 51 30	J0921+6215	16 31 36	38.7	-34.9	7.1		47.3	11	1443	22 51 30
22 53 00	---	16 33 06	38.5	-34.7	7.2		47.1	90	1449	22 51 31
22 53 00	J0935+6121	16 33 06	39.2	-37.0	6.9		48.8	-19	1449	No stop
22 58 00	---	16 38 07	38.7	-36.5	7.0		48.0	281	1468	22 53 01
22 58 30	J0921+6215	16 38 37	38.1	-34.1	7.3		46.2	11	1468	22 58 30
23 00 00	---	16 40 07	38.0	-34.0	7.3		46.0	90	1474	22 58 31
23 00 00	J0935+6121	16 40 07	38.6	-36.3	7.0		47.7	-19	1474	No stop
23 05 00	---	16 45 08	38.1	-35.8	7.1		46.9	281	1493	23 00 01
23 05 30	J0921+6215	16 45 38	37.5	-33.4	7.4		45.1	11	1493	23 05 30
23 07 00	---	16 47 08	37.4	-33.3	7.4		44.9	90	1499	23 05 31

```
Schedule for TORUN     (Code Tr )                                  Page  10
               Radio AGN feedback
  UP:  D => Below limits;  H => Below horizon mask;  W => still slewing at end;  blank => Up.
  Early: Seconds between end of slew and start.   Dwell: On source seconds.
  Disk: GBytes recorded to this point.
  TPStart:  Recording start time.  Frequencies are LO sum (band edge).
  SYNC: Time correlator is expected to sync up.
-----------------------------------------------------------------------------------------
Start UT  Source               Start / Stop                 Early    Disk   TPStart
Stop UT                  LST      EL    AZ   HA  UP   ParA  Dwell   GBytes    SYNC
-----------------------------------------------------------------------------------------

 --- Sat  28 May 2022   Day 148 ---

23 07 00  J0935+6121   16 47 08  37.9 -35.6  7.2      46.6   -19     1499   No stop
23 12 00  ---          16 52 09  37.5 -35.0  7.2      45.8   281     1518   23 07 01

23 12 30  J0921+6215   16 52 39  36.9 -32.7  7.5      44.0    11     1518   23 12 30
23 14 00  ---          16 54 09  36.8 -32.5  7.5      43.8    90     1524   23 12 31

23 14 00  J0935+6121   16 54 09  37.3 -34.8  7.3      45.5   -19     1524   No stop
23 19 00  ---          16 59 10  36.9 -34.3  7.4      44.7   281     1543   23 14 01

23 19 30  J0921+6215   16 59 40  36.4 -31.9  7.6      42.9    11     1543   23 19 30
23 21 00  ---          17 01 10  36.2 -31.8  7.6      42.7    90     1549   23 19 31

23 21 00  J0935+6121   17 01 10  36.7 -34.1  7.4      44.4   -18     1549   No stop
23 26 00  ---          17 06 11  36.3 -33.5  7.5      43.6   282     1568   23 21 01

23 26 30  J0921+6215   17 06 41  35.8 -31.2  7.7      41.8    11     1568   23 26 30
23 28 00  ---          17 08 12  35.7 -31.0  7.7      41.5    90     1574   23 26 31

23 28 00  J0935+6121   17 08 12  36.1 -33.3  7.5      43.3   -18     1574   No stop
23 33 00  ---          17 13 12  35.7 -32.8  7.6      42.5   282     1593   23 28 01

23 33 30  J0921+6215   17 13 42  35.3 -30.4  7.8      40.7    11     1593   23 33 30
23 35 00  ---          17 15 13  35.1 -30.3  7.9      40.4    90     1599   23 33 31

23 35 00  J0935+6121   17 15 13  35.6 -32.6  7.6      42.2   -18     1599   No stop
23 40 00  ---          17 20 13  35.2 -32.0  7.7      41.5   282     1619   23 35 01

23 40 30  J0921+6215   17 20 44  34.7 -29.7  8.0      39.6    11     1619   23 40 30
23 42 00  ---          17 22 14  34.6 -29.5  8.0      39.3    90     1624   23 40 31

23 44 00  0923+392     17 24 14  16.1 -45.1  7.9      33.1    37     1624   23 44 00
23 49 00  ---          17 29 15  15.5 -44.2  8.0      32.6   300     1644   23 44 01

23 51 30  J0921+6215   17 31 45  33.9 -28.5  8.1      37.8    67     1644   23 51 30
23 54 00  ---          17 34 16  33.8 -28.2  8.2      37.4   150     1653   23 51 31

23 54 00  J0935+6121   17 34 16  34.1 -30.5  7.9      39.3   -18     1653   No stop
23 59 00  ---          17 39 17  33.7 -29.9  8.0      38.5   282     1673   23 54 01

 --- Start: Sat  28 May 2022   Day 148 -- Stop: Sun  29 May 2022   Day 149 ---

23 59 30  J0921+6215   17 39 47  33.4 -27.6  8.3      36.5    11     1673   23 59 30
00 01 00  ---          17 41 17  33.3 -27.4  8.3      36.3    90     1679   23 59 31
```

Schedule for TORUN (Code Tr) Page 11

Radio AGN feedback

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	LST	Start / Stop EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Sun 29 May 2022 Day 149 ---										
00 01 00	J0935+6121	17 41 17	33.5	-29.7	8.1		38.2	-18	1679	No stop
00 06 00	---	17 46 18	33.2	-29.1	8.1		37.4	282	1698	00 01 01
00 06 30	J0921+6215	17 46 48	32.9	-26.8	8.4		35.4	11	1698	00 06 30
00 08 00	---	17 48 18	32.8	-26.6	8.4		35.2	90	1704	00 06 31
00 08 00	J0935+6121	17 48 18	33.0	-28.9	8.2		37.1	-18	1704	No stop
00 13 00	---	17 53 19	32.7	-28.3	8.3		36.3	282	1723	00 08 01
00 13 30	J0921+6215	17 53 49	32.4	-26.0	8.5		34.3	11	1723	00 13 30
00 15 00	---	17 55 19	32.3	-25.8	8.5		34.1	90	1729	00 13 31
00 15 00	J0935+6121	17 55 19	32.5	-28.1	8.3		36.0	-18	1729	No stop
00 20 00	---	18 00 20	32.2	-27.5	8.4		35.2	282	1748	00 15 01
00 20 30	J0921+6215	18 00 50	32.0	-25.2	8.6		33.2	12	1748	00 20 30
00 22 00	---	18 02 20	31.9	-25.0	8.7		32.9	90	1754	00 20 31
00 22 00	J0935+6121	18 02 20	32.0	-27.2	8.4		34.9	-18	1754	No stop
00 27 00	---	18 07 21	31.7	-26.7	8.5		34.1	282	1773	00 22 01
00 27 30	J0921+6215	18 07 51	31.5	-24.4	8.7		32.0	12	1773	00 27 30
00 29 00	---	18 09 22	31.4	-24.2	8.8		31.8	90	1779	00 27 31
00 29 00	J0935+6121	18 09 22	31.6	-26.4	8.5		33.8	-18	1779	No stop
00 34 00	---	18 14 22	31.2	-25.8	8.6		33.0	282	1798	00 29 01
00 34 30	J0921+6215	18 14 52	31.1	-23.5	8.9		30.9	12	1798	00 34 30
00 36 00	---	18 16 23	31.0	-23.4	8.9		30.7	90	1804	00 34 31
00 36 00	J0935+6121	18 16 23	31.1	-25.6	8.6		32.6	-18	1804	No stop
00 41 00	---	18 21 24	30.8	-25.0	8.7		31.9	282	1823	00 36 01
00 41 30	J0921+6215	18 21 54	30.7	-22.7	9.0		29.8	12	1823	00 41 30
00 43 00	---	18 23 24	30.6	-22.5	9.0		29.5	90	1829	00 41 31
00 43 00	J0935+6121	18 23 24	30.7	-24.8	8.8		31.5	-18	1829	No stop
00 48 00	---	18 28 25	30.3	-24.2	8.8		30.7	282	1849	00 43 01
00 48 30	J0921+6215	18 28 55	30.3	-21.9	9.1		28.7	12	1849	00 48 30
00 50 00	---	18 30 25	30.2	-21.7	9.1		28.4	90	1854	00 48 31
00 50 00	J0935+6121	18 30 25	30.2	-23.9	8.9		30.4	-18	1854	No stop
00 55 00	---	18 35 26	29.9	-23.3	9.0		29.6	282	1874	00 50 01

Schedule for TORUN (Code Tr) Page 12

Radio AGN feedback

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	LST	Start / Stop EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Sun 29 May 2022 Day 149 ---										
00 55 30	J0921+6215	18 35 56	29.9	-21.1	9.2		27.5	12	1874	00 55 30
00 57 00	---	18 37 26	29.8	-20.9	9.2		27.3	90	1879	00 55 31
00 57 00	J0935+6121	18 37 26	29.8	-23.1	9.0		29.3	-18	1879	No stop
01 02 00	---	18 42 27	29.5	-22.5	9.1		28.5	282	1899	00 57 01
01 02 30	J0921+6215	18 42 57	29.5	-20.2	9.3		26.4	12	1899	01 02 30
01 04 00	---	18 44 27	29.4	-20.0	9.4		26.1	90	1905	01 02 31
01 04 00	J0935+6121	18 44 27	29.4	-22.2	9.1		28.2	-18	1905	No stop
01 09 00	---	18 49 28	29.1	-21.6	9.2		27.4	282	1924	01 04 01
01 09 30	J0921+6215	18 49 58	29.2	-19.4	9.4		25.2	12	1924	01 09 30
01 11 00	---	18 51 28	29.1	-19.2	9.5		25.0	90	1930	01 09 31
01 11 00	J0935+6121	18 51 28	29.0	-21.4	9.2		27.1	-18	1930	No stop
01 16 00	---	18 56 29	28.7	-20.8	9.3		26.3	282	1949	01 11 01
01 16 30	J0921+6215	18 56 59	28.8	-18.5	9.6		24.1	12	1949	01 16 30
01 18 00	---	18 58 30	28.8	-18.3	9.6		23.9	90	1955	01 16 31
01 18 00	J0935+6121	18 58 30	28.6	-20.5	9.3		25.9	-18	1955	No stop
01 23 00	---	19 03 30	28.4	-19.9	9.4		25.1	282	1974	01 18 01
01 23 30	J0921+6215	19 04 00	28.5	-17.7	9.7		23.0	12	1974	01 23 30
01 25 00	---	19 05 31	28.4	-17.5	9.7		22.7	90	1980	01 23 31
01 25 00	J0935+6121	19 05 31	28.3	-19.6	9.5		24.8	-18	1980	No stop
01 30 00	---	19 10 32	28.0	-19.0	9.6		24.0	282	1999	01 25 01
01 30 30	J0921+6215	19 11 02	28.2	-16.8	9.8		21.8	12	1999	01 30 30
01 32 00	---	19 12 32	28.1	-16.6	9.8		21.6	90	2005	01 30 31
01 32 00	J0935+6121	19 12 32	27.9	-18.8	9.6		23.7	-18	2005	No stop
01 37 00	---	19 17 33	27.7	-18.1	9.7		22.9	282	2024	01 32 01
01 37 30	J0921+6215	19 18 03	27.9	-15.9	9.9		20.7	12	2024	01 37 30
01 39 00	---	19 19 33	27.8	-15.7	9.9		20.4	90	2030	01 37 31
01 39 00	J0935+6121	19 19 33	27.6	-17.9	9.7		22.6	-18	2030	No stop
01 44 00	---	19 24 34	27.4	-17.3	9.8		21.8	282	2050	01 39 01
01 44 30	J0921+6215	19 25 04	27.6	-15.1	10.0		19.5	12	2050	01 44 30
01 46 00	---	19 26 34	27.5	-14.9	10.1		19.3	90	2055	01 44 31

Schedule for TORUN (Code Tr) Page 13

Radio AGN feedback

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Sun 29 May 2022 Day 149 ---										
01 46 00	J0935+6121	19 26 34	27.3	-17.0	9.8		21.4	-18	2055	No stop
01 51 00	---	19 31 35	27.1	-16.4	9.9		20.6	282	2075	01 46 01
01 51 30	J0921+6215	19 32 05	27.3	-14.2	10.1		18.4	12	2075	01 51 30
01 53 00	---	19 33 35	27.3	-14.0	10.2		18.1	90	2080	01 51 31
01 53 00	J0935+6121	19 33 35	27.0	-16.1	9.9		20.3	-18	2080	No stop
01 58 00	---	19 38 36	26.8	-15.5	10.0		19.5	282	2100	01 53 01
01 58 30	J0921+6215	19 39 06	27.1	-13.3	10.3		17.2	12	2100	01 58 30
02 00 00	---	19 40 36	27.0	-13.1	10.3		17.0	90	2106	01 58 31
02 09 30	J0921+6215	19 50 08	26.7	-11.9	10.4		15.4	564	2106	02 09 30
02 12 00	---	19 52 38	26.7	-11.6	10.5		15.0	150	2115	02 09 31
02 12 00	J0935+6121	19 52 38	26.2	-13.7	10.3		17.2	-18	2115	No stop
02 17 00	---	19 57 39	26.1	-13.1	10.3		16.4	282	2135	02 12 01
02 17 30	J0921+6215	19 58 09	26.5	-10.9	10.6		14.1	12	2135	02 17 30
02 19 00	---	19 59 40	26.4	-10.7	10.6		13.9	90	2140	02 17 31
02 19 00	J0935+6121	19 59 40	26.0	-12.8	10.4		16.1	-18	2140	No stop
02 24 00	---	20 04 40	25.8	-12.2	10.5		15.2	282	2160	02 19 01
02 24 30	J0921+6215	20 05 11	26.3	-10.0	10.7		12.9	12	2160	02 24 30
02 26 00	---	20 06 41	26.3	-9.8	10.7		12.7	90	2165	02 24 31
02 26 00	J0935+6121	20 06 41	25.8	-11.9	10.5		14.9	-18	2165	No stop
02 31 00	---	20 11 42	25.6	-11.2	10.6		14.1	282	2185	02 26 01
02 31 30	J0921+6215	20 12 12	26.1	-9.1	10.8		11.8	12	2185	02 31 30
02 33 00	---	20 13 42	26.1	-8.9	10.8		11.5	90	2191	02 31 31
02 33 00	J0935+6121	20 13 42	25.6	-11.0	10.6		13.8	-18	2191	No stop
02 38 00	---	20 18 43	25.4	-10.3	10.7		13.0	282	2210	02 33 01
02 38 30	J0921+6215	20 19 13	26.0	-8.2	10.9		10.6	12	2210	02 38 30
02 40 00	---	20 20 43	25.9	-8.0	11.0		10.4	90	2216	02 38 31
02 40 00	J0935+6121	20 20 43	25.4	-10.1	10.7		12.6	-18	2216	No stop
02 45 00	---	20 25 44	25.2	-9.4	10.8		11.8	282	2235	02 40 01
02 45 30	J0921+6215	20 26 14	25.8	-7.3	11.0		9.5	12	2235	02 45 30
02 47 00	---	20 27 44	25.8	-7.2	11.1		9.2	90	2241	02 45 31

Schedule for TORUN (Code Tr) Page 14

Radio AGN feedback

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Sun 29 May 2022 Day 149 ---										
02 47 00	J0935+6121	20 27 44	25.2	-9.2	10.8		11.5	-18	2241	No stop
02 52 00	---	20 32 45	25.1	-8.5	10.9		10.7	282	2260	02 47 01
02 52 30	J0921+6215	20 33 15	25.7	-6.4	11.2		8.3	12	2260	02 52 30
02 54 00	---	20 34 45	25.7	-6.3	11.2		8.1	90	2266	02 52 31
02 54 00	J0935+6121	20 34 45	25.0	-8.3	11.0		10.3	-18	2266	No stop
02 59 00	---	20 39 46	24.9	-7.6	11.0		9.5	282	2285	02 54 01
02 59 30	J0921+6215	20 40 16	25.6	-5.5	11.3		7.1	12	2285	02 59 30
03 01 00	---	20 41 47	25.6	-5.4	11.3		6.9	90	2291	02 59 31
03 01 00	J0935+6121	20 41 47	24.9	-7.3	11.1		9.2	-18	2291	No stop
03 06 00	---	20 46 47	24.8	-6.7	11.2		8.4	282	2310	03 01 01
03 06 30	J0921+6215	20 47 17	25.5	-4.6	11.4		6.0	12	2310	03 06 30
03 08 00	---	20 48 48	25.5	-4.5	11.4		5.7	90	2316	03 06 31
03 08 00	J0935+6121	20 48 48	24.8	-6.4	11.2		8.0	-17	2316	No stop
03 13 00	---	20 53 48	24.7	-5.8	11.3		7.2	283	2335	03 08 01
03 13 30	J0921+6215	20 54 19	25.4	-3.7	11.5		4.8	12	2335	03 13 30
03 15 00	---	20 55 49	25.4	-3.5	11.5		4.6	90	2341	03 13 31
03 15 00	J0935+6121	20 55 49	24.7	-5.5	11.3		6.9	-17	2341	No stop
03 20 00	---	21 00 50	24.6	-4.8	11.4		6.0	283	2361	03 15 01
03 20 30	J0921+6215	21 01 20	25.4	-2.8	11.6		3.7	12	2361	03 20 30
03 22 00	---	21 02 50	25.3	-2.6	11.7		3.4	90	2366	03 20 31
03 22 00	J0935+6121	21 02 50	24.6	-4.6	11.4		5.7	-17	2366	No stop
03 27 00	---	21 07 51	24.5	-3.9	11.5		4.9	283	2386	03 22 01
03 27 30	J0921+6215	21 08 21	25.3	-1.9	11.8		2.5	13	2386	03 27 30
03 29 00	---	21 09 51	25.3	-1.7	11.8		2.2	90	2392	03 27 31
03 29 00	J0935+6121	21 09 51	24.5	-3.6	11.5		4.6	-17	2392	No stop
03 34 00	---	21 14 52	24.4	-3.0	11.6		3.7	283	2411	03 29 01
03 34 30	J0921+6215	21 15 22	25.3	-1.0	11.9		1.3	13	2411	03 34 30
03 36 00	---	21 16 52	25.3	-0.8	11.9		1.1	90	2417	03 34 31
03 36 00	J0935+6121	21 16 52	24.4	-2.7	11.7		3.4	-17	2417	No stop
03 41 00	---	21 21 53	24.4	-2.1	11.7		2.6	283	2436	03 36 01

```
Schedule for TORUN     (Code Tr )                                Page  15
               Radio AGN feedback
  UP:  D => Below limits;  H => Below horizon mask;  W => still slewing at end;  blank => Up.
  Early: Seconds between end of slew and start.   Dwell: On source seconds.
  Disk: GBytes recorded to this point.
  TPStart:  Recording start time.  Frequencies are LO sum (band edge).
  SYNC: Time correlator is expected to sync up.
-------------------------------------------------------------------------------------------
Start UT  Source               Start / Stop                 Early    Disk   TPStart
Stop UT                  LST      EL    AZ   HA  UP   ParA  Dwell   GBytes    SYNC
-------------------------------------------------------------------------------------------

 --- Sun  29 May 2022   Day 149 ---

03 41 30  J0921+6215   21 22 23  25.3  -0.1 12.0       0.2    13     2436   03 41 30
03 43 00  ---          21 23 53  25.3   0.1-12.0      -0.1    90     2442   03 41 31

03 43 00  J0935+6121   21 23 53  24.4  -1.8 11.8       2.2   -17     2442   No stop
03 48 00  ---          21 28 54  24.4  -1.1 11.9       1.4   283     2461   03 43 01

03 48 30  J0921+6215   21 29 24  25.3   0.8-11.9      -1.0    13     2461   03 48 30
03 50 00  ---          21 30 55  25.3   1.0-11.9      -1.3    90     2467   03 48 31

03 50 00  J0935+6121   21 30 55  24.4  -0.9 11.9       1.1   -17     2467   No stop
03 55 00  ---          21 35 55  24.4  -0.2 12.0       0.3   283     2486   03 50 01

03 55 30  J0921+6215   21 36 25  25.3   1.7-11.8      -2.2    13     2486   03 55 30
03 57 00  ---          21 37 56  25.3   1.9-11.8      -2.4    90     2492   03 55 31



SETUP FILE INFORMATION:
   NOTE: If DOPPLER, FREQ, or BW were used, see the individual scans for the final BBC settings.


 ======== Setup file: sess222.H5globlineA

   Setup group:   18         Station: TORUN            Total bit rate:   512
   Format: VDIF              Bits per sample: 2        Sample rate: 16.000
   Number of channels: 16    DBE type: DBBC_DDC        Speedup factor:   1.00

   Disk used to record data.
```

```
  1st LO=   2100.00   2100.00   2100.00   2100.00   2100.00   2100.00   2100.00   2100.00
            2100.00   2100.00   2100.00   2100.00   2100.00   2100.00   2100.00   2100.00
  Net SB=         L         L         U         U         L         L         U         U
                  L         L         U         U         L         L         U         U
  IF SB =         L         L         L         L         L         L         L         L
                  L         L         L         L         L         L         L         L
  Pol.  =       RCP       LCP       RCP       LCP       RCP       LCP       RCP       LCP
                RCP       LCP       RCP       LCP       RCP       LCP       RCP       LCP
  BBC   =         1         9         1         9         2        10         2        10
                  3        11         3        11         4        12         4        12
  BBC SB=         U         U         L         L         U         U         L         L
                  U         U         L         L         U         U         L         L
  IF    =        A1        B1        A1        B1        A1        B1        A1        B1
                 A1        B1        A1        B1        A1        B1        A1        B1

 The following frequency sets based on these setups were used.

  Frequency Set:   8  Setup file default.  Used with PCAL = off
  LO sum=   1346.50  1346.50  1346.50  1346.50  1362.50  1362.50  1362.50  1362.50
            1378.50  1378.50  1378.50  1378.50  1394.50  1394.50  1394.50  1394.50
  BBC fr=    753.50   753.50   753.50   753.50   737.50   737.50   737.50   737.50
             721.50   721.50   721.50   721.50   705.50   705.50   705.50   705.50
  Bandwd=      8.00     8.00     8.00     8.00     8.00     8.00     8.00     8.00
               8.00     8.00     8.00     8.00     8.00     8.00     8.00     8.00
   Matching frequency sets:   8

  Track assignments are:
   track1=   1,  2,  3,  4,  5,  6,  7,  8,  9, 10, 11, 12, 13, 14, 15, 16
   barrel=roll_off



POSITIONS OF SOURCES USED IN RECORDING SCANS

  Source                          Source position (RA/Dec)                        Error
                       (B1950)             (J2000)             (Date)             (mas)

* J0935+6121        09 32 04.767390   * 09 35 51.595000     09 37 31.064051       0.00
                    61 34 36.72909    * 61 21 11.45000      61 15 30.60142        0.00

* J0921+6215        09 17 40.306862   * 09 21 36.231076     09 23 19.494905       0.00
                    62 28 38.64013    * 62 15 52.18035      62 10 28.27161        0.00

  4C39.25           09 23 55.319216   * 09 27 03.013937     09 28 25.523452       0.31
  J0927+3902        39 15 23.56644    * 39 02 20.85185      38 56 44.69118        0.16
* 0923+392          /home/guest/rmc/SCHED/sched11.6/catalogs/sources.gsfc
  J0927+39          GSFC 2016a X/S astro solution, 250526 observations.

  1044+719          10 44 49.735100   * 10 48 27.619916     10 50 04.051457       0.34
* J1048+7143        71 59 26.88543    * 71 43 35.93846      71 36 53.10807        0.18
  J1048+71          /home/guest/rmc/SCHED/sched11.6/catalogs/sources.gsfc
                    GSFC 2016a X/S astro solution, 131737 observations.
```

eb096btr

Environments of localized FRBs: FRB210320

PI: *Shivani Bhandari*

```
Address:  JIVE

Observing mode: VLBI
Schedule for TORUN     (Code Tr )                                  Page   2
               Environments of localized FRBs: FRB210320
  UP:  D => Below limits;  H => Below horizon mask;  W => still slewing at end;  blank => Up.
  Early: Seconds between end of slew and start.   Dwell: On source seconds.
  Disk: GBytes recorded to this point.
  TPStart:  Recording start time.  Frequencies are LO sum (band edge).
  SYNC: Time correlator is expected to sync up.
-----------------------------------------------------------------------------------------
Start UT  Source               Start / Stop                 Early    Disk   TPStart
Stop UT                  LST      EL    AZ   HA  UP   ParA  Dwell   GBytes    SYNC
-----------------------------------------------------------------------------------------
 --- Sun  29 May 2022   Day 149 ---
 Next scan frequencies:  1626.49  1626.49  1626.49  1626.49  1690.49  1690.49  1690.49  1690.49
 Next BBC frequencies:    673.51   673.51   673.51   673.51   609.51   609.51   609.51   609.51
 Next scan bandwidths:     32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00

19 00 00  1334-127     12 43 24  22.8 165.3 -0.9      -9.0     0        0   19 00 00
19 03 20  ---          12 46 45  22.9 166.2 -0.9      -8.5   200       26   19 00 01

19 04 10  J1336-1852   12 47 35  17.1 167.6 -0.8      -7.8    14       26   19 04 10
19 05 10  =1333-186    12 48 35  17.1 167.8 -0.8      -7.7    60       33   19 04 11

19 05 10  FRB210320    12 48 35  19.8 167.1 -0.8      -8.0   -24       33   No stop
19 08 40  ---          12 52 05  19.9 168.0 -0.8      -7.5   186       61   19 05 11

19 08 40  J1336-1852   12 52 05  17.2 168.7 -0.8      -7.2   -24       61   No stop
19 10 10  =1333-186    12 53 36  17.3 169.1 -0.7      -6.9    66       72   19 08 41

19 10 10  FRB210320    12 53 36  20.0 168.4 -0.8      -7.2   -24       72   No stop
19 13 40  ---          12 57 06  20.1 169.3 -0.7      -6.7   186       99   19 10 11

19 14 20  J1336-1852   12 57 46  17.4 170.1 -0.7      -6.3    16       99   19 14 20
19 15 10  =1333-186    12 58 37  17.4 170.3 -0.7      -6.1    50      106   19 14 21

19 15 10  FRB210320    12 58 37  20.1 169.7 -0.7      -6.4   -24      106   No stop
19 18 40  ---          13 02 07  20.2 170.6 -0.6      -5.9   186      133   19 15 11

19 18 40  J1336-1852   13 02 07  17.5 171.2 -0.6      -5.6   -24      133   No stop
19 20 10  =1333-186    13 03 37  17.5 171.5 -0.6      -5.4    66      144   19 18 41

19 20 10  FRB210320    13 03 37  20.2 170.9 -0.6      -5.7   -24      144   No stop
19 23 40  ---          13 07 08  20.3 171.8 -0.5      -5.1   186      171   19 20 11

19 24 20  J1336-1852   13 07 48  17.6 172.6 -0.5      -4.7    16      171   19 24 20
19 25 10  =1333-186    13 08 38  17.6 172.8 -0.5      -4.6    50      178   19 24 21

19 25 10  FRB210320    13 08 38  20.4 172.2 -0.5      -4.9   -24      178   No stop
19 28 40  ---          13 12 09  20.4 173.1 -0.4      -4.3   186      205   19 25 11

19 28 40  J1336-1852   13 12 09  17.7 173.6 -0.4      -4.0   -24      205   No stop
19 30 10  =1333-186    13 13 39  17.7 174.0 -0.4      -3.8    66      216   19 28 41

19 30 10  FRB210320    13 13 39  20.5 173.5 -0.4      -4.1   -24      216   No stop
19 33 40  ---          13 17 10  20.5 174.4 -0.4      -3.5   186      243   19 30 11
```

Schedule for TORUN (Code Tr) Page 3

Environments of localized FRBs: FRB210320

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Sun	29 May 2022	Day 149 ---								
19 34 20	J1336-1852	13 17 50	17.8	175.0	-0.3		-3.1	16	243	19 34 20
19 35 10	=1333-186	13 18 40	17.8	175.3	-0.3		-3.0	50	250	19 34 21
19 35 10	J1339-1819	13 18 40	18.3	174.5	-0.4		-3.5	-13	250	No stop
19 38 40	=1336-180	13 22 10	18.4	175.4	-0.3		-2.9	197	277	19 35 11
19 39 10	J1336-1852	13 22 40	17.8	176.2	-0.3		-2.4	17	277	19 39 10
19 40 10	=1333-186	13 23 41	17.8	176.5	-0.2		-2.2	60	285	19 39 11
19 40 10	FRB210320	13 23 41	20.6	176.1	-0.3		-2.5	-24	285	No stop
19 43 40	---	13 27 11	20.6	177.0	-0.2		-1.9	186	312	19 40 11
19 43 40	J1336-1852	13 27 11	17.9	177.4	-0.2		-1.7	-24	312	No stop
19 45 10	=1333-186	13 28 41	17.9	177.7	-0.2		-1.4	66	323	19 43 41
19 45 10	FRB210320	13 28 41	20.6	177.3	-0.2		-1.7	-24	323	No stop
19 48 40	---	13 32 12	20.7	178.2	-0.1		-1.1	186	350	19 45 11
19 49 20	J1336-1852	13 32 52	17.9	178.8	-0.1		-0.8	16	350	19 49 20
19 50 10	=1333-186	13 33 42	17.9	179.0	-0.1		-0.6	50	357	19 49 21
19 50 10	FRB210320	13 33 42	20.7	178.6	-0.1		-0.9	-24	357	No stop
19 53 40	---	13 37 13	20.7	179.5	-0.0		-0.3	186	384	19 50 11
19 53 40	J1336-1852	13 37 13	17.9	179.9	-0.0		-0.1	-24	384	No stop
19 55 10	=1333-186	13 38 43	17.9	180.2	0.0		0.1	66	395	19 53 41
19 55 10	FRB210320	13 38 43	20.7	179.9	-0.0		-0.1	-24	395	No stop
19 58 40	---	13 42 14	20.7	180.8	0.1		0.5	186	423	19 55 11
19 59 20	J1336-1852	13 42 54	17.9	181.3	0.1		0.8	16	423	19 59 20
20 00 10	=1333-186	13 43 44	17.9	181.5	0.1		0.9	50	429	19 59 21
20 00 10	FRB210320	13 43 44	20.7	181.2	0.1		0.8	-24	429	No stop
20 03 40	---	13 47 15	20.6	182.1	0.1		1.3	186	456	20 00 11
20 03 40	J1336-1852	13 47 15	17.9	182.3	0.2		1.5	-24	456	No stop
20 05 10	=1333-186	13 48 45	17.9	182.7	0.2		1.7	66	468	20 03 41
20 05 10	FRB210320	13 48 45	20.6	182.5	0.2		1.6	-24	468	No stop
20 08 40	---	13 52 15	20.6	183.4	0.2		2.1	186	495	20 05 11
20 09 20	J1336-1852	13 52 55	17.8	183.8	0.3		2.4	16	495	20 09 20
20 10 10	=1333-186	13 53 46	17.8	184.0	0.3		2.5	50	501	20 09 21
20 10 10	FRB210320	13 53 46	20.6	183.8	0.2		2.4	-24	501	No stop
20 13 40	---	13 57 16	20.6	184.7	0.3		2.9	186	528	20 10 11

Schedule for TORUN (Code Tr) Page 4

Environments of localized FRBs: FRB210320

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	LST	Start / Stop EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Sun 29 May 2022 Day 149 ---										
20 13 40	J1336-1852	13 57 16	17.8	184.8	0.3		3.1	-24	528	No stop
20 15 10	=1333-186	13 58 46	17.8	185.2	0.3		3.3	66	540	20 13 41
20 15 10	FRB210320	13 58 46	20.5	185.1	0.3		3.2	-24	540	No stop
20 18 40	---	14 02 17	20.5	186.0	0.4		3.7	186	567	20 15 11
20 19 20	J1336-1852	14 02 57	17.7	186.2	0.4		4.0	16	567	20 19 20
20 20 10	=1333-186	14 03 47	17.7	186.4	0.4		4.1	50	573	20 19 21
20 20 10	FRB210320	14 03 47	20.5	186.3	0.4		4.0	-24	573	No stop
20 23 40	---	14 07 18	20.4	187.2	0.5		4.5	186	600	20 20 11
20 23 40	J1336-1852	14 07 18	17.6	187.3	0.5		4.6	-24	600	No stop
20 25 10	=1333-186	14 08 48	17.6	187.7	0.5		4.9	66	612	20 23 41
20 25 10	FRB210320	14 08 48	20.4	187.6	0.5		4.8	-24	612	No stop
20 28 40	---	14 12 19	20.3	188.5	0.6		5.3	186	639	20 25 11
20 29 20	J1336-1852	14 12 59	17.5	188.7	0.6		5.5	16	639	20 29 20
20 30 10	=1333-186	14 13 49	17.5	188.9	0.6		5.7	50	645	20 29 21
20 30 10	J1339-1819	14 13 49	18.1	188.3	0.6		5.2	-14	645	No stop
20 33 40	=1336-180	14 17 19	18.0	189.2	0.6		5.8	196	672	20 30 11
20 34 10	J1336-1852	14 17 50	17.4	189.9	0.7		6.3	16	672	20 34 10
20 35 10	=1333-186	14 18 50	17.4	190.2	0.7		6.4	60	680	20 34 11
20 35 10	FRB210320	14 18 50	20.1	190.2	0.7		6.3	-24	680	No stop
20 38 40	---	14 22 20	20.0	191.1	0.7		6.9	186	707	20 35 11
20 38 40	J1336-1852	14 22 20	17.3	191.0	0.7		7.0	-24	707	No stop
20 40 10	=1333-186	14 23 51	17.2	191.4	0.8		7.2	66	719	20 38 41
20 40 10	FRB210320	14 23 51	20.0	191.4	0.7		7.1	-24	719	No stop
20 43 40	---	14 27 21	19.9	192.3	0.8		7.7	186	746	20 40 11
20 44 20	J1336-1852	14 28 01	17.1	192.4	0.8		7.9	16	746	20 44 20
20 45 10	=1333-186	14 28 51	17.1	192.6	0.9		8.0	50	752	20 44 21
20 45 10	FRB210320	14 28 51	19.8	192.7	0.8		7.9	-24	752	No stop
20 48 40	---	14 32 22	19.7	193.6	0.9		8.5	186	779	20 45 11
20 48 40	J1336-1852	14 32 22	16.9	193.5	0.9		8.5	-24	779	No stop
20 50 10	=1333-186	14 33 52	16.9	193.9	0.9		8.7	66	791	20 48 41

Schedule for TORUN (Code Tr) Page 5

Environments of localized FRBs: FRB210320

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	LST	Start / Stop EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Sun 29 May 2022 Day 149 ---										
20 50 10	FRB210320	14 33 52	19.7	194.0	0.9		8.7	-24	791	No stop
20 53 40	---	14 37 23	19.5	194.9	1.0		9.2	186	818	20 50 11
20 54 20	J1336-1852	14 38 03	16.7	194.9	1.0		9.4	16	818	20 54 20
20 55 10	=1333-186	14 38 53	16.7	195.1	1.0		9.5	50	824	20 54 21
20 55 10	FRB210320	14 38 53	19.5	195.2	1.0		9.5	-24	824	No stop
20 58 40	---	14 42 24	19.3	196.1	1.1		10.0	186	851	20 55 11
20 58 40	J1336-1852	14 42 24	16.6	195.9	1.1		10.0	-24	851	No stop
21 00 10	=1333-186	14 43 54	16.5	196.3	1.1		10.3	66	863	20 58 41
21 00 10	FRB210320	14 43 54	19.3	196.5	1.1		10.2	-24	863	No stop
21 03 40	---	14 47 24	19.1	197.4	1.1		10.8	186	890	21 00 11
21 04 20	J1336-1852	14 48 04	16.3	197.3	1.2		10.9	16	890	21 04 20
21 05 10	=1333-186	14 48 55	16.3	197.5	1.2		11.0	50	897	21 04 21
21 05 10	FRB210320	14 48 55	19.0	197.8	1.2		11.0	-24	897	No stop
21 08 40	---	14 52 25	18.9	198.6	1.2		11.5	186	924	21 05 11
21 08 40	J1336-1852	14 52 25	16.1	198.4	1.2		11.5	-24	924	No stop
21 10 10	=1333-186	14 53 55	16.1	198.7	1.3		11.8	66	935	21 08 41
21 10 10	FRB210320	14 53 55	18.8	199.0	1.2		11.7	-24	935	No stop
21 13 40	---	14 57 26	18.6	199.9	1.3		12.3	186	962	21 10 11
21 14 20	J1336-1852	14 58 06	15.8	199.7	1.3		12.4	16	962	21 14 20
21 15 10	=1333-186	14 58 56	15.8	199.9	1.4		12.5	50	969	21 14 21
21 15 10	FRB210320	14 58 56	18.6	200.2	1.3		12.5	-24	969	No stop
21 18 40	---	15 02 27	18.4	201.1	1.4		13.0	186	996	21 15 11
21 18 40	J1336-1852	15 02 27	15.6	200.8	1.4		13.0	-24	996	No stop
21 20 10	=1333-186	15 03 57	15.5	201.1	1.4		13.2	66	1007	21 18 41
21 20 10	FRB210320	15 03 57	18.3	201.5	1.4		13.2	-24	1007	No stop
21 23 40	---	15 07 28	18.1	202.3	1.5		13.8	186	1034	21 20 11
21 24 20	J1336-1852	15 08 08	15.3	202.1	1.5		13.8	16	1034	21 24 20
21 25 10	=1333-186	15 08 58	15.3	202.3	1.5		14.0	50	1041	21 24 21
21 25 10	J1339-1819	15 08 58	16.0	201.8	1.5		13.6	-15	1041	No stop
21 28 40	=1336-180	15 12 28	15.8	202.6	1.5		14.1	195	1068	21 25 11

Schedule for TORUN (Code Tr) Page 6

Environments of localized FRBs: FRB210320

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	LST	Start / Stop EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Sun 29 May 2022 Day 149 ---										
21 29 10	J1336-1852	15 12 59	15.0	203.3	1.6		14.5	15	1068	21 29 10
21 30 10	=1333-186	15 13 59	15.0	203.5	1.6		14.7	60	1076	21 29 11
21 30 10	FRB210320	15 13 59	17.7	203.9	1.6		14.7	-24	1076	No stop
21 33 40	---	15 17 29	17.5	204.8	1.6		15.2	186	1103	21 30 11
21 33 40	J1336-1852	15 17 29	14.8	204.3	1.7		15.2	-24	1103	No stop
21 35 10	=1333-186	15 19 00	14.7	204.7	1.7		15.4	66	1114	21 33 41
21 35 10	FRB210320	15 19 00	17.4	205.2	1.7		15.4	-24	1114	No stop
21 38 40	---	15 22 30	17.2	206.0	1.7		15.9	186	1141	21 35 11
21 39 20	J1336-1852	15 23 10	14.4	205.7	1.8		16.0	16	1141	21 39 20
21 40 10	=1333-186	15 24 00	14.3	205.9	1.8		16.1	50	1148	21 39 21
21 40 10	FRB210320	15 24 00	17.1	206.4	1.7		16.1	-24	1148	No stop
21 43 40	---	15 27 31	16.8	207.2	1.8		16.6	186	1175	21 40 11
21 43 40	J1336-1852	15 27 31	14.1	206.7	1.8		16.6	-24	1175	No stop
21 45 10	=1333-186	15 29 01	14.0	207.0	1.9		16.8	66	1186	21 43 41
21 45 10	FRB210320	15 29 01	16.7	207.6	1.8		16.8	-24	1186	No stop
21 48 40	---	15 32 32	16.5	208.4	1.9		17.3	186	1213	21 45 11
21 49 20	J1336-1852	15 33 12	13.7	208.0	1.9		17.4	16	1213	21 49 20
21 50 10	=1333-186	15 34 02	13.7	208.2	1.9		17.5	50	1220	21 49 21
21 50 10	FRB210320	15 34 02	16.4	208.8	1.9		17.5	-24	1220	No stop
21 53 40	---	15 37 33	16.1	209.6	2.0		18.0	186	1247	21 50 11
21 53 40	J1336-1852	15 37 33	13.4	209.0	2.0		17.9	-24	1247	No stop
21 55 10	=1333-186	15 39 03	13.3	209.4	2.0		18.1	66	1259	21 53 41
21 55 10	FRB210320	15 39 03	16.0	210.0	2.0		18.2	-24	1259	No stop
21 58 40	---	15 42 33	15.7	210.8	2.1		18.7	186	1286	21 55 11
21 59 20	J1336-1852	15 43 14	13.0	210.3	2.1		18.7	16	1286	21 59 20
22 00 10	=1333-186	15 44 04	12.9	210.5	2.1		18.8	50	1292	21 59 21
22 00 10	FRB210320	15 44 04	15.6	211.1	2.1		18.9	-24	1292	No stop
22 03 40	---	15 47 34	15.3	212.0	2.1		19.3	186	1319	22 00 11
22 03 40	J1336-1852	15 47 34	12.6	211.3	2.2		19.3	-24	1319	No stop
22 05 10	=1333-186	15 49 04	12.5	211.7	2.2		19.5	66	1331	22 03 41

Schedule for TORUN (Code Tr) Page 7

Environments of localized FRBs: FRB210320

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Sun 29 May 2022 Day 149 ---										
22 05 10	FRB210320	15 49 04	15.2	212.3	2.2		19.5	-24	1331	No stop
22 08 40	---	15 52 35	14.9	213.1	2.2		20.0	186	1358	22 05 11
22 09 20	J1336-1852	15 53 15	12.2	212.6	2.3		20.0	16	1358	22 09 20
22 10 10	=1333-186	15 54 05	12.1	212.8	2.3		20.1	50	1364	22 09 21
22 10 10	J1339-1819	15 54 05	12.9	212.4	2.2		19.8	-15	1364	No stop
22 13 40	=1336-180	15 57 36	12.6	213.2	2.3		20.3	195	1391	22 10 11
22 14 10	J1336-1852	15 58 06	11.8	213.7	2.3		20.6	15	1391	22 14 10
22 15 10	=1333-186	15 59 06	11.7	213.9	2.4		20.8	60	1399	22 14 11
22 15 10	FRB210320	15 59 06	14.4	214.7	2.3		20.8	-24	1399	No stop
22 18 40	---	16 02 37	14.1	215.5	2.4		21.3	186	1426	22 15 11
22 18 40	J1336-1852	16 02 37	11.4	214.7	2.4		21.2	-24	1426	No stop
22 20 10	=1333-186	16 04 07	11.3	215.1	2.4		21.4	66	1438	22 18 41
22 20 10	FRB210320	16 04 07	14.0	215.8	2.4		21.5	-24	1438	No stop
22 23 40	---	16 07 38	13.6	216.6	2.5		21.9	186	1465	22 20 11
22 24 20	J1336-1852	16 08 18	10.9	216.0	2.5		21.9	16	1465	22 24 20
22 25 10	=1333-186	16 09 08	10.8	216.2	2.5		22.0	50	1471	22 24 21
22 25 10	FRB210320	16 09 08	13.5	217.0	2.5		22.1	-24	1471	No stop
22 28 40	---	16 12 38	13.2	217.8	2.6		22.5	186	1498	22 25 11
22 28 40	J1336-1852	16 12 38	10.5	217.0	2.6		22.5	-24	1498	No stop
22 30 10	=1333-186	16 14 09	10.4	217.3	2.6		22.6	66	1510	22 28 41
22 30 10	FRB210320	16 14 09	13.1	218.1	2.6		22.7	-24	1510	No stop
22 33 40	---	16 17 39	12.7	218.9	2.6		23.1	186	1537	22 30 11
22 34 20	J1336-1852	16 18 19	10.0	218.2	2.7		23.1	16	1537	22 34 20
22 35 10	=1333-186	16 19 09	9.9	218.4	2.7		23.2	50	1543	22 34 21
22 35 10	FRB210320	16 19 09	12.6	219.3	2.7		23.3	-24	1543	No stop
22 38 40	---	16 22 40	12.2	220.0	2.7		23.7	186	1570	22 35 11
22 38 40	J1336-1852	16 22 40	9.6	219.2	2.7		23.7	-24	1570	No stop
22 40 10	=1333-186	16 24 10	9.5	219.5	2.8		23.8	66	1582	22 38 41
22 40 10	FRB210320	16 24 10	12.1	220.4	2.8		23.9	-24	1582	No stop
22 43 40	---	16 27 41	11.8	221.2	2.8		24.3	186	1609	22 40 11

```
Schedule for TORUN     (Code Tr )                                Page   8
              Environments of localized FRBs: FRB210320
  UP:  D => Below limits;  H => Below horizon mask;  W => still slewing at end;  blank => Up.
  Early: Seconds between end of slew and start.   Dwell: On source seconds.
  Disk: GBytes recorded to this point.
  TPStart:  Recording start time.  Frequencies are LO sum (band edge).
  SYNC: Time correlator is expected to sync up.
-------------------------------------------------------------------------------------------
Start UT  Source               Start / Stop                 Early    Disk   TPStart
Stop UT                  LST      EL    AZ   HA  UP   ParA  Dwell   GBytes    SYNC
-------------------------------------------------------------------------------------------

 --- Sun  29 May 2022   Day 149 ---

22 44 20  J1336-1852   16 28 21   9.1 220.4  2.8      24.3    16     1609   22 44 20
22 45 10  =1333-186    16 29 11   9.0 220.6  2.9      24.4    50     1615   22 44 21

22 45 10  FRB210320    16 29 11  11.6 221.5  2.8      24.5   -24     1615   No stop
22 48 40  ---          16 32 42  11.3 222.3  2.9      24.9   186     1642   22 45 11

22 48 40  J1336-1852   16 32 42   8.6 221.4  2.9      24.8   -24     1642   No stop
22 50 10  =1333-186    16 34 12   8.5 221.7  2.9      25.0    66     1654   22 48 41

22 50 10  FRB210320    16 34 12  11.1 222.6  2.9      25.1   -24     1654   No stop
22 53 40  ---          16 37 42  10.7 223.4  3.0      25.4   186     1681   22 50 11

22 54 20  J1336-1852   16 38 23   8.1 222.6  3.0      25.5    16     1681   22 54 20
22 55 10  =1333-186    16 39 13   8.0 222.8  3.0      25.6    50     1688   22 54 21

22 56 40  1510-089     16 40 43  25.0 203.7  1.4      14.2    12     1688   22 56 40
23 00 00  ---          16 44 03  24.8 204.6  1.5      14.7   200     1713   22 56 41



SETUP FILE INFORMATION:
   NOTE: If DOPPLER, FREQ, or BW were used, see the individual scans for the final BBC settings.


 ======== Setup file: sess222.L1024

   Setup group:    8         Station: TORUN            Total bit rate:  1024
   Format: VDIF              Bits per sample: 2        Sample rate: 64.000
   Number of channels:  8    DBE type: DBBC_DDC        Speedup factor:   1.00

   Disk used to record data.
```

```
 1st LO=   2300.00   2300.00   2300.00   2300.00   2300.00   2300.00   2300.00   2300.00
 Net SB=         L         L         U         U         L         L         U         U
 IF SB =         L         L         L         L         L         L         L         L
 Pol.  =       RCP       LCP       RCP       LCP       RCP       LCP       RCP       LCP
 BBC   =         1         9         1         9         2        10         2        10
 BBC SB=         U         U         L         L         U         U         L         L
 IF    =        A1        B1        A1        B1        A1        B1        A1        B1

The following frequency sets based on these setups were used.

 Frequency Set:   8  Setup file default.  Used with PCAL = off
 LO sum=   1626.49  1626.49  1626.49  1626.49  1690.49  1690.49  1690.49  1690.49
 BBC fr=    673.51   673.51   673.51   673.51   609.51   609.51   609.51   609.51
 Bandwd=     32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00
  Matching frequency sets:   8

 Track assignments are:
  track1=   1,  2,  3,  4,  5,  6,  7,  8
  barrel=roll_off



POSITIONS OF SOURCES USED IN RECORDING SCANS

 Source                          Source position (RA/Dec)                        Error
                      (B1950)             (J2000)             (Date)             (mas)

* FRB210320         13 35 08.488642   * 13 37 50.086000     13 39 02.577507       0.00
                   -15 52 06.97404    *-16 07 21.66000     -16 14 13.82495        0.00

 1333-186           13 33 51.469260   * 13 36 34.393339     13 37 47.478212       0.11
* J1336-1852       -18 37 24.71221    *-18 52 41.67406     -18 59 35.44491        0.15
                    rfc_2022a Petrov and Kovalev, in preparation  657 observations

 1336-180           13 36 34.675071   * 13 39 17.544431     13 40 30.615150       0.15
* J1339-1819       -18 03 52.80592    *-18 19 04.90021     -18 25 56.36045        0.22
                    rfc_2022a Petrov and Kovalev, in preparation  277 observations

* 1334-127          13 34 59.803874   * 13 37 39.782779     13 38 51.546942       0.00
 J1337-1257        -12 42 09.74309    *-12 57 24.69336     -13 04 16.29061        0.00
 J1337-12           /home/guest/rmc/SCHED/sched11.6/catalogs/sources.gsfc
                    GSFC 2016a X/S astro solution, 113586 observations.

* 1510-089          15 10 08.900182   * 15 12 50.532930     15 14 03.337574       0.01
 J1512-0905        -08 54 47.61965    *-09 05 59.82980     -09 11 02.52067        0.01
 J1512-09           /home/guest/rmc/SCHED/sched11.6/catalogs/sources.gsfc
                    GSFC 2016a X/S astro solution,  14633 observations.
```

em164btr

Testing AGN evolution and feedback by combining the ILT and e-MERLI

PI: *John McKean*

```
Address:  ASTRON

Observing mode: 18cm 1024-8-2
Schedule for TORUN     (Code Tr )                                    Page   2
               Testing AGN evolution and feedback by combining the ILT and e-MERLIN/EVN
  UP:  D => Below limits;  H => Below horizon mask;  W => still slewing at end;  blank => Up.
  Early: Seconds between end of slew and start.   Dwell: On source seconds.
  Disk: GBytes recorded to this point.
  TPStart:  Recording start time.  Frequencies are LO sum (band edge).
  SYNC: Time correlator is expected to sync up.
-----------------------------------------------------------------------------------------
Start UT  Source               Start / Stop                 Early    Disk   TPStart
Stop UT                  LST      EL    AZ   HA  UP   ParA  Dwell   GBytes    SYNC
-----------------------------------------------------------------------------------------
 --- Mon  30 May 2022   Day 150 ---
 Next scan frequencies:  1626.49  1626.49  1626.49  1626.49  1690.49  1690.49  1690.49  1690.49
 Next BBC frequencies:    673.51   673.51   673.51   673.51   609.51   609.51   609.51   609.51
 Next scan bandwidths:     32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00

08 30 00  J1037+5711   02 15 37  28.7  30.1 -8.4     -33.7     0        0   08 30 00
08 31 30  ---          02 17 07  28.8  30.3 -8.4     -33.9    90       12   08 30 01

08 31 30  P22          02 17 07  29.1  28.2 -8.5     -32.8   -18       12   No stop
08 35 30  ---          02 21 08  29.4  28.7 -8.5     -33.4   222       43   08 31 31

08 36 00  J1037+5711   02 21 38  29.1  30.9 -8.3     -34.6    12       43   08 36 00
08 37 00  ---          02 22 38  29.2  31.0 -8.3     -34.7    60       50   08 36 01

08 37 00  P23          02 22 38  29.5  28.8 -8.5     -33.5   -18       50   No stop
08 41 00  ---          02 26 39  29.8  29.3 -8.4     -34.1   222       81   08 37 01

08 41 30  J1037+5711   02 27 09  29.6  31.6 -8.2     -35.4    12       81   08 41 30
08 42 30  ---          02 28 09  29.7  31.7 -8.2     -35.5    60       89   08 41 31

08 42 30  P36          02 28 09  30.1  30.6 -8.2     -35.2   -14       89   No stop
08 46 30  ---          02 32 10  30.4  31.1 -8.2     -35.8   226      120   08 42 31

08 47 00  J1037+5711   02 32 40  30.0  32.3 -8.1     -36.2    16      120   08 47 00
08 48 00  ---          02 33 40  30.1  32.4 -8.1     -36.3    60      128   08 47 01

08 48 00  P49          02 33 40  29.7  30.5 -8.3     -34.8   -17      128   No stop
08 52 00  ---          02 37 41  30.0  31.0 -8.2     -35.4   223      158   08 48 01

08 52 30  J1037+5711   02 38 11  30.5  33.0 -8.0     -37.0    12      158   08 52 30
08 53 30  ---          02 39 11  30.5  33.1 -8.0     -37.1    60      166   08 52 31

08 53 30  P51          02 39 11  29.9  30.7 -8.3     -35.1   -19      166   No stop
08 57 30  ---          02 43 12  30.2  31.2 -8.2     -35.7   221      197   08 53 31

08 58 00  J1037+5711   02 43 42  30.9  33.7 -7.9     -37.8    11      197   08 58 00
08 59 00  ---          02 44 42  31.0  33.8 -7.9     -38.0    60      205   08 58 01

08 59 00  P56          02 44 42  30.6  32.3 -8.1     -36.8   -16      205   No stop
09 03 00  ---          02 48 43  31.0  32.8 -8.0     -37.4   224      236   08 59 01

09 03 30  J1037+5711   02 49 13  31.4  34.4 -7.8     -38.6    14      236   09 03 30
09 04 30  ---          02 50 13  31.5  34.5 -7.8     -38.8    60      243   09 03 31
```

Schedule for TORUN (Code Tr) Page 3

Testing AGN evolution and feedback by combining the ILT and e-MERLIN/EVN

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT	Source	Start / Stop						Early	Disk	TPStart
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC
--- Mon 30 May 2022 Day 150 ---										
09 04 30	P75	02 50 13	30.5	32.9	-8.0		-36.9	-16	243	No stop
09 08 30	---	02 54 13	30.8	33.4	-8.0		-37.5	224	274	09 04 31
09 09 00	J1037+5711	02 54 44	31.9	35.1	-7.7		-39.4	13	274	09 09 00
09 10 00	---	02 55 44	31.9	35.2	-7.7		-39.6	60	282	09 09 01
09 10 00	P22	02 55 44	32.1	33.0	-7.9		-38.6	-18	282	No stop
09 14 00	---	02 59 44	32.4	33.5	-7.8		-39.2	222	313	09 10 01
09 14 30	J1037+5711	03 00 14	32.3	35.7	-7.6		-40.2	12	313	09 14 30
09 15 30	---	03 01 15	32.4	35.9	-7.6		-40.3	60	321	09 14 31
09 15 30	P23	03 01 15	32.5	33.5	-7.8		-39.3	-19	321	No stop
09 19 30	---	03 05 15	32.8	34.0	-7.7		-39.9	221	352	09 15 31
09 20 00	J1037+5711	03 05 45	32.8	36.4	-7.6		-41.0	11	352	09 20 00
09 21 00	---	03 06 45	32.9	36.5	-7.5		-41.1	60	359	09 20 01
09 21 00	P36	03 06 45	33.2	35.4	-7.6		-40.9	-15	359	No stop
09 25 00	---	03 10 46	33.6	35.8	-7.5		-41.5	225	390	09 21 01
09 25 30	J1037+5711	03 11 16	33.3	37.1	-7.5		-41.8	15	390	09 25 30
09 26 30	---	03 12 16	33.4	37.2	-7.4		-41.9	60	398	09 25 31
09 26 30	P49	03 12 16	32.9	35.2	-7.6		-40.5	-17	398	No stop
09 30 30	---	03 16 17	33.2	35.7	-7.6		-41.1	223	429	09 26 31
09 31 00	J1037+5711	03 16 47	33.8	37.8	-7.4		-42.6	12	429	09 31 00
09 32 00	---	03 17 47	33.9	37.9	-7.4		-42.7	60	437	09 31 01
09 32 00	P51	03 17 47	33.0	35.5	-7.6		-40.8	-19	437	No stop
09 36 00	---	03 21 48	33.4	36.0	-7.5		-41.4	221	468	09 32 01
09 36 30	J1037+5711	03 22 18	34.3	38.4	-7.3		-43.4	11	468	09 36 30
09 37 30	---	03 23 18	34.4	38.5	-7.3		-43.5	60	475	09 36 31
09 37 30	P56	03 23 18	33.9	37.0	-7.4		-42.4	-16	475	No stop
09 41 30	---	03 27 19	34.3	37.5	-7.4		-43.0	224	506	09 37 31
09 42 00	J1037+5711	03 27 49	34.8	39.1	-7.2		-44.1	14	506	09 42 00
09 43 00	---	03 28 49	34.9	39.2	-7.2		-44.3	60	514	09 42 01
09 43 00	P75	03 28 49	33.8	37.6	-7.4		-42.5	-17	514	No stop
09 47 00	---	03 32 50	34.2	38.1	-7.3		-43.1	223	545	09 43 01
09 47 30	J1037+5711	03 33 20	35.4	39.7	-7.1		-44.9	13	545	09 47 30
09 48 30	---	03 34 20	35.5	39.8	-7.1		-45.1	60	553	09 47 31

Schedule for TORUN (Code Tr) Page 4

Testing AGN evolution and feedback by combining the ILT and e-MERLIN/EVN

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	LST	Start / Stop EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Mon 30 May 2022 Day 150 ---										
09 48 30	P22	03 34 20	35.4	37.5	-7.3		-44.2	-18	553	No stop
09 52 30	---	03 38 21	35.8	38.0	-7.2		-44.8	222	584	09 48 31
09 53 00	J1037+5711	03 38 51	35.9	40.4	-7.0		-45.7	11	584	09 53 00
09 54 00	---	03 39 51	36.0	40.5	-7.0		-45.9	60	591	09 53 01
09 54 00	P23	03 39 51	35.9	38.1	-7.2		-44.9	-19	591	No stop
09 58 00	---	03 43 52	36.2	38.5	-7.1		-45.5	221	622	09 54 01
09 58 30	J1037+5711	03 44 22	36.4	41.0	-6.9		-46.5	11	622	09 58 30
09 59 30	---	03 45 22	36.5	41.1	-6.9		-46.6	60	630	09 58 31
09 59 30	P36	03 45 22	36.8	39.9	-7.0		-46.5	-15	630	No stop
10 03 30	---	03 49 22	37.1	40.3	-6.9		-47.1	225	661	09 59 31
10 04 00	J1037+5711	03 49 53	37.0	41.7	-6.8		-47.3	15	661	10 04 00
10 05 00	---	03 50 53	37.1	41.8	-6.8		-47.4	60	669	10 04 01
10 05 00	P49	03 50 53	36.4	39.8	-7.0		-46.1	-18	669	No stop
10 09 00	---	03 54 53	36.8	40.2	-6.9		-46.7	222	699	10 05 01
10 09 30	J1037+5711	03 55 23	37.5	42.3	-6.7		-48.0	12	699	10 09 30
10 10 30	---	03 56 24	37.6	42.4	-6.7		-48.2	60	707	10 09 31
10 10 30	P51	03 56 24	36.6	40.0	-7.0		-46.4	-19	707	No stop
10 14 30	---	04 00 24	37.0	40.5	-6.9		-47.0	221	738	10 10 31
10 15 00	J1037+5711	04 00 54	38.1	42.9	-6.6		-48.8	11	738	10 15 00
10 16 00	---	04 01 55	38.2	43.0	-6.6		-48.9	60	746	10 15 01
10 16 00	P56	04 01 55	37.6	41.5	-6.8		-47.9	-16	746	No stop
10 20 00	---	04 05 55	38.0	42.0	-6.7		-48.5	224	777	10 16 01
10 20 30	J1037+5711	04 06 25	38.7	43.5	-6.5		-49.6	14	777	10 20 30
10 21 30	---	04 07 25	38.8	43.7	-6.5		-49.7	60	785	10 20 31
10 21 30	P75	04 07 25	37.5	42.1	-6.7		-48.0	-18	785	No stop
10 25 30	---	04 11 26	37.9	42.6	-6.7		-48.6	222	815	10 21 31
10 26 00	J1037+5711	04 11 56	39.2	44.2	-6.5		-50.3	12	815	10 26 00
10 27 00	---	04 12 56	39.4	44.3	-6.4		-50.5	60	823	10 26 01
10 27 00	P22	04 12 56	39.1	41.9	-6.6		-49.8	-19	823	No stop
10 31 00	---	04 16 57	39.5	42.3	-6.5		-50.4	221	854	10 27 01

Schedule for TORUN (Code Tr) Page 5

Testing AGN evolution and feedback by combining the ILT and e-MERLIN/EVN

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT	Source	Start / Stop						Early	Disk	TPStart
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC
--- Mon 30 May 2022 Day 150 ---										
10 31 30	J1037+5711	04 17 27	39.8	44.8	-6.4		-51.1	11	854	10 31 30
10 32 30	---	04 18 27	39.9	44.9	-6.3		-51.3	60	862	10 31 31
10 32 30	P23	04 18 27	39.6	42.4	-6.5		-50.5	-19	862	No stop
10 36 30	---	04 22 28	40.0	42.8	-6.5		-51.1	221	893	10 32 31
10 37 00	J1037+5711	04 22 58	40.4	45.4	-6.3		-51.9	11	893	10 37 00
10 38 00	---	04 23 58	40.5	45.5	-6.3		-52.0	60	900	10 37 01
10 38 00	P36	04 23 58	40.6	44.1	-6.3		-52.1	-15	900	No stop
10 42 00	---	04 27 59	41.1	44.6	-6.3		-52.6	225	931	10 38 01
10 42 30	J1037+5711	04 28 29	41.0	46.0	-6.2		-52.6	14	931	10 42 30
10 43 30	---	04 29 29	41.1	46.1	-6.2		-52.8	60	939	10 42 31
10 43 30	P49	04 29 29	40.3	44.1	-6.4		-51.6	-18	939	No stop
10 47 30	---	04 33 30	40.7	44.5	-6.3		-52.2	222	970	10 43 31
10 48 00	J1037+5711	04 34 00	41.6	46.6	-6.1		-53.4	12	970	10 48 00
10 49 00	---	04 35 00	41.7	46.7	-6.1		-53.5	60	978	10 48 01
10 49 00	P51	04 35 00	40.5	44.3	-6.3		-51.9	-19	978	No stop
10 53 00	---	04 39 01	40.9	44.8	-6.3		-52.4	221	1009	10 49 01
10 53 30	J1037+5711	04 39 31	42.2	47.2	-6.0		-54.2	11	1009	10 53 30
10 54 30	---	04 40 31	42.3	47.3	-6.0		-54.3	60	1016	10 53 31
10 54 30	P56	04 40 31	41.6	45.8	-6.1		-53.4	-16	1016	No stop
10 58 30	---	04 44 32	42.0	46.2	-6.1		-53.9	224	1047	10 54 31
10 59 00	J1037+5711	04 45 02	42.8	47.8	-5.9		-54.9	14	1047	10 59 00
11 00 00	---	04 46 02	42.9	47.9	-5.9		-55.1	60	1055	10 59 01
11 00 00	P75	04 46 02	41.6	46.4	-6.1		-53.4	-18	1055	No stop
11 04 00	---	04 50 02	42.0	46.9	-6.0		-53.9	222	1086	11 00 01
11 04 30	J1037+5711	04 50 32	43.4	48.4	-5.8		-55.7	11	1086	11 04 30
11 05 30	---	04 51 33	43.5	48.5	-5.8		-55.8	60	1094	11 04 31
11 05 30	P22	04 51 33	43.1	45.9	-6.0		-55.4	-19	1094	No stop
11 09 30	---	04 55 33	43.6	46.4	-5.9		-56.0	221	1125	11 05 31
11 10 00	J1037+5711	04 56 03	44.1	48.9	-5.7		-56.4	11	1125	11 10 00
11 11 00	---	04 57 04	44.2	49.0	-5.7		-56.6	60	1132	11 10 01

Schedule for TORUN (Code Tr) Page 6

Testing AGN evolution and feedback by combining the ILT and e-MERLIN/EVN

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	LST	Start / Stop EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Mon 30 May 2022 Day 150 ---										
11 11 00	P23	04 57 04	43.7	46.4	-5.9		-56.1	-19	1132	No stop
11 15 00	---	05 01 04	44.1	46.8	-5.8		-56.6	221	1163	11 11 01
11 15 30	J1037+5711	05 01 34	44.7	49.5	-5.6		-57.2	10	1163	11 15 30
11 16 30	---	05 02 34	44.8	49.6	-5.6		-57.3	60	1171	11 15 31
11 16 30	P36	05 02 34	44.8	48.2	-5.7		-57.5	-16	1171	No stop
11 20 30	---	05 06 35	45.3	48.6	-5.6		-58.1	224	1202	11 16 31
11 21 00	J1037+5711	05 07 05	45.3	50.1	-5.5		-57.9	14	1202	11 21 00
11 22 00	---	05 08 05	45.4	50.2	-5.5		-58.1	60	1210	11 21 01
11 22 00	P49	05 08 05	44.5	48.2	-5.7		-57.0	-18	1210	No stop
11 26 00	---	05 12 06	44.9	48.6	-5.6		-57.6	222	1241	11 22 01
11 26 30	J1037+5711	05 12 36	46.0	50.6	-5.4		-58.7	12	1241	11 26 30
11 27 30	---	05 13 36	46.1	50.7	-5.4		-58.8	60	1248	11 26 31
11 27 30	P51	05 13 36	44.7	48.4	-5.7		-57.3	-19	1248	No stop
11 31 30	---	05 17 37	45.1	48.8	-5.6		-57.9	221	1279	11 27 31
11 32 00	J1037+5711	05 18 07	46.6	51.2	-5.4		-59.5	11	1279	11 32 00
11 33 00	---	05 19 07	46.7	51.3	-5.3		-59.6	60	1287	11 32 01
11 33 00	P56	05 19 07	45.9	49.8	-5.5		-58.8	-16	1287	No stop
11 37 00	---	05 23 08	46.3	50.2	-5.4		-59.3	224	1318	11 33 01
11 37 30	J1037+5711	05 23 38	47.2	51.7	-5.3		-60.2	14	1318	11 37 30
11 38 30	---	05 24 38	47.4	51.8	-5.2		-60.4	60	1326	11 37 31
11 38 30	P75	05 24 38	45.9	50.5	-5.5		-58.7	-19	1326	No stop
11 42 30	---	05 28 39	46.4	50.9	-5.4		-59.2	221	1356	11 38 31
11 43 00	J1037+5711	05 29 09	47.9	52.3	-5.2		-61.0	11	1356	11 43 00
11 44 00	---	05 30 09	48.0	52.4	-5.1		-61.1	60	1364	11 43 01
---------- Fringe Finder 1 ----------										
11 47 30	4C39.25	05 33 40	48.2	85.3	-3.9		-50.3	130	1364	11 47 30
11 52 30	---	05 38 40	48.9	86.3	-3.8		-50.4	300	1403	11 47 31
11 54 30	J1037+5711	05 40 41	49.3	53.4	-5.0		-62.5	39	1403	11 54 30
11 56 00	---	05 42 11	49.5	53.6	-4.9		-62.8	90	1414	11 54 31

Schedule for TORUN (Code Tr) Page 7

Testing AGN evolution and feedback by combining the ILT and e-MERLIN/EVN

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Mon 30 May 2022 Day 150 ---										
11 56 00	P22	05 42 11	48.8	50.9	-5.1		-62.6	-20	1414	No stop
12 00 00	---	05 46 12	49.3	51.2	-5.1		-63.2	220	1445	11 56 01
12 00 30	J1037+5711	05 46 42	50.0	54.0	-4.9		-63.4	10	1445	12 00 30
12 01 30	---	05 47 42	50.1	54.1	-4.9		-63.5	60	1453	12 00 31
12 01 30	P23	05 47 42	49.4	51.3	-5.0		-63.3	-20	1453	No stop
12 05 30	---	05 51 43	49.9	51.6	-5.0		-63.9	220	1484	12 01 31
12 06 00	J1037+5711	05 52 13	50.7	54.5	-4.8		-64.1	10	1484	12 06 00
12 07 00	---	05 53 13	50.8	54.6	-4.8		-64.3	60	1492	12 06 01
12 07 00	P36	05 53 13	50.7	53.0	-4.8		-64.7	-16	1492	No stop
12 11 00	---	05 57 13	51.2	53.3	-4.8		-65.3	224	1523	12 07 01
12 11 30	J1037+5711	05 57 44	51.4	55.0	-4.7		-64.9	13	1523	12 11 30
12 12 30	---	05 58 44	51.5	55.1	-4.7		-65.0	60	1530	12 11 31
12 12 30	P49	05 58 44	50.3	53.1	-4.9		-64.1	-18	1530	No stop
12 16 30	---	06 02 44	50.8	53.4	-4.8		-64.7	222	1561	12 12 31
12 17 00	J1037+5711	06 03 14	52.0	55.5	-4.6		-65.7	12	1561	12 17 00
12 18 00	---	06 04 15	52.2	55.6	-4.6		-65.8	60	1569	12 17 01
12 18 00	P51	06 04 15	50.6	53.2	-4.8		-64.4	-19	1569	No stop
12 22 00	---	06 08 15	51.1	53.6	-4.8		-65.0	221	1600	12 18 01
12 22 30	J1037+5711	06 08 45	52.7	56.0	-4.5		-66.4	10	1600	12 22 30
12 23 30	---	06 09 45	52.8	56.1	-4.5		-66.6	60	1608	12 22 31
12 23 30	P56	06 09 45	51.9	54.6	-4.6		-65.8	-16	1608	No stop
12 27 30	---	06 13 46	52.4	54.9	-4.6		-66.4	224	1639	12 23 31
12 28 00	J1037+5711	06 14 16	53.4	56.5	-4.4		-67.2	14	1639	12 28 00
12 29 00	---	06 15 16	53.5	56.6	-4.4		-67.3	60	1646	12 28 01
12 29 00	P75	06 15 16	52.0	55.4	-4.6		-65.7	-19	1646	No stop
12 33 00	---	06 19 17	52.5	55.7	-4.5		-66.2	221	1677	12 29 01
12 33 30	J1037+5711	06 19 47	54.1	57.0	-4.3		-67.9	10	1677	12 33 30
12 34 30	---	06 20 47	54.2	57.1	-4.3		-68.1	60	1685	12 33 31
12 34 30	P22	06 20 47	53.4	54.2	-4.5		-68.2	-20	1685	No stop
12 38 30	---	06 24 48	53.9	54.5	-4.4		-68.8	220	1716	12 34 31

Schedule for TORUN (Code Tr) Page 8

Testing AGN evolution and feedback by combining the ILT and e-MERLIN/EVN

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Mon 30 May 2022 Day 150 ---										
12 39 00	J1037+5711	06 25 18	54.8	57.5	-4.2		-68.7	10	1716	12 39 00
12 40 00	---	06 26 18	54.9	57.6	-4.2		-68.9	60	1724	12 39 01
12 40 00	P23	06 26 18	54.0	54.6	-4.4		-68.9	-20	1724	No stop
12 44 00	---	06 30 19	54.5	54.9	-4.3		-69.5	220	1755	12 40 01
12 44 30	J1037+5711	06 30 49	55.5	57.9	-4.1		-69.5	9	1755	12 44 30
12 45 30	---	06 31 49	55.6	58.0	-4.1		-69.6	60	1762	12 44 31
12 45 30	P36	06 31 49	55.4	56.2	-4.2		-70.3	-17	1762	No stop
12 49 30	---	06 35 50	55.9	56.5	-4.1		-70.9	223	1793	12 45 31
12 50 00	J1037+5711	06 36 20	56.2	58.4	-4.0		-70.3	13	1793	12 50 00
12 51 00	---	06 37 20	56.3	58.5	-4.0		-70.4	60	1801	12 50 01
12 51 00	P49	06 37 20	55.1	56.4	-4.2		-69.7	-18	1801	No stop
12 55 00	---	06 41 21	55.6	56.7	-4.2		-70.2	222	1832	12 51 01
12 55 30	J1037+5711	06 41 51	56.9	58.9	-4.0		-71.1	12	1832	12 55 30
12 56 30	---	06 42 51	57.0	58.9	-3.9		-71.2	60	1840	12 55 31
12 56 30	P51	06 42 51	55.3	56.5	-4.2		-69.9	-20	1840	No stop
13 00 30	---	06 46 52	55.8	56.9	-4.1		-70.5	220	1870	12 56 31
13 01 00	J1037+5711	06 47 22	57.6	59.3	-3.9		-71.8	10	1870	13 01 00
13 02 00	---	06 48 22	57.7	59.4	-3.8		-72.0	60	1878	13 01 01
13 02 00	P56	06 48 22	56.7	57.8	-4.0		-71.4	-17	1878	No stop
13 06 00	---	06 52 22	57.2	58.1	-3.9		-71.9	223	1909	13 02 01
13 06 30	J1037+5711	06 52 53	58.3	59.7	-3.8		-72.6	13	1909	13 06 30
13 07 30	---	06 53 53	58.5	59.8	-3.8		-72.8	60	1917	13 06 31
13 07 30	P75	06 53 53	56.9	58.7	-4.0		-71.1	-19	1917	No stop
13 11 30	---	06 57 53	57.4	59.0	-3.9		-71.7	221	1948	13 07 31
13 12 00	J1037+5711	06 58 23	59.0	60.1	-3.7		-73.4	10	1948	13 12 00
13 13 00	---	06 59 24	59.2	60.2	-3.7		-73.6	60	1955	13 12 01
13 13 00	P22	06 59 24	58.2	57.1	-3.8		-74.1	-21	1955	No stop
13 17 00	---	07 03 24	58.7	57.4	-3.8		-74.7	219	1986	13 13 01
13 17 30	J1037+5711	07 03 54	59.8	60.6	-3.6		-74.2	9	1986	13 17 30
13 18 30	---	07 04 55	59.9	60.6	-3.6		-74.4	60	1994	13 17 31

Schedule for TORUN (Code Tr) Page 9

Testing AGN evolution and feedback by combining the ILT and e-MERLIN/EVN

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Mon 30 May 2022 Day 150 ---										
13 18 30	P23	07 04 55	58.8	57.4	-3.8		-74.8	-21	1994	No stop
13 22 30	---	07 08 55	59.3	57.7	-3.7		-75.4	219	2025	13 18 31
13 23 00	J1037+5711	07 09 25	60.5	61.0	-3.5		-75.0	9	2025	13 23 00
13 24 00	---	07 10 25	60.6	61.0	-3.5		-75.2	60	2033	13 23 01
13 24 00	P36	07 10 25	60.3	59.0	-3.5		-76.1	-18	2033	No stop
13 28 00	---	07 14 26	60.8	59.3	-3.5		-76.7	222	2064	13 24 01
13 28 30	J1037+5711	07 14 56	61.2	61.3	-3.4		-75.9	12	2064	13 28 30
13 29 30	---	07 15 56	61.3	61.4	-3.4		-76.0	60	2071	13 28 31
13 29 30	P49	07 15 56	60.0	59.3	-3.6		-75.4	-18	2071	No stop
13 33 30	---	07 19 57	60.5	59.5	-3.5		-76.0	222	2102	13 29 31
13 34 00	J1037+5711	07 20 27	61.9	61.7	-3.3		-76.7	11	2102	13 34 00
13 35 00	---	07 21 27	62.1	61.8	-3.3		-76.8	60	2110	13 34 01
13 35 00	P51	07 21 27	60.2	59.4	-3.6		-75.7	-21	2110	No stop
13 39 00	---	07 25 28	60.7	59.7	-3.5		-76.3	219	2141	13 35 01
13 39 30	J1037+5711	07 25 58	62.7	62.1	-3.2		-77.5	9	2141	13 39 30
13 40 30	---	07 26 58	62.8	62.1	-3.2		-77.7	60	2149	13 39 31
13 40 30	P56	07 26 58	61.7	60.5	-3.4		-77.2	-17	2149	No stop
13 44 30	---	07 30 59	62.2	60.8	-3.3		-77.8	223	2180	13 40 31
13 45 00	J1037+5711	07 31 29	63.4	62.4	-3.1		-78.4	13	2180	13 45 00
13 46 00	---	07 32 29	63.5	62.5	-3.1		-78.5	60	2187	13 45 01
13 46 00	P75	07 32 29	61.9	61.5	-3.3		-76.7	-20	2187	No stop
13 50 00	---	07 36 30	62.4	61.8	-3.3		-77.4	220	2218	13 46 01
13 50 30	J1037+5711	07 37 00	64.1	62.7	-3.0		-79.2	10	2218	13 50 30
13 51 30	---	07 38 00	64.3	62.8	-3.0		-79.4	60	2226	13 50 31
13 51 30	P22	07 38 00	63.2	59.4	-3.2		-80.3	-21	2226	No stop
13 55 30	---	07 42 01	63.7	59.6	-3.1		-81.0	219	2257	13 51 31
13 56 00	J1037+5711	07 42 31	64.9	63.1	-2.9		-80.1	8	2257	13 56 00
13 57 00	---	07 43 31	65.0	63.1	-2.9		-80.3	60	2265	13 56 01
13 57 00	P23	07 43 31	63.8	59.6	-3.1		-81.1	-22	2265	No stop
14 01 00	---	07 47 31	64.3	59.8	-3.0		-81.8	218	2296	13 57 01

Schedule for TORUN (Code Tr) Page 10

Testing AGN evolution and feedback by combining the ILT and e-MERLIN/EVN

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT	Source	Start / Stop						Early	Disk	TPStart
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC
--- Mon 30 May 2022 Day 150 ---										
14 01 30	J1037+5711	07 48 02	65.6	63.3	-2.9		-81.0	8	2296	14 01 30
14 02 30	---	07 49 02	65.7	63.4	-2.8		-81.2	60	2303	14 01 31
14 02 30	P36	07 49 02	65.3	61.1	-2.9		-82.4	-19	2303	No stop
14 06 30	---	07 53 02	65.9	61.3	-2.8		-83.1	221	2334	14 02 31
14 07 00	J1037+5711	07 53 32	66.4	63.6	-2.8		-81.9	11	2334	14 07 00
14 08 00	---	07 54 33	66.5	63.7	-2.7		-82.1	60	2342	14 07 01
14 08 00	P49	07 54 33	65.0	61.5	-2.9		-81.6	-19	2342	No stop
14 12 00	---	07 58 33	65.5	61.7	-2.9		-82.3	221	2373	14 08 01
14 12 30	J1037+5711	07 59 03	67.1	63.9	-2.7		-82.9	11	2373	14 12 30
14 13 30	---	08 00 04	67.2	63.9	-2.7		-83.0	60	2381	14 12 31
14 13 30	P51	08 00 04	65.3	61.6	-2.9		-81.9	-21	2381	No stop
14 17 30	---	08 04 04	65.8	61.7	-2.8		-82.6	219	2411	14 13 31
14 18 00	J1037+5711	08 04 34	67.8	64.1	-2.6		-83.8	9	2411	14 18 00
14 19 00	---	08 05 34	68.0	64.1	-2.6		-84.0	60	2419	14 18 01
14 19 00	P56	08 05 34	66.8	62.5	-2.7		-83.5	-17	2419	No stop
14 23 00	---	08 09 35	67.3	62.7	-2.6		-84.2	223	2450	14 19 01
14 23 30	J1037+5711	08 10 05	68.6	64.3	-2.5		-84.8	12	2450	14 23 30
14 24 30	---	08 11 05	68.7	64.3	-2.5		-84.9	60	2458	14 23 31
14 24 30	P75	08 11 05	67.0	63.6	-2.7		-82.9	-20	2458	No stop
14 28 30	---	08 15 06	67.6	63.8	-2.6		-83.6	220	2489	14 24 31
14 29 00	J1037+5711	08 15 36	69.3	64.5	-2.4		-85.8	10	2489	14 29 00
14 30 00	---	08 16 36	69.5	64.5	-2.4		-85.9	60	2497	14 29 01
14 30 00	P22	08 16 36	68.2	60.7	-2.5		-87.3	-22	2497	No stop
14 34 00	---	08 20 37	68.7	60.8	-2.5		-88.1	218	2527	14 30 01
14 34 30	J1037+5711	08 21 07	70.1	64.6	-2.3		-86.8	8	2527	14 34 30
14 35 30	---	08 22 07	70.2	64.6	-2.3		-87.0	60	2535	14 34 31
14 35 30	P23	08 22 07	68.8	60.8	-2.5		-88.2	-23	2535	No stop
14 39 30	---	08 26 08	69.3	60.8	-2.4		-89.1	217	2566	14 35 31
14 40 00	J1037+5711	08 26 38	70.8	64.7	-2.2		-87.9	7	2566	14 40 00
14 41 00	---	08 27 38	71.0	64.7	-2.2		-88.0	60	2574	14 40 01

Schedule for TORUN (Code Tr) Page 11

Testing AGN evolution and feedback by combining the ILT and e-MERLIN/EVN

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Mon 30 May 2022 Day 150 ---										
14 41 00	P36	08 27 38	70.4	62.0	-2.3		-89.8	-20	2574	No stop
14 45 00	---	08 31 39	71.0	62.0	-2.2		-90.6	220	2605	14 41 01
14 45 30	J1037+5711	08 32 09	71.6	64.8	-2.1		-88.9	10	2605	14 45 30
14 46 30	---	08 33 09	71.7	64.8	-2.1		-89.2	60	2612	14 45 31
14 46 30	P49	08 33 09	70.1	62.6	-2.3		-88.7	-19	2612	No stop
14 50 30	---	08 37 10	70.7	62.6	-2.2		-89.5	221	2643	14 46 31
14 51 00	J1037+5711	08 37 40	72.3	64.8	-2.0		-90.1	10	2643	14 51 00
14 52 00	---	08 38 40	72.5	64.8	-2.0		-90.3	60	2651	14 51 01
14 52 00	P51	08 38 40	70.4	62.6	-2.3		-89.1	-21	2651	No stop
14 56 00	---	08 42 41	70.9	62.6	-2.2		-90.0	219	2682	14 52 01
14 56 30	J1037+5711	08 43 11	73.1	64.8	-1.9		-91.3	8	2682	14 56 30
14 57 30	---	08 44 11	73.2	64.8	-1.9		-91.5	60	2690	14 56 31
14 57 30	P56	08 44 11	72.0	63.2	-2.1		-91.0	-18	2690	No stop
15 01 30	---	08 48 11	72.5	63.2	-2.0		-91.9	222	2721	14 57 31
15 02 00	J1037+5711	08 48 42	73.8	64.7	-1.8		-92.5	12	2721	15 02 00
15 03 00	---	08 49 42	74.0	64.7	-1.8		-92.7	60	2728	15 02 01
15 03 00	P75	08 49 42	72.2	64.5	-2.0		-90.2	-20	2728	No stop
15 07 00	---	08 53 42	72.8	64.5	-2.0		-91.1	220	2759	15 03 01
15 07 30	J1037+5711	08 54 12	74.6	64.5	-1.7		-93.8	10	2759	15 07 30
15 08 30	---	08 55 13	74.7	64.5	-1.7		-94.1	60	2767	15 07 31
15 08 30	P22	08 55 13	73.2	60.3	-1.9		-95.9	-23	2767	No stop
15 12 30	---	08 59 13	73.8	60.1	-1.8		-97.0	217	2798	15 08 31
15 13 00	J1037+5711	08 59 43	75.3	64.3	-1.7		-95.2	7	2798	15 13 00
15 14 00	---	09 00 43	75.5	64.3	-1.6		-95.4	60	2806	15 13 01
15 14 00	P23	09 00 43	73.9	60.0	-1.8		-97.2	-23	2806	No stop
15 18 00	---	09 04 44	74.4	59.8	-1.8		-98.3	217	2837	15 14 01
15 18 30	J1037+5711	09 05 14	76.1	64.0	-1.6		-96.7	7	2837	15 18 30
15 19 30	---	09 06 14	76.2	63.9	-1.5		-96.9	60	2844	15 18 31
15 19 30	P36	09 06 14	75.5	60.7	-1.6		-99.3	-21	2844	No stop
15 23 30	---	09 10 15	76.1	60.3	-1.5		-100.5	219	2875	15 19 31

Schedule for TORUN (Code Tr) Page 12

Testing AGN evolution and feedback by combining the ILT and e-MERLIN/EVN

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Mon 30 May 2022 Day 150 ---										
15 24 00	J1037+5711	09 10 45	76.8	63.6	-1.5		-98.2	9	2875	15 24 00
15 25 00	---	09 11 45	76.9	63.5	-1.5		-98.5	60	2883	15 24 01
15 25 00	P49	09 11 45	75.3	61.6	-1.7		-97.8	-20	2883	No stop
15 29 00	---	09 15 46	75.8	61.3	-1.6		-99.0	220	2914	15 25 01
15 29 30	J1037+5711	09 16 16	77.5	63.1	-1.4		-99.9	10	2914	15 29 30
15 30 30	---	09 17 16	77.7	62.9	-1.4		-100.2	60	2922	15 29 31
15 30 30	P51	09 17 16	75.5	61.5	-1.6		-98.4	-22	2922	No stop
15 34 30	---	09 21 17	76.1	61.1	-1.6		-99.6	218	2953	15 30 31
15 35 00	J1037+5711	09 21 47	78.3	62.4	-1.3		-101.7	8	2953	15 35 00
15 36 00	---	09 22 47	78.4	62.2	-1.3		-102.0	60	2960	15 35 01
15 36 00	P56	09 22 47	77.1	61.2	-1.4		-101.1	-18	2960	No stop
15 40 00	---	09 26 48	77.6	60.7	-1.4		-102.5	222	2991	15 36 01
15 40 30	J1037+5711	09 27 18	79.0	61.5	-1.2		-103.7	12	2991	15 40 30
15 41 30	---	09 28 18	79.1	61.4	-1.2		-104.1	60	2999	15 40 31
15 41 30	P75	09 28 18	77.4	62.8	-1.4		-100.0	-20	2999	No stop
15 45 30	---	09 32 19	78.0	62.3	-1.3		-101.4	220	3030	15 41 31
15 46 00	J1037+5711	09 32 49	79.7	60.5	-1.1		-105.8	10	3030	15 46 00
15 47 00	---	09 33 49	79.9	60.3	-1.1		-106.3	60	3038	15 46 01
15 47 00	P22	09 33 49	78.2	56.0	-1.3		-108.3	-24	3038	No stop
15 51 00	---	09 37 50	78.7	55.1	-1.2		-110.0	216	3068	15 47 01
15 51 30	J1037+5711	09 38 20	80.5	59.2	-1.0		-108.3	7	3068	15 51 30
15 52 30	---	09 39 20	80.6	59.0	-1.0		-108.7	60	3076	15 51 31
15 52 30	P23	09 39 20	78.8	55.0	-1.2		-110.3	-23	3076	No stop
15 56 30	---	09 43 20	79.3	54.0	-1.1		-112.2	217	3107	15 52 31
15 57 00	J1037+5711	09 43 51	81.2	57.7	-0.9		-111.0	8	3107	15 57 00
15 58 00	---	09 44 51	81.3	57.3	-0.9		-111.5	60	3115	15 57 01
15 58 00	P36	09 44 51	80.4	53.5	-1.0		-114.4	-23	3115	No stop
16 02 00	---	09 48 51	80.9	52.1	-0.9		-116.7	217	3146	15 58 01
16 02 30	J1037+5711	09 49 21	81.9	55.7	-0.8		-114.1	8	3146	16 02 30
16 03 30	---	09 50 22	82.0	55.3	-0.8		-114.7	60	3153	16 02 31

Schedule for TORUN (Code Tr) Page 13

Testing AGN evolution and feedback by combining the ILT and e-MERLIN/EVN

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	LST	Start / Stop EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Mon 30 May 2022 Day 150 ---										
16 03 30	P49	09 50 22	80.2	55.4	-1.0		-112.1	-20	3153	No stop
16 07 30	---	09 54 22	80.7	54.1	-0.9		-114.2	220	3184	16 03 31
16 08 00	J1037+5711	09 54 52	82.5	53.3	-0.7		-117.6	10	3184	16 08 00
16 09 00	---	09 55 53	82.6	52.8	-0.7		-118.3	60	3192	16 08 01
16 09 00	P51	09 55 53	80.5	54.7	-1.0		-113.2	-22	3192	No stop
16 13 00	---	09 59 53	81.0	53.4	-0.9		-115.4	218	3223	16 09 01
16 13 30	J1037+5711	10 00 23	83.2	50.3	-0.6		-121.7	8	3223	16 13 30
16 14 30	---	10 01 23	83.3	49.7	-0.6		-122.5	60	3231	16 13 31
16 14 30	P56	10 01 23	82.0	51.5	-0.8		-118.9	-18	3231	No stop
16 18 30	---	10 05 24	82.4	49.5	-0.7		-121.7	222	3262	16 14 31
16 19 00	J1037+5711	10 05 54	83.8	46.6	-0.6		-126.5	10	3262	16 19 00
16 20 00	---	10 06 54	83.9	45.9	-0.5		-127.5	60	3269	16 19 01
16 20 00	P75	10 06 54	82.4	53.1	-0.7		-117.7	-29	3269	No stop
16 24 00	---	10 10 55	82.9	51.0	-0.7		-120.6	211	3300	16 20 01
16 24 30	J1037+5711	10 11 25	84.4	42.0	-0.5		-132.3	-3	3300	16 24 30
16 25 30	---	10 12 25	84.5	41.1	-0.4		-133.5	57	3308	16 24 31
16 25 30	P22	10 12 25	82.6	40.8	-0.6		-131.5	-21	3308	No stop
16 29 30	---	10 16 26	83.0	38.0	-0.5		-135.2	219	3339	16 25 31
16 30 00	J1037+5711	10 16 56	84.9	36.3	-0.4		-139.2	9	3339	16 30 00
16 31 00	---	10 17 56	85.0	35.1	-0.4		-140.6	60	3347	16 30 01
16 31 00	P23	10 17 56	83.1	37.4	-0.5		-135.9	-21	3347	No stop
16 35 00	---	10 21 57	83.4	34.1	-0.5		-140.1	219	3378	16 31 01
16 35 30	J1037+5711	10 22 27	85.3	29.2	-0.3		-147.4	6	3378	16 35 30
16 36 30	---	10 23 27	85.4	27.8	-0.3		-149.0	60	3385	16 35 31
16 36 30	P36	10 23 27	84.4	27.7	-0.3		-148.2	-17	3385	No stop
16 40 30	---	10 27 28	84.6	22.9	-0.3		-153.9	223	3416	16 36 31
16 41 00	J1037+5711	10 27 58	85.7	20.7	-0.2		-157.0	13	3416	16 41 00
16 42 00	---	10 28 58	85.8	19.0	-0.2		-158.9	60	3424	16 41 01
16 42 00	P49	10 28 58	84.4	31.5	-0.4		-143.9	-39	3424	No stop
16 46 00	---	10 32 59	84.7	26.8	-0.3		-149.5	201	3455	16 42 01

Schedule for TORUN (Code Tr) Page 14

Testing AGN evolution and feedback by combining the ILT and e-MERLIN/EVN

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT	Source	Start / Stop						Early	Disk	TPStart
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC
--- Mon 30 May 2022 Day 150 ---										
16 46 30	J1037+5711	10 33 29	85.9	10.9	-0.1		-167.9	-18	3455	16 46 30
16 47 30	---	10 34 29	86.0	9.0	-0.1		-170.0	42	3463	16 46 31
16 47 30	P51	10 34 29	84.5	29.2	-0.3		-146.7	-53	3463	No stop
16 51 30	---	10 38 29	84.8	24.2	-0.3		-152.5	187	3494	16 47 31
16 52 00	J1037+5711	10 39 00	86.0	0.3	-0.0		-179.7	-35	3494	16 52 00
16 53 00	---	10 40 00	86.0	-1.7	0.0		178.2	25	3501	16 52 01
16 53 00	P56	10 40 00	85.4	14.1	-0.1		-164.2	-44	3501	No stop
16 57 00	---	10 44 00	85.5	7.5	-0.1		-171.6	196	3532	16 53 01
16 57 30	J1037+5711	10 44 30	85.9	-10.3	0.1		168.6	-22	3532	16 57 30
16 58 30	---	10 45 31	85.9	-12.2	0.1		166.5	38	3540	16 57 31
16 58 30	P75	10 45 31	85.8	11.8	-0.1		-166.9	-59	3540	No stop
17 02 30	---	10 49 31	85.9	4.3	-0.0		-175.2	181	3571	16 58 31
17 03 00	J1037+5711	10 50 01	85.7	-20.2	0.2		157.6	-36	3571	17 03 00
17 04 00	---	10 51 02	85.7	-21.8	0.2		155.7	24	3579	17 03 01
17 04 00	P22	10 51 02	84.7	-2.3	0.0		177.3	-52	3579	No stop
17 08 00	---	10 55 02	84.7	-8.0	0.1		170.8	188	3610	17 04 01
17 08 30	J1037+5711	10 55 32	85.4	-28.8	0.3		147.9	-28	3610	17 08 30
17 09 30	---	10 56 32	85.3	-30.2	0.3		146.3	32	3617	17 08 31
17 09 30	P23	10 56 32	84.6	-9.0	0.1		169.7	-55	3617	No stop
17 13 30	---	11 00 33	84.5	-14.4	0.2		163.4	185	3648	17 09 31
17 14 00	J1037+5711	11 01 03	84.9	-35.9	0.4		139.6	-29	3648	17 14 00
17 15 00	---	11 02 03	84.8	-37.1	0.4		138.2	31	3656	17 14 01
17 15 00	P36	11 02 03	84.4	-26.8	0.3		149.3	-34	3656	No stop
17 19 00	---	11 06 04	84.1	-31.3	0.4		144.0	206	3687	17 15 01
17 19 30	J1037+5711	11 06 34	84.4	-41.7	0.5		132.6	-6	3687	17 19 30
17 20 30	---	11 07 34	84.3	-42.7	0.5		131.5	54	3695	17 19 31
17 20 30	P49	11 07 34	84.8	-25.0	0.3		151.6	-48	3695	No stop
17 24 30	---	11 11 35	84.5	-29.9	0.3		145.9	192	3725	17 20 31
17 25 00	J1037+5711	11 12 05	83.8	-46.4	0.5		126.8	-18	3725	17 25 00
17 26 00	---	11 13 05	83.7	-47.1	0.6		125.9	42	3733	17 25 01

Schedule for TORUN (Code Tr) Page 15

Testing AGN evolution and feedback by combining the ILT and e-MERLIN/EVN

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT	Source	Start / Stop						Early	Disk	TPStart
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC
--- Mon 30 May 2022 Day 150 ---										
17 26 00	P51	11 13 05	84.6	-27.6	0.3		148.6	-52	3733	No stop
17 30 00	---	11 17 06	84.3	-32.2	0.4		143.2	188	3764	17 26 01
17 30 30	J1037+5711	11 17 36	83.2	-50.2	0.6		122.0	-21	3764	17 30 30
17 31 30	---	11 18 36	83.1	-50.7	0.7		121.2	39	3772	17 30 31
17 31 30	P56	11 18 36	83.8	-40.8	0.5		133.0	-34	3772	No stop
17 35 30	---	11 22 37	83.4	-43.9	0.6		129.0	206	3803	17 31 31
17 36 00	J1037+5711	11 23 07	82.6	-53.2	0.7		117.8	-3	3803	17 36 00
17 37 00	---	11 24 07	82.4	-53.6	0.7		117.1	57	3810	17 36 01
17 37 00	P75	11 24 07	83.8	-45.3	0.5		128.0	-31	3810	No stop
17 41 00	---	11 28 08	83.4	-48.2	0.6		124.3	209	3841	17 37 01
17 41 30	J1037+5711	11 28 38	81.9	-55.6	0.8		114.2	0	3841	17 41 30
17 42 30	---	11 29 38	81.8	-56.0	0.8		113.6	60	3849	17 41 31
17 42 30	P22	11 29 38	82.3	-42.9	0.7		128.7	-40	3849	No stop
17 46 30	---	11 33 39	81.9	-45.2	0.7		125.6	200	3880	17 42 31
17 47 00	J1037+5711	11 34 09	81.2	-57.6	0.9		111.1	-10	3880	17 47 00
17 48 00	---	11 35 09	81.1	-57.9	0.9		110.6	50	3888	17 47 01
17 48 00	P23	11 35 09	81.8	-45.6	0.7		125.0	-39	3888	No stop
17 52 00	---	11 39 09	81.3	-47.6	0.8		122.2	201	3919	17 48 01
17 52 30	J1037+5711	11 39 40	80.5	-59.2	1.0		108.4	-8	3919	17 52 30
17 53 30	---	11 40 40	80.4	-59.4	1.0		107.9	52	3926	17 52 31
17 53 30	P36	11 40 40	80.5	-53.3	1.0		114.9	-27	3926	No stop
17 57 30	---	11 44 40	80.1	-54.5	1.0		112.7	213	3957	17 53 31
17 58 00	J1037+5711	11 45 10	79.8	-60.4	1.1		106.0	3	3957	17 58 00
17 59 00	---	11 46 11	79.6	-60.7	1.1		105.6	60	3965	17 58 01
17 59 00	P49	11 46 11	80.9	-53.6	0.9		115.0	-29	3965	No stop
18 03 00	---	11 50 11	80.4	-54.9	1.0		112.9	211	3996	17 59 01
18 03 30	J1037+5711	11 50 41	79.1	-61.5	1.2		103.8	2	3996	18 03 30
18 04 30	---	11 51 41	78.9	-61.7	1.2		103.4	60	4004	18 03 31
18 04 30	P51	11 51 41	80.7	-54.3	1.0		113.9	-29	4004	No stop
18 08 30	---	11 55 42	80.2	-55.5	1.0		111.8	211	4035	18 04 31

Schedule for TORUN (Code Tr) Page 16

Testing AGN evolution and feedback by combining the ILT and e-MERLIN/EVN

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	LST	Start / Stop EL	 AZ	 HA	 UP	 ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Mon 30 May 2022 Day 150 ---										
18 09 00	J1037+5711	11 56 12	78.3	-62.3	1.3		101.8	1	4035	18 09 00
18 10 00	---	11 57 12	78.2	-62.5	1.3		101.5	60	4042	18 09 01
18 10 00	P56	11 57 12	79.3	-58.5	1.1		107.3	-23	4042	No stop
18 14 00	---	12 01 13	78.8	-59.3	1.2		105.7	217	4073	18 10 01
18 14 30	J1037+5711	12 01 43	77.6	-63.0	1.4		100.0	8	4073	18 14 30
18 15 30	---	12 02 43	77.5	-63.1	1.4		99.7	60	4081	18 14 31
18 15 30	P75	12 02 43	79.1	-61.0	1.2		104.4	-20	4081	No stop
18 19 30	---	12 06 44	78.6	-61.6	1.2		102.9	220	4112	18 15 31
18 20 00	J1037+5711	12 07 14	76.8	-63.6	1.5		98.3	10	4112	18 20 00
18 21 00	---	12 08 14	76.7	-63.6	1.5		98.0	60	4120	18 20 01
---------- Fringe Finder 2 ----------										
18 26 30	3C345	12 13 45	43.5	78.2	-4.5		-49.9	32	4120	18 26 30
18 31 30	---	12 18 46	44.2	79.0	-4.4		-50.1	300	4158	18 26 31
18 37 00	J1037+5711	12 24 17	74.5	-64.5	1.8		93.8	28	4158	18 37 00
18 38 30	---	12 25 47	74.3	-64.6	1.8		93.4	90	4170	18 37 01
18 38 30	P22	12 25 47	75.5	-59.0	1.6		100.9	-26	4170	No stop
18 42 30	---	12 29 48	75.0	-59.4	1.7		99.7	214	4201	18 38 31
18 43 00	J1037+5711	12 30 18	73.7	-64.7	1.9		92.4	4	4201	18 43 00
18 44 00	---	12 31 18	73.6	-64.7	1.9		92.1	60	4209	18 43 01
18 44 00	P23	12 31 18	74.9	-59.5	1.7		99.5	-25	4209	No stop
18 48 00	---	12 35 19	74.4	-59.8	1.8		98.4	215	4239	18 44 01
18 48 30	J1037+5711	12 35 49	73.0	-64.8	1.9		91.1	5	4239	18 48 30
18 49 30	---	12 36 49	72.8	-64.8	2.0		90.9	60	4247	18 48 31
18 49 30	P36	12 36 49	73.3	-61.7	1.9		94.7	-21	4247	No stop
18 53 30	---	12 40 50	72.8	-61.8	2.0		93.8	219	4278	18 49 31
18 54 00	J1037+5711	12 41 20	72.2	-64.8	2.0		89.9	9	4278	18 54 00
18 55 00	---	12 42 20	72.1	-64.8	2.1		89.7	60	4286	18 54 01
18 55 00	P49	12 42 20	73.7	-62.3	1.9		94.6	-19	4286	No stop
18 59 00	---	12 46 20	73.1	-62.4	1.9		93.7	221	4317	18 55 01

Schedule for TORUN (Code Tr) Page 17

Testing AGN evolution and feedback by combining the ILT and e-MERLIN/EVN

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT	Source	Start / Stop						Early	Disk	TPStart
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC
--- Mon 30 May 2022 Day 150 ---										
18 59 30	J1037+5711	12 46 51	71.5	-64.8	2.1		88.8	10	4317	18 59 30
19 00 30	---	12 47 51	71.3	-64.8	2.1		88.6	60	4324	18 59 31
19 00 30	P51	12 47 51	73.4	-62.4	1.9		94.1	-21	4324	No stop
19 04 30	---	12 51 51	72.9	-62.5	2.0		93.2	219	4355	19 00 31
19 05 00	J1037+5711	12 52 21	70.7	-64.7	2.2		87.7	8	4355	19 05 00
19 06 00	---	12 53 22	70.6	-64.7	2.2		87.5	60	4363	19 05 01
19 06 00	P56	12 53 22	71.9	-63.2	2.1		90.8	-18	4363	No stop
19 10 00	---	12 57 22	71.3	-63.3	2.1		90.0	222	4394	19 06 01
19 10 30	J1037+5711	12 57 52	70.0	-64.6	2.3		86.7	12	4394	19 10 30
19 11 30	---	12 58 52	69.8	-64.6	2.3		86.5	60	4402	19 10 31
19 11 30	P75	12 58 52	71.6	-64.5	2.1		89.2	-20	4402	No stop
19 15 30	---	13 02 53	71.0	-64.5	2.2		88.4	220	4433	19 11 31
19 16 00	J1037+5711	13 03 23	69.2	-64.5	2.4		85.6	10	4433	19 16 00
19 17 00	---	13 04 23	69.1	-64.4	2.4		85.5	60	4440	19 16 01
19 17 00	P22	13 04 23	70.5	-60.8	2.2		91.0	-22	4440	No stop
19 21 00	---	13 08 24	70.0	-60.8	2.3		90.1	218	4471	19 17 01
19 21 30	J1037+5711	13 08 54	68.5	-64.3	2.5		84.6	8	4471	19 21 30
19 22 30	---	13 09 54	68.4	-64.2	2.5		84.5	60	4479	19 21 31
19 22 30	P23	13 09 54	69.9	-60.8	2.3		90.0	-21	4479	No stop
19 26 30	---	13 13 55	69.4	-60.8	2.4		89.1	219	4510	19 22 31
19 27 00	J1037+5711	13 14 25	67.7	-64.1	2.6		83.7	9	4510	19 27 00
19 28 00	---	13 15 25	67.6	-64.0	2.6		83.5	60	4518	19 27 01
19 28 00	P36	13 15 25	68.2	-61.8	2.5		86.4	-18	4518	No stop
19 32 00	---	13 19 26	67.7	-61.7	2.6		85.6	222	4549	19 28 01
19 32 30	J1037+5711	13 19 56	67.0	-63.8	2.7		82.7	12	4549	19 32 30
19 33 30	---	13 20 56	66.9	-63.8	2.7		82.6	60	4556	19 32 31
19 33 30	P49	13 20 56	68.5	-62.4	2.5		86.3	-20	4556	No stop
19 37 30	---	13 24 57	68.0	-62.3	2.6		85.6	220	4587	19 33 31
19 38 00	J1037+5711	13 25 27	66.3	-63.6	2.8		81.8	10	4587	19 38 00
19 39 00	---	13 26 27	66.1	-63.5	2.8		81.6	60	4595	19 38 01

Schedule for TORUN (Code Tr) Page 18

Testing AGN evolution and feedback by combining the ILT and e-MERLIN/EVN

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT	Source	Start / Stop						Early	Disk	TPStart
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC
--- Mon 30 May 2022 Day 150 ---										
19 39 00	P51	13 26 27	68.2	-62.4	2.5		85.9	-22	4595	No stop
19 43 00	---	13 30 28	67.7	-62.3	2.6		85.2	218	4626	19 39 01
19 43 30	J1037+5711	13 30 58	65.5	-63.3	2.9		80.9	8	4626	19 43 30
19 44 30	---	13 31 58	65.4	-63.3	2.9		80.7	60	4634	19 43 31
19 44 30	P56	13 31 58	66.7	-62.5	2.7		83.4	-18	4634	No stop
19 48 30	---	13 35 59	66.2	-62.3	2.8		82.7	222	4665	19 44 31
19 49 00	J1037+5711	13 36 29	64.8	-63.0	3.0		80.0	12	4665	19 49 00
19 50 00	---	13 37 29	64.6	-63.0	3.0		79.9	60	4672	19 49 01
19 50 00	P75	13 37 29	66.4	-63.4	2.8		82.1	-20	4672	No stop
19 54 00	---	13 41 29	65.8	-63.2	2.8		81.4	220	4703	19 50 01
19 54 30	J1037+5711	13 42 00	64.0	-62.7	3.0		79.1	10	4703	19 54 30
19 55 30	---	13 43 00	63.9	-62.6	3.1		79.0	60	4711	19 54 31
19 55 30	P22	13 43 00	65.5	-60.2	2.9		83.4	-19	4711	No stop
19 59 30	---	13 47 00	64.9	-60.0	3.0		82.7	221	4742	19 55 31
20 00 00	J1037+5711	13 47 30	63.3	-62.4	3.1		78.3	10	4742	20 00 00
20 01 00	---	13 48 31	63.2	-62.3	3.2		78.1	60	4750	20 00 01
20 01 00	P23	13 48 31	64.8	-60.0	3.0		82.5	-20	4750	No stop
20 05 00	---	13 52 31	64.3	-59.8	3.0		81.8	220	4780	20 01 01
20 05 30	J1037+5711	13 53 01	62.6	-62.0	3.2		77.4	10	4780	20 05 30
20 06 30	---	13 54 02	62.4	-62.0	3.2		77.3	60	4788	20 05 31
20 06 30	P36	13 54 02	63.1	-60.3	3.2		79.6	-17	4788	No stop
20 10 30	---	13 58 02	62.6	-60.1	3.2		78.9	223	4819	20 06 31
20 11 00	J1037+5711	13 58 32	61.8	-61.7	3.3		76.6	14	4819	20 11 00
20 12 00	---	13 59 32	61.7	-61.6	3.3		76.4	60	4827	20 11 01
20 12 00	P49	13 59 32	63.4	-60.9	3.1		79.6	-20	4827	No stop
20 16 00	---	14 03 33	62.9	-60.6	3.2		78.9	220	4858	20 12 01
20 16 30	J1037+5711	14 04 03	61.1	-61.3	3.4		75.8	10	4858	20 16 30
20 17 30	---	14 05 03	61.0	-61.2	3.4		75.6	60	4865	20 16 31
20 17 30	P51	14 05 03	63.1	-60.8	3.2		79.2	-22	4865	No stop
20 21 30	---	14 09 04	62.6	-60.5	3.2		78.6	218	4896	20 17 31

Schedule for TORUN (Code Tr) Page 19

Testing AGN evolution and feedback by combining the ILT and e-MERLIN/EVN

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT	Source	Start / Stop						Early	Disk	TPStart
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC
--- Mon 30 May 2022 Day 150 ---										
20 22 00	J1037+5711	14 09 34	60.4	-60.9	3.5		74.9	8	4896	20 22 00
20 23 00	---	14 10 34	60.3	-60.8	3.5		74.8	60	4904	20 22 01
20 23 00	P56	14 10 34	61.6	-60.5	3.4		77.0	-18	4904	No stop
20 27 00	---	14 14 35	61.1	-60.2	3.4		76.4	222	4935	20 23 01
20 27 30	J1037+5711	14 15 05	59.7	-60.5	3.6		74.1	12	4935	20 27 30
20 28 30	---	14 16 05	59.5	-60.4	3.6		74.0	60	4943	20 27 31
20 28 30	P75	14 16 05	61.2	-61.2	3.4		76.0	-20	4943	No stop
20 32 30	---	14 20 06	60.7	-60.9	3.5		75.4	220	4974	20 28 31
20 33 00	J1037+5711	14 20 36	59.0	-60.1	3.7		73.3	10	4974	20 33 00
20 34 00	---	14 21 36	58.8	-60.0	3.7		73.2	60	4981	20 33 01
20 34 00	P22	14 21 36	60.5	-58.3	3.5		76.9	-20	4981	No stop
20 38 00	---	14 25 37	60.0	-58.0	3.6		76.2	220	5012	20 34 01
20 38 30	J1037+5711	14 26 07	58.2	-59.7	3.8		72.5	10	5012	20 38 30
20 39 30	---	14 27 07	58.1	-59.6	3.8		72.4	60	5020	20 38 31
20 39 30	P23	14 27 07	59.9	-58.0	3.6		76.1	-20	5020	No stop
20 43 30	---	14 31 08	59.4	-57.7	3.7		75.5	220	5051	20 39 31
20 44 00	J1037+5711	14 31 38	57.5	-59.2	3.9		71.7	9	5051	20 44 00
20 45 00	---	14 32 38	57.4	-59.2	3.9		71.6	60	5059	20 44 01
20 45 00	P36	14 32 38	58.2	-57.9	3.8		73.5	-15	5059	No stop
20 49 00	---	14 36 39	57.7	-57.6	3.9		72.9	225	5090	20 45 01
20 49 30	J1037+5711	14 37 09	56.8	-58.8	4.0		71.0	15	5090	20 49 30
20 50 30	---	14 38 09	56.7	-58.7	4.0		70.8	60	5097	20 49 31
20 50 30	P49	14 38 09	58.4	-58.4	3.8		73.6	-20	5097	No stop
20 54 30	---	14 42 09	57.9	-58.1	3.9		73.0	220	5128	20 50 31
20 55 00	J1037+5711	14 42 40	56.1	-58.3	4.1		70.2	10	5128	20 55 00
20 56 00	---	14 43 40	56.0	-58.3	4.1		70.0	60	5136	20 55 01
20 56 00	P51	14 43 40	58.2	-58.3	3.8		73.3	-22	5136	No stop
21 00 00	---	14 47 40	57.6	-58.0	3.9		72.7	218	5167	20 56 01
21 00 30	J1037+5711	14 48 10	55.4	-57.9	4.2		69.4	8	5167	21 00 30
21 01 30	---	14 49 11	55.3	-57.8	4.2		69.3	60	5175	21 00 31

Schedule for TORUN (Code Tr) Page 20

Testing AGN evolution and feedback by combining the ILT and e-MERLIN/EVN

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Mon 30 May 2022 Day 150 ---										
21 01 30	P56	14 49 11	56.6	-57.7	4.0		71.2	-18	5175	No stop
21 05 30	---	14 53 11	56.1	-57.4	4.1		70.7	222	5206	21 01 31
21 06 00	J1037+5711	14 53 41	54.7	-57.4	4.2		68.6	12	5206	21 06 00
21 07 00	---	14 54 41	54.6	-57.3	4.3		68.5	60	5213	21 06 01
21 07 00	P75	14 54 41	56.2	-58.3	4.0		70.4	-20	5213	No stop
21 11 00	---	14 58 42	55.7	-57.9	4.1		69.8	220	5244	21 07 01
21 11 30	J1037+5711	14 59 12	54.0	-56.9	4.3		67.9	10	5244	21 11 30
21 12 30	---	15 00 12	53.9	-56.9	4.4		67.7	60	5252	21 11 31
21 12 30	P22	15 00 12	55.6	-55.6	4.2		70.9	-20	5252	No stop
21 16 30	---	15 04 13	55.1	-55.3	4.2		70.3	220	5283	21 12 31
21 17 00	J1037+5711	15 04 43	53.3	-56.5	4.4		67.1	10	5283	21 17 00
21 18 00	---	15 05 43	53.2	-56.4	4.4		66.9	60	5291	21 17 01
21 18 00	P23	15 05 43	55.0	-55.2	4.3		70.2	-21	5291	No stop
21 22 00	---	15 09 44	54.5	-54.9	4.3		69.6	219	5322	21 18 01
21 22 30	J1037+5711	15 10 14	52.6	-56.0	4.5		66.3	9	5322	21 22 30
21 23 30	---	15 11 14	52.5	-55.9	4.5		66.2	60	5329	21 22 31
21 23 30	P36	15 11 14	53.3	-54.9	4.5		67.8	-15	5329	No stop
21 27 30	---	15 15 15	52.9	-54.5	4.5		67.2	225	5360	21 23 31
21 28 00	J1037+5711	15 15 45	51.9	-55.5	4.6		65.6	14	5360	21 28 00
21 29 00	---	15 16 45	51.8	-55.4	4.6		65.4	60	5368	21 28 01
21 29 00	P49	15 16 45	53.6	-55.4	4.4		67.9	-20	5368	No stop
21 33 00	---	15 20 46	53.1	-55.0	4.5		67.3	220	5399	21 29 01
21 33 30	J1037+5711	15 21 16	51.3	-55.0	4.7		64.8	10	5399	21 33 30
21 34 30	---	15 22 16	51.1	-54.9	4.7		64.7	60	5407	21 33 31
21 34 30	P51	15 22 16	53.3	-55.2	4.5		67.6	-22	5407	No stop
21 38 30	---	15 26 17	52.8	-54.9	4.5		67.0	218	5437	21 34 31
21 39 00	J1037+5711	15 26 47	50.6	-54.4	4.8		64.0	8	5437	21 39 00
21 40 00	---	15 27 47	50.5	-54.3	4.8		63.9	60	5445	21 39 01
21 40 00	P56	15 27 47	51.8	-54.5	4.7		65.7	-18	5445	No stop
21 44 00	---	15 31 48	51.3	-54.1	4.7		65.2	222	5476	21 40 01

Schedule for TORUN (Code Tr) Page 21

Testing AGN evolution and feedback by combining the ILT and e-MERLIN/EVN

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT	Source	Start / Stop						Early	Disk	TPStart
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC
--- Mon 30 May 2022 Day 150 ---										
21 44 30	J1037+5711	15 32 18	49.9	-53.9	4.9		63.3	12	5476	21 44 30
21 45 30	---	15 33 18	49.8	-53.8	4.9		63.1	60	5484	21 44 31
21 45 30	P75	15 33 18	51.4	-54.9	4.7		65.0	-19	5484	No stop
21 49 30	---	15 37 18	50.9	-54.5	4.8		64.4	221	5515	21 45 31
21 50 00	J1037+5711	15 37 49	49.3	-53.4	5.0		62.5	10	5515	21 50 00
21 51 00	---	15 38 49	49.1	-53.3	5.0		62.4	60	5522	21 50 01
---------- Fringe Finder 3 ----------										
21 53 00	4C39.25	15 40 49	28.5	-62.1	6.2		43.0	29	5522	21 53 00
21 58 00	---	15 45 50	27.9	-61.3	6.3		42.6	300	5561	21 53 01
22 00 00	J1037+5711	15 47 50	48.1	-52.4	5.1		61.1	30	5561	22 00 00
22 01 30	---	15 49 20	47.9	-52.3	5.2		60.9	90	5573	22 00 01
22 01 30	P22	15 49 20	49.7	-51.5	5.0		63.7	-20	5573	No stop
22 05 30	---	15 53 21	49.2	-51.2	5.1		63.1	220	5604	22 01 31
22 06 00	J1037+5711	15 53 51	47.3	-51.8	5.2		60.3	9	5604	22 06 00
22 07 00	---	15 54 51	47.2	-51.7	5.3		60.2	60	5611	22 06 01
22 07 00	P23	15 54 51	49.1	-51.1	5.1		63.0	-21	5611	No stop
22 11 00	---	15 58 52	48.7	-50.7	5.1		62.4	219	5642	22 07 01
22 11 30	J1037+5711	15 59 22	46.7	-51.3	5.3		59.6	9	5642	22 11 30
22 12 30	---	16 00 22	46.6	-51.2	5.4		59.4	60	5650	22 11 31
22 12 30	P36	16 00 22	47.5	-50.4	5.3		60.8	-16	5650	No stop
22 16 30	---	16 04 23	47.0	-50.1	5.4		60.2	224	5681	22 12 31
22 17 00	J1037+5711	16 04 53	46.0	-50.7	5.4		58.8	14	5681	22 17 00
22 18 00	---	16 05 53	45.9	-50.6	5.4		58.7	60	5689	22 17 01
22 18 00	P49	16 05 53	47.7	-50.9	5.2		60.9	-20	5689	No stop
22 22 00	---	16 09 54	47.2	-50.5	5.3		60.4	220	5720	22 18 01
22 22 30	J1037+5711	16 10 24	45.4	-50.2	5.5		58.1	10	5720	22 22 30
22 23 30	---	16 11 24	45.3	-50.1	5.5		57.9	60	5727	22 22 31
22 23 30	P51	16 11 24	47.4	-50.7	5.3		60.7	-22	5727	No stop
22 27 30	---	16 15 25	46.9	-50.3	5.3		60.1	218	5758	22 23 31

Schedule for TORUN (Code Tr) Page 22

Testing AGN evolution and feedback by combining the ILT and e-MERLIN/EVN

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT	Source	Start / Stop						Early	Disk	TPStart
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC
--- Mon 30 May 2022 Day 150 ---										
22 28 00	J1037+5711	16 15 55	44.8	-49.6	5.6		57.3	8	5758	22 28 00
22 29 00	---	16 16 55	44.7	-49.5	5.6		57.2	60	5766	22 28 01
22 29 00	P56	16 16 55	46.0	-49.8	5.5		58.9	-18	5766	No stop
22 33 00	---	16 20 56	45.5	-49.4	5.5		58.3	222	5797	22 29 01
22 33 30	J1037+5711	16 21 26	44.1	-49.0	5.7		56.5	12	5797	22 33 30
22 34 30	---	16 22 26	44.0	-48.9	5.7		56.4	60	5805	22 33 31
22 34 30	P75	16 22 26	45.5	-50.1	5.5		58.2	-19	5805	No stop
22 38 30	---	16 26 27	45.1	-49.7	5.6		57.7	221	5835	22 34 31
22 39 00	J1037+5711	16 26 57	43.5	-48.4	5.8		55.8	11	5835	22 39 00
22 40 00	---	16 27 57	43.4	-48.3	5.8		55.7	60	5843	22 39 01
22 40 00	P22	16 27 57	45.3	-47.9	5.6		58.1	-21	5843	No stop
22 44 00	---	16 31 57	44.8	-47.5	5.7		57.6	219	5874	22 40 01
22 44 30	J1037+5711	16 32 27	42.9	-47.9	5.9		55.0	9	5874	22 44 30
22 45 30	---	16 33 28	42.8	-47.8	5.9		54.9	60	5882	22 44 31
22 45 30	P23	16 33 28	44.7	-47.4	5.7		57.5	-21	5882	No stop
22 49 30	---	16 37 28	44.3	-47.0	5.8		56.9	219	5913	22 45 31
22 50 00	J1037+5711	16 37 58	42.3	-47.3	6.0		54.3	9	5913	22 50 00
22 51 00	---	16 38 59	42.2	-47.2	6.0		54.1	60	5921	22 50 01
22 51 00	P36	16 38 59	43.1	-46.6	5.9		55.4	-16	5921	No stop
22 55 00	---	16 42 59	42.7	-46.2	6.0		54.8	224	5951	22 51 01
22 55 30	J1037+5711	16 43 29	41.7	-46.7	6.1		53.5	14	5951	22 55 30
22 56 30	---	16 44 29	41.6	-46.6	6.1		53.4	60	5959	22 55 31
22 56 30	P49	16 44 29	43.3	-47.1	5.9		55.5	-20	5959	No stop
23 00 30	---	16 48 30	42.8	-46.7	6.0		55.0	220	5990	22 56 31
23 01 00	J1037+5711	16 49 00	41.1	-46.1	6.2		52.8	10	5990	23 01 00
23 02 00	---	16 50 00	41.0	-46.0	6.2		52.6	60	5998	23 01 01
23 02 00	P51	16 50 00	43.1	-46.9	5.9		55.2	-21	5998	No stop
23 06 00	---	16 54 01	42.6	-46.4	6.0		54.7	219	6029	23 02 01
23 06 30	J1037+5711	16 54 31	40.5	-45.5	6.3		52.0	8	6029	23 06 30
23 07 30	---	16 55 31	40.4	-45.4	6.3		51.9	60	6036	23 06 31

Schedule for TORUN (Code Tr) Page 23

Testing AGN evolution and feedback by combining the ILT and e-MERLIN/EVN

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT	Source	Start / Stop						Early	Disk	TPStart
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC
--- Mon 30 May 2022 Day 150 ---										
23 07 30	P56	16 55 31	41.7	-45.9	6.1		53.5	-18	6036	No stop
23 11 30	---	16 59 32	41.2	-45.4	6.2		52.9	222	6067	23 07 31
23 12 00	J1037+5711	17 00 02	39.9	-44.9	6.3		51.2	12	6067	23 12 00
23 13 00	---	17 01 02	39.8	-44.8	6.4		51.1	60	6075	23 12 01
23 13 00	P75	17 01 02	41.2	-46.1	6.2		52.9	-19	6075	No stop
23 17 00	---	17 05 03	40.8	-45.6	6.2		52.3	221	6106	23 13 01
23 17 30	J1037+5711	17 05 33	39.3	-44.3	6.4		50.5	11	6106	23 17 30
23 18 30	---	17 06 33	39.2	-44.1	6.5		50.3	60	6114	23 17 31
23 18 30	P22	17 06 33	41.1	-43.9	6.3		52.6	-21	6114	No stop
23 22 30	---	17 10 34	40.7	-43.5	6.4		52.0	219	6145	23 18 31
23 23 00	J1037+5711	17 11 04	38.8	-43.6	6.5		49.7	9	6145	23 23 00
23 24 00	---	17 12 04	38.7	-43.5	6.5		49.6	60	6152	23 23 01
23 24 00	P23	17 12 04	40.6	-43.4	6.4		51.9	-21	6152	No stop
23 28 00	---	17 16 05	40.2	-43.0	6.4		51.4	219	6183	23 24 01
23 28 30	J1037+5711	17 16 35	38.2	-43.0	6.6		48.9	9	6183	23 28 30
23 29 30	---	17 17 35	38.1	-42.9	6.6		48.8	60	6191	23 28 31
23 29 30	P36	17 17 35	39.1	-42.5	6.6		49.9	-16	6191	No stop
23 33 30	---	17 21 36	38.7	-42.0	6.6		49.3	224	6222	23 29 31
23 34 00	J1037+5711	17 22 06	37.6	-42.4	6.7		48.2	13	6222	23 34 00
23 35 00	---	17 23 06	37.5	-42.3	6.7		48.0	60	6230	23 34 01
23 35 00	P49	17 23 06	39.2	-42.9	6.5		50.1	-20	6230	No stop
23 39 00	---	17 27 06	38.8	-42.5	6.6		49.5	220	6261	23 35 01
23 39 30	J1037+5711	17 27 37	37.1	-41.7	6.8		47.4	10	6261	23 39 30
23 40 30	---	17 28 37	37.0	-41.6	6.8		47.2	60	6268	23 39 31
23 40 30	P51	17 28 37	39.0	-42.7	6.6		49.8	-21	6268	No stop
23 44 30	---	17 32 37	38.6	-42.3	6.6		49.2	219	6299	23 40 31
23 45 00	J1037+5711	17 33 07	36.5	-41.1	6.9		46.6	9	6299	23 45 00
23 46 00	---	17 34 08	36.4	-41.0	6.9		46.5	60	6307	23 45 01
23 46 00	P56	17 34 08	37.7	-41.6	6.8		48.0	-18	6307	No stop
23 50 00	---	17 38 08	37.3	-41.2	6.8		47.5	222	6338	23 46 01

```
Schedule for TORUN     (Code Tr )                                  Page  24
              Testing AGN evolution and feedback by combining the ILT and e-MERLIN/EVN
  UP:  D => Below limits;  H => Below horizon mask;  W => still slewing at end;  blank => Up.
  Early: Seconds between end of slew and start.   Dwell: On source seconds.
  Disk: GBytes recorded to this point.
  TPStart:  Recording start time.  Frequencies are LO sum (band edge).
  SYNC: Time correlator is expected to sync up.
-----------------------------------------------------------------------------------------
Start UT  Source               Start / Stop                 Early    Disk   TPStart
Stop UT                  LST      EL    AZ   HA  UP   ParA  Dwell   GBytes    SYNC
-----------------------------------------------------------------------------------------

 --- Mon  30 May 2022   Day 150 ---

23 50 30  J1037+5711   17 38 38  36.0 -40.5  7.0      45.8    12     6338   23 50 30
23 51 30  ---          17 39 38  35.9 -40.3  7.0      45.7    60     6346   23 50 31

23 51 30  P75          17 39 38  37.2 -41.7  6.8      47.5   -18     6346   No stop
23 55 30  ---          17 43 39  36.8 -41.3  6.9      46.9   222     6377   23 51 31

23 56 00  J1037+5711   17 44 09  35.4 -39.8  7.1      45.0    12     6377   23 56 00
23 57 00  ---          17 45 09  35.4 -39.7  7.1      44.9    60     6384   23 56 01

 --- Start: Mon  30 May 2022   Day 150 -- Stop: Tue  31 May 2022   Day 151 ---

23 57 00  P22          17 45 09  37.2 -39.7  6.9      47.0   -21     6384   No stop
00 01 00  ---          17 49 10  36.8 -39.3  7.0      46.5   219     6415   23 57 01

00 01 30  J1037+5711   17 49 40  34.9 -39.2  7.2      44.3     9     6415   00 01 30
00 02 30  ---          17 50 40  34.8 -39.0  7.2      44.1    60     6423   00 01 31

00 02 30  P23          17 50 40  36.8 -39.2  7.0      46.4   -21     6423   No stop
00 06 30  ---          17 54 41  36.4 -38.7  7.1      45.8   219     6454   00 02 31

00 07 00  J1037+5711   17 55 11  34.4 -38.5  7.3      43.5     9     6454   00 07 00
00 08 00  ---          17 56 11  34.3 -38.4  7.3      43.3    60     6462   00 07 01

00 08 00  P36          17 56 11  35.3 -38.1  7.2      44.3   -16     6462   No stop
00 12 00  ---          18 00 12  35.0 -37.6  7.3      43.8   224     6492   00 08 01

00 12 30  J1037+5711   18 00 42  33.9 -37.8  7.4      42.7    13     6492   00 12 30
00 13 30  ---          18 01 42  33.8 -37.7  7.4      42.6    60     6500   00 12 31

00 13 30  P49          18 01 42  35.4 -38.6  7.2      44.6   -19     6500   No stop
00 17 30  ---          18 05 43  35.0 -38.1  7.2      44.0   221     6531   00 13 31

00 18 00  J1037+5711   18 06 13  33.4 -37.2  7.5      41.9    10     6531   00 18 00
00 19 00  ---          18 07 13  33.3 -37.1  7.5      41.8    60     6539   00 18 01

00 19 00  P51          18 07 13  35.2 -38.3  7.2      44.3   -21     6539   No stop
00 23 00  ---          18 11 14  34.8 -37.9  7.3      43.7   219     6570   00 19 01

00 23 30  J1037+5711   18 11 44  32.9 -36.5  7.5      41.1     9     6570   00 23 30
00 24 30  ---          18 12 44  32.8 -36.4  7.6      41.0    60     6577   00 23 31

00 24 30  P56          18 12 44  34.0 -37.1  7.4      42.5   -17     6577   No stop
00 28 30  ---          18 16 45  33.6 -36.6  7.5      41.9   223     6608   00 24 31
```

```
Schedule for TORUN     (Code Tr )                                  Page  25
               Testing AGN evolution and feedback by combining the ILT and e-MERLIN/EVN
  UP:  D => Below limits;  H => Below horizon mask;  W => still slewing at end;  blank => Up.
  Early: Seconds between end of slew and start.   Dwell: On source seconds.
  Disk: GBytes recorded to this point.
  TPStart:  Recording start time.  Frequencies are LO sum (band edge).
  SYNC: Time correlator is expected to sync up.
-----------------------------------------------------------------------------------------
Start UT  Source               Start / Stop                 Early    Disk   TPStart
Stop UT                  LST      EL    AZ   HA  UP   ParA  Dwell   GBytes    SYNC
-----------------------------------------------------------------------------------------

 --- Tue  31 May 2022   Day 151 ---

00 29 00  J1037+5711   18 17 15  32.4 -35.8  7.6      40.3    12     6608   00 29 00
00 30 00  ---          18 18 15  32.3 -35.7  7.7      40.2    60     6616   00 29 01

00 30 00  P75          18 18 15  33.5 -37.2  7.4      42.0   -17     6616   No stop
00 34 00  ---          18 22 15  33.1 -36.7  7.5      41.5   223     6647   00 30 01

00 34 30  J1037+5711   18 22 46  31.9 -35.2  7.7      39.5    12     6647   00 34 30
00 35 30  ---          18 23 46  31.8 -35.0  7.7      39.4    60     6655   00 34 31

00 35 30  P22          18 23 46  33.7 -35.3  7.6      41.4   -21     6655   No stop
00 39 30  ---          18 27 46  33.4 -34.8  7.6      40.8   219     6686   00 35 31

00 40 00  J1037+5711   18 28 16  31.4 -34.5  7.8      38.7     9     6686   00 40 00
00 41 00  ---          18 29 17  31.4 -34.4  7.8      38.6    60     6693   00 40 01

00 41 00  P23          18 29 17  33.3 -34.7  7.7      40.7   -21     6693   No stop
00 45 00  ---          18 33 17  32.9 -34.2  7.7      40.1   219     6724   00 41 01

00 45 30  J1037+5711   18 33 47  31.0 -33.8  7.9      37.9     9     6724   00 45 30
00 46 30  ---          18 34 48  30.9 -33.7  7.9      37.8    60     6732   00 45 31

00 46 30  P36          18 34 48  31.9 -33.5  7.9      38.7   -17     6732   No stop
00 50 30  ---          18 38 48  31.6 -33.0  7.9      38.1   223     6763   00 46 31

00 51 00  J1037+5711   18 39 18  30.5 -33.1  8.0      37.1    13     6763   00 51 00
00 52 00  ---          18 40 18  30.4 -33.0  8.0      37.0    60     6771   00 51 01

00 52 00  P49          18 40 18  32.0 -34.0  7.8      39.0   -19     6771   No stop
00 56 00  ---          18 44 19  31.6 -33.5  7.9      38.4   221     6802   00 52 01

00 56 30  J1037+5711   18 44 49  30.1 -32.4  8.1      36.3    11     6802   00 56 30
00 57 30  ---          18 45 49  30.0 -32.3  8.1      36.2    60     6809   00 56 31

00 57 30  P51          18 45 49  31.8 -33.7  7.9      38.7   -20     6809   No stop
01 01 30  ---          18 49 50  31.5 -33.2  7.9      38.1   220     6840   00 57 31

01 02 00  J1037+5711   18 50 20  29.6 -31.7  8.2      35.5    10     6840   01 02 00
01 03 00  ---          18 51 20  29.6 -31.6  8.2      35.4    60     6848   01 02 01

01 03 00  P56          18 51 20  30.7 -32.4  8.0      36.9   -17     6848   No stop
01 07 00  ---          18 55 21  30.4 -31.9  8.1      36.3   223     6879   01 03 01

01 07 30  J1037+5711   18 55 51  29.2 -31.0  8.3      34.7    13     6879   01 07 30
01 08 30  ---          18 56 51  29.1 -30.9  8.3      34.5    60     6887   01 07 31
```

Schedule for TORUN (Code Tr) Page 26

Testing AGN evolution and feedback by combining the ILT and e-MERLIN/EVN

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT	Source	Start / Stop						Early	Disk	TPStart
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC
--- Tue 31 May 2022 Day 151 ---										
01 08 30	P75	18 56 51	30.2	-32.4	8.1		36.4	-17	6887	No stop
01 12 30	---	19 00 52	29.9	-31.9	8.2		35.8	223	6918	01 08 31
01 13 00	J1037+5711	19 01 22	28.8	-30.3	8.4		33.9	13	6918	01 13 00
01 14 00	---	19 02 22	28.7	-30.2	8.4		33.7	60	6925	01 13 01
01 14 00	P22	19 02 22	30.5	-30.6	8.2		35.7	-21	6925	No stop
01 18 00	---	19 06 23	30.2	-30.1	8.3		35.1	219	6956	01 14 01
01 18 30	J1037+5711	19 06 53	28.4	-29.6	8.5		33.1	9	6956	01 18 30
01 19 30	---	19 07 53	28.3	-29.4	8.5		32.9	60	6964	01 18 31
01 19 30	P23	19 07 53	30.2	-30.0	8.3		35.0	-21	6964	No stop
01 23 30	---	19 11 54	29.9	-29.5	8.4		34.4	219	6995	01 19 31
01 24 00	J1037+5711	19 12 24	28.0	-28.9	8.6		32.2	9	6995	01 24 00
01 25 00	---	19 13 24	27.9	-28.7	8.6		32.1	60	7003	01 24 01
01 25 00	P36	19 13 24	28.9	-28.7	8.5		32.9	-17	7003	No stop
01 29 00	---	19 17 25	28.6	-28.2	8.6		32.3	223	7034	01 25 01
01 29 30	J1037+5711	19 17 55	27.6	-28.1	8.6		31.4	13	7034	01 29 30
01 30 30	---	19 18 55	27.5	-28.0	8.7		31.3	60	7041	01 29 31
01 30 30	P49	19 18 55	28.9	-29.1	8.5		33.2	-19	7041	No stop
01 34 30	---	19 22 55	28.6	-28.6	8.5		32.6	221	7072	01 30 31
01 35 00	J1037+5711	19 23 25	27.2	-27.4	8.7		30.6	11	7072	01 35 00
01 36 00	---	19 24 26	27.1	-27.3	8.8		30.4	60	7080	01 35 01
01 36 00	P51	19 24 26	28.8	-28.9	8.5		32.9	-20	7080	No stop
01 40 00	---	19 28 26	28.5	-28.4	8.6		32.3	220	7111	01 36 01
01 40 30	J1037+5711	19 28 56	26.8	-26.7	8.8		29.8	10	7111	01 40 30
01 41 30	---	19 29 57	26.7	-26.6	8.8		29.6	60	7119	01 40 31
01 41 30	P56	19 29 57	27.8	-27.5	8.7		31.1	-17	7119	No stop
01 45 30	---	19 33 57	27.5	-27.0	8.8		30.5	223	7149	01 41 31
01 46 00	J1037+5711	19 34 27	26.4	-26.0	8.9		28.9	13	7149	01 46 00
01 47 00	---	19 35 27	26.4	-25.8	8.9		28.8	60	7157	01 46 01
01 47 00	P75	19 35 27	27.3	-27.5	8.7		30.7	-16	7157	No stop
01 51 00	---	19 39 28	27.0	-26.9	8.8		30.1	224	7188	01 47 01

Schedule for TORUN (Code Tr) Page 27

Testing AGN evolution and feedback by combining the ILT and e-MERLIN/EVN

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	LST	Start / Stop EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Tue 31 May 2022 Day 151 ---										
01 51 30	J1037+5711	19 39 58	26.1	-25.2	9.0		28.1	13	7188	01 51 30
01 52 30	---	19 40 58	26.0	-25.1	9.0		28.0	60	7196	01 51 31
01 52 30	P22	19 40 58	27.8	-25.7	8.9		29.8	-20	7196	No stop
01 56 15	---	19 44 44	27.6	-25.3	8.9		29.2	205	7225	01 52 31
01 56 45	J1037+5711	19 45 14	25.8	-24.5	9.1		27.3	10	7225	01 56 45
01 57 45	---	19 46 14	25.7	-24.4	9.1		27.2	60	7233	01 56 46
01 57 45	P23	19 46 14	27.5	-25.2	8.9		29.1	-21	7233	No stop
02 01 30	---	19 50 00	27.3	-24.7	9.0		28.6	204	7262	01 57 46
02 02 00	J1037+5711	19 50 30	25.4	-23.8	9.2		26.5	9	7262	02 02 00
02 03 00	---	19 51 30	25.4	-23.7	9.2		26.4	60	7269	02 02 01
02 03 00	P36	19 51 30	26.4	-23.8	9.1		27.2	-17	7269	No stop
02 06 45	---	19 55 16	26.2	-23.3	9.2		26.6	208	7298	02 03 01
02 07 15	J1037+5711	19 55 46	25.1	-23.1	9.3		25.7	13	7298	02 07 15
02 08 15	---	19 56 46	25.1	-23.0	9.3		25.6	60	7306	02 07 16
02 08 15	P49	19 56 46	26.4	-24.2	9.1		27.5	-18	7306	No stop
02 12 00	---	20 00 32	26.2	-23.7	9.2		26.9	207	7335	02 08 16
02 12 30	J1037+5711	20 01 02	24.8	-22.4	9.4		24.9	12	7335	02 12 30
02 13 30	---	20 02 02	24.8	-22.3	9.4		24.7	60	7343	02 12 31
02 13 30	P51	20 02 02	26.3	-24.0	9.1		27.2	-19	7343	No stop
02 17 30	---	20 06 02	26.0	-23.5	9.2		26.6	221	7374	02 13 31
02 18 00	J1037+5711	20 06 33	24.5	-21.6	9.5		24.1	11	7374	02 18 00
02 19 00	---	20 07 33	24.4	-21.5	9.5		23.9	60	7381	02 18 01
02 19 00	P56	20 07 33	25.4	-22.5	9.3		25.4	-16	7381	No stop
02 23 00	---	20 11 33	25.2	-22.0	9.4		24.8	224	7412	02 19 01
02 23 30	J1037+5711	20 12 03	24.2	-20.9	9.5		23.2	14	7412	02 23 30
02 24 30	---	20 13 04	24.1	-20.8	9.6		23.1	60	7420	02 23 31
02 24 30	P75	20 13 04	24.9	-22.4	9.4		25.0	-17	7420	No stop
02 28 30	---	20 17 04	24.7	-21.9	9.4		24.4	223	7451	02 24 31
02 29 00	J1037+5711	20 17 34	23.9	-20.1	9.6		22.4	13	7451	02 29 00
02 30 00	---	20 18 35	23.9	-20.0	9.7		22.2	60	7459	02 29 01

SETUP FILE INFORMATION:

```
  NOTE: If DOPPLER, FREQ, or BW were used, see the individual scans for the final BBC settings.


======== Setup file: sess222.L1024

  Setup group:    7         Station: TORUN            Total bit rate:  1024
  Format: VDIF              Bits per sample: 2        Sample rate: 64.000
  Number of channels:  8    DBE type: DBBC_DDC        Speedup factor:   1.00

  Disk used to record data.
```

```
  1st LO=   2300.00   2300.00   2300.00   2300.00   2300.00   2300.00   2300.00   2300.00
  Net SB=         L         L         U         U         L         L         U         U
  IF SB =         L         L         L         L         L         L         L         L
  Pol.  =       RCP       LCP       RCP       LCP       RCP       LCP       RCP       LCP
  BBC   =         1         9         1         9         2        10         2        10
  BBC SB=         U         U         L         L         U         U         L         L
  IF    =        A1        B1        A1        B1        A1        B1        A1        B1

 The following frequency sets based on these setups were used.

  Frequency Set:   8  Setup file default.  Used with PCAL = off
  LO sum=   1626.49  1626.49  1626.49  1626.49  1690.49  1690.49  1690.49  1690.49
  BBC fr=    673.51   673.51   673.51   673.51   609.51   609.51   609.51   609.51
  Bandwd=     32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00
   Matching frequency sets:   8

  Track assignments are:
   track1=   1,  2,  3,  4,  5,  6,  7,  8
   barrel=roll_off
```

POSITIONS OF SOURCES USED IN RECORDING SCANS

```
  Source                          Source position (RA/Dec)                        Error
                      (B1950)             (J2000)             (Date)             (mas)

* P22               10 44 51.700096   * 10 48 00.000000     10 49 23.406156       0.00
                    58 44 54.63913    * 58 29 03.96600      58 22 18.88952        0.00

* P23               10 45 38.374493   * 10 48 46.323100     10 50 09.584241       0.00
                    58 44 55.70239    * 58 29 03.96600      58 22 18.41608        0.00

* P36               10 38 34.075935   * 10 41 44.623400     10 43 08.942028       0.00
                    58 20 41.66552    * 58 05 00.00000      57 58 18.83787        0.00

* P49               10 46 30.030627   * 10 49 36.808000     10 50 59.563416       0.00
                    58 08 50.90899    * 57 52 58.01600      57 46 11.81962        0.00

* P51               10 50 00.663199   * 10 53 05.885300     10 54 27.998724       0.00
                    58 08 55.51797    * 57 52 58.01600      57 46 09.76222        0.00

* P56               10 43 52.327068   * 10 47 00.000000     10 48 23.117686       0.00
                    57 56 45.32716    * 57 40 56.03300      57 34 11.39532        0.00

* P75               10 47 19.987121   * 10 50 25.648500     10 51 47.921639       0.00
                    57 32 46.06530    * 57 16 52.06600      57 10 05.24320        0.00

* J1037+5711        10 34 33.292410   * 10 37 44.307800     10 39 08.786537       0.00
                    57 27 31.17081    * 57 11 55.62900      57 05 16.98550        0.00

* 4C39.25           09 23 55.319216   * 09 27 03.013937     09 28 25.499406       0.31
  J0927+3902        39 15 23.56644    * 39 02 20.85185      38 56 44.62033        0.16
  0923+392          /home/guest/rmc/SCHED/sched11.6/catalogs/sources.gsfc2016
  J0927+39          GSFC 2016a X/S astro solution, 250526 observations.

* 3C345             16 41 17.606229   * 16 42 58.809967     16 43 45.417409       0.79
  J1642+3948        39 54 10.81492    * 39 48 36.99399      39 46 03.99739        0.59
  1641+399          /home/guest/rmc/SCHED/sched11.6/catalogs/sources.gsfc2016
  J1642+39          GSFC 2016a X/S astro solution,  53724 observations.
```

eb096ctr

Environments of localized FRBs: FRB210117

PI: *Shivani Bhandari*

```
Address:  JIVE

Observing mode: VLBI
Schedule for TORUN     (Code Tr )                                   Page   2
               Environments of localized FRBs: FRB210117
  UP:  D => Below limits;  H => Below horizon mask;  W => still slewing at end;  blank => Up.
  Early: Seconds between end of slew and start.   Dwell: On source seconds.
  Disk: GBytes recorded to this point.
  TPStart:  Recording start time.  Frequencies are LO sum (band edge).
  SYNC: Time correlator is expected to sync up.
-----------------------------------------------------------------------------------------
Start UT  Source               Start / Stop                 Early    Disk   TPStart
Stop UT                  LST      EL    AZ   HA  UP   ParA  Dwell   GBytes    SYNC
-----------------------------------------------------------------------------------------
 --- Tue  31 May 2022   Day 151 ---
 Next scan frequencies:  1626.49  1626.49  1626.49  1626.49  1690.49  1690.49  1690.49  1690.49
 Next BBC frequencies:    673.51   673.51   673.51   673.51   609.51   609.51   609.51   609.51
 Next scan bandwidths:     32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00

03 30 00  2216-038     21 18 44  32.0 161.9 -1.0     -10.8     0        0   03 30 00
03 33 30  ---          21 22 15  32.1 162.9 -1.0     -10.2   210       27   03 30 01

03 35 00  J2236-1706   21 23 45  18.1 161.5 -1.2     -11.5    24       27   03 35 00
03 36 00  =2233-173    21 24 45  18.2 161.7 -1.2     -11.4    60       35   03 35 01

03 36 00  FRB210117    21 24 45  18.9 160.6 -1.3     -12.0   -15       35   No stop
03 39 30  ---          21 28 16  19.1 161.5 -1.2     -11.5   195       62   03 36 01

03 39 30  J2236-1706   21 28 16  18.3 162.6 -1.2     -10.8   -15       62   No stop
03 41 00  =2233-173    21 29 46  18.4 163.0 -1.1     -10.6    75       73   03 39 31

03 41 00  FRB210117    21 29 46  19.2 161.8 -1.2     -11.2   -15       73   No stop
03 44 30  ---          21 33 17  19.3 162.7 -1.1     -10.7   195      100   03 41 01

03 45 00  J2236-1706   21 33 47  18.6 164.0 -1.1     -10.0    15      100   03 45 00
03 46 00  =2233-173    21 34 47  18.6 164.2 -1.0      -9.8    60      108   03 45 01

03 46 00  FRB210117    21 34 47  19.4 163.1 -1.1     -10.5   -15      108   No stop
03 49 30  ---          21 38 18  19.6 164.0 -1.0      -9.9   195      135   03 46 01

03 49 30  J2236-1706   21 38 18  18.8 165.1 -1.0      -9.3   -15      135   No stop
03 51 00  =2233-173    21 39 48  18.8 165.5 -1.0      -9.1    75      147   03 49 31

03 51 00  FRB210117    21 39 48  19.6 164.4 -1.0      -9.7   -15      147   No stop
03 54 30  ---          21 43 18  19.8 165.2 -1.0      -9.2   195      174   03 51 01

03 55 00  J2236-1706   21 43 48  19.0 166.5 -0.9      -8.5    15      174   03 55 00
03 56 00  =2233-173    21 44 49  19.0 166.7 -0.9      -8.3    60      182   03 55 01

03 56 00  FRB210117    21 44 49  19.8 165.6 -0.9      -8.9   -15      182   No stop
03 59 30  ---          21 48 19  19.9 166.5 -0.9      -8.4   195      209   03 56 01

03 59 30  J2236-1706   21 48 19  19.1 167.6 -0.8      -7.8   -15      209   No stop
04 01 00  =2233-173    21 49 49  19.2 168.0 -0.8      -7.5    75      220   03 59 31

04 01 00  FRB210117    21 49 49  20.0 166.9 -0.9      -8.2   -16      220   No stop
04 04 30  ---          21 53 20  20.1 167.8 -0.8      -7.6   194      247   04 01 01
```

Schedule for TORUN (Code Tr) Page 3

Environments of localized FRBs: FRB210117

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Tue	31 May 2022	Day 151 ---								
04 05 00	J2236-1706	21 53 50	19.3	169.0	-0.7		-6.9	14	247	04 05 00
04 06 00	=2233-173	21 54 50	19.3	169.2	-0.7		-6.7	60	255	04 05 01
04 06 00	FRB210117	21 54 50	20.2	168.2	-0.8		-7.4	-16	255	No stop
04 09 30	---	21 58 21	20.3	169.0	-0.7		-6.8	194	282	04 06 01
04 09 30	J2236-1706	21 58 21	19.4	170.1	-0.7		-6.2	-16	282	No stop
04 11 00	=2233-173	21 59 51	19.4	170.5	-0.6		-6.0	74	294	04 09 31
04 11 00	FRB210117	21 59 51	20.3	169.4	-0.7		-6.6	-16	294	No stop
04 14 30	---	22 03 22	20.4	170.3	-0.6		-6.0	194	321	04 11 01
04 15 00	J2236-1706	22 03 52	19.5	171.5	-0.6		-5.3	14	321	04 15 00
04 16 00	=2233-173	22 04 52	19.6	171.8	-0.5		-5.2	60	328	04 15 01
04 16 00	J2232-1659	22 04 52	19.8	172.7	-0.5		-4.6	-14	328	No stop
04 19 00	=2229-172	22 07 52	19.8	173.5	-0.4		-4.1	166	352	04 16 01
04 19 30	J2236-1706	22 08 23	19.6	172.6	-0.5		-4.6	16	352	04 19 30
04 20 30	=2233-173	22 09 23	19.7	172.9	-0.5		-4.5	60	359	04 19 31
04 20 30	FRB210117	22 09 23	20.5	171.9	-0.5		-5.1	-16	359	No stop
04 24 00	---	22 12 53	20.6	172.8	-0.5		-4.5	194	386	04 20 31
04 24 00	J2236-1706	22 12 53	19.7	173.8	-0.4		-3.9	-16	386	No stop
04 25 30	=2233-173	22 14 24	19.7	174.2	-0.4		-3.7	74	398	04 24 01
04 25 30	FRB210117	22 14 24	20.6	173.1	-0.4		-4.3	-16	398	No stop
04 29 00	---	22 17 54	20.7	174.0	-0.4		-3.7	194	425	04 25 31
04 29 30	J2236-1706	22 18 24	19.8	175.2	-0.3		-3.0	14	425	04 29 30
04 30 30	=2233-173	22 19 24	19.8	175.4	-0.3		-2.9	60	433	04 29 31
04 30 30	FRB210117	22 19 24	20.7	174.4	-0.4		-3.5	-16	433	No stop
04 34 00	---	22 22 55	20.8	175.3	-0.3		-2.9	194	460	04 30 31
04 34 00	J2236-1706	22 22 55	19.8	176.3	-0.2		-2.3	-16	460	No stop
04 35 30	=2233-173	22 24 25	19.9	176.7	-0.2		-2.1	74	471	04 34 01
04 35 30	FRB210117	22 24 25	20.8	175.7	-0.3		-2.7	-16	471	No stop
04 39 00	---	22 27 56	20.8	176.6	-0.2		-2.1	194	499	04 35 31
04 39 30	J2236-1706	22 28 26	19.9	177.7	-0.1		-1.4	14	499	04 39 30
04 40 30	=2233-173	22 29 26	19.9	178.0	-0.1		-1.3	60	506	04 39 31
04 40 30	FRB210117	22 29 26	20.8	177.0	-0.2		-1.9	-16	506	No stop
04 44 00	---	22 32 57	20.8	177.9	-0.1		-1.3	194	533	04 40 31

Schedule for TORUN (Code Tr) Page 4

Environments of localized FRBs: FRB210117

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	LST	Start / Stop EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Tue 31 May 2022 Day 151 ---										
04 44 00	J2236-1706	22 32 57	19.9	178.9	-0.1		-0.7	-16	533	No stop
04 45 30	=2233-173	22 34 27	19.9	179.3	-0.0		-0.5	74	545	04 44 01
04 45 30	FRB210117	22 34 27	20.9	178.3	-0.1		-1.1	-16	545	No stop
04 49 00	---	22 37 57	20.9	179.2	-0.1		-0.5	194	572	04 45 31
04 49 30	J2236-1706	22 38 27	19.9	180.3	0.0		0.2	14	572	04 49 30
04 50 30	=2233-173	22 39 28	19.9	180.5	0.0		0.3	60	580	04 49 31
04 50 30	FRB210117	22 39 28	20.9	179.6	-0.0		-0.3	-16	580	No stop
04 54 00	---	22 42 58	20.9	180.5	0.0		0.3	194	607	04 50 31
04 54 00	J2236-1706	22 42 58	19.9	181.4	0.1		0.9	-16	607	No stop
04 55 30	=2233-173	22 44 28	19.9	181.8	0.1		1.1	74	618	04 54 01
04 55 30	FRB210117	22 44 28	20.9	180.9	0.1		0.5	-16	618	No stop
04 59 00	---	22 47 59	20.9	181.8	0.1		1.1	194	645	04 55 31
04 59 30	J2236-1706	22 48 29	19.9	182.8	0.2		1.8	14	645	04 59 30
05 00 30	=2233-173	22 49 29	19.9	183.1	0.2		1.9	60	653	04 59 31
05 00 30	J2232-1659	22 49 29	20.0	184.1	0.3		2.5	-14	653	No stop
05 03 30	=2229-172	22 52 30	19.9	184.8	0.3		3.0	166	676	05 00 31
05 04 00	J2236-1706	22 53 00	19.8	184.0	0.3		2.5	16	676	05 04 00
05 05 00	=2233-173	22 54 00	19.8	184.2	0.3		2.7	60	684	05 04 01
05 05 00	FRB210117	22 54 00	20.8	183.3	0.2		2.1	-16	684	No stop
05 08 30	---	22 57 31	20.8	184.2	0.3		2.6	194	711	05 05 01
05 08 30	J2236-1706	22 57 31	19.8	185.1	0.3		3.2	-17	711	No stop
05 10 00	=2233-173	22 59 01	19.8	185.5	0.4		3.5	73	723	05 08 31
05 10 00	FRB210117	22 59 01	20.8	184.6	0.3		2.9	-17	723	No stop
05 13 30	---	23 02 31	20.7	185.5	0.4		3.4	193	750	05 10 01
05 14 00	J2236-1706	23 03 01	19.7	186.5	0.4		4.1	13	750	05 14 00
05 15 00	=2233-173	23 04 02	19.7	186.8	0.4		4.2	60	757	05 14 01
05 15 00	FRB210117	23 04 02	20.7	185.9	0.4		3.7	-17	757	No stop
05 18 30	---	23 07 32	20.6	186.8	0.4		4.2	193	785	05 15 01
05 18 30	J2236-1706	23 07 32	19.6	187.7	0.5		4.8	-17	785	No stop
05 20 00	=2233-173	23 09 02	19.6	188.0	0.5		5.0	73	796	05 18 31

Schedule for TORUN (Code Tr) Page 5

Environments of localized FRBs: FRB210117

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	LST	Start / Stop EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Tue 31 May 2022 Day 151 ---										
05 20 00	FRB210117	23 09 02	20.6	187.2	0.5		4.5	-17	796	No stop
05 23 30	---	23 12 33	20.5	188.1	0.5		5.0	193	823	05 20 01
05 24 00	J2236-1706	23 13 03	19.5	189.1	0.6		5.7	13	823	05 24 00
05 25 00	=2233-173	23 14 03	19.5	189.3	0.6		5.8	60	831	05 24 01
05 25 00	FRB210117	23 14 03	20.5	188.5	0.5		5.3	-17	831	No stop
05 28 30	---	23 17 34	20.4	189.4	0.6		5.8	193	858	05 25 01
05 28 30	J2236-1706	23 17 34	19.4	190.2	0.7		6.4	-17	858	No stop
05 30 00	=2233-173	23 19 04	19.3	190.6	0.7		6.6	73	870	05 28 31
05 30 00	FRB210117	23 19 04	20.4	189.7	0.6		6.1	-17	870	No stop
05 33 30	---	23 22 35	20.3	190.6	0.7		6.6	193	897	05 30 01
05 34 00	J2236-1706	23 23 05	19.2	191.6	0.8		7.2	13	897	05 34 00
05 35 00	=2233-173	23 24 05	19.2	191.8	0.8		7.4	60	904	05 34 01
05 35 00	FRB210117	23 24 05	20.3	191.0	0.7		6.9	-17	904	No stop
05 38 30	---	23 27 35	20.1	191.9	0.8		7.4	193	931	05 35 01
05 38 30	J2236-1706	23 27 35	19.1	192.7	0.8		7.9	-17	931	No stop
05 40 00	=2233-173	23 29 06	19.0	193.1	0.9		8.2	73	943	05 38 31
05 40 00	FRB210117	23 29 06	20.1	192.3	0.8		7.6	-17	943	No stop
05 43 30	---	23 32 36	20.0	193.2	0.9		8.2	193	970	05 40 01
05 44 00	J2236-1706	23 33 06	18.9	194.1	0.9		8.8	13	970	05 44 00
05 45 00	=2233-173	23 34 07	18.8	194.3	0.9		8.9	60	978	05 44 01
05 45 00	FRB210117	23 34 07	19.9	193.6	0.9		8.4	-17	978	No stop
05 48 30	---	23 37 37	19.8	194.4	0.9		9.0	193	1005	05 45 01
05 48 30	J2236-1706	23 37 37	18.7	195.2	1.0		9.5	-17	1005	No stop
05 50 00	=2233-173	23 39 07	18.7	195.6	1.0		9.7	73	1016	05 48 31
05 50 00	FRB210117	23 39 07	19.7	194.8	1.0		9.2	-17	1016	No stop
05 53 30	---	23 42 38	19.6	195.7	1.0		9.7	193	1043	05 50 01
05 54 00	J2236-1706	23 43 08	18.5	196.6	1.1		10.3	13	1043	05 54 00
05 55 00	=2233-173	23 44 08	18.4	196.8	1.1		10.5	60	1051	05 54 01
05 55 00	J2232-1659	23 44 08	18.4	197.8	1.2		11.1	-14	1051	No stop
05 58 00	=2229-172	23 47 09	18.3	198.5	1.2		11.5	166	1074	05 55 01

Schedule for TORUN (Code Tr) Page 6

Environments of localized FRBs: FRB210117

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	LST	Start / Stop EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Tue 31 May 2022 Day 151 ---										
05 58 30	J2236-1706	23 47 39	18.3	197.7	1.2		11.0	16	1074	05 58 30
05 59 30	=2233-173	23 48 39	18.2	198.0	1.2		11.2	60	1082	05 58 31
05 59 30	FRB210117	23 48 39	19.4	197.2	1.1		10.7	-17	1082	No stop
06 03 00	---	23 52 10	19.2	198.1	1.2		11.2	193	1109	05 59 31
06 03 00	J2236-1706	23 52 10	18.1	198.8	1.2		11.7	-17	1109	No stop
06 04 30	=2233-173	23 53 40	18.0	199.2	1.3		11.9	73	1121	06 03 01
06 04 30	FRB210117	23 53 40	19.1	198.5	1.2		11.4	-17	1121	No stop
06 08 00	---	23 57 10	18.9	199.3	1.3		11.9	193	1148	06 04 31
06 08 30	J2236-1706	23 57 40	17.8	200.2	1.3		12.5	13	1148	06 08 30
06 09 30	=2233-173	23 58 41	17.7	200.4	1.4		12.7	60	1156	06 08 31
06 09 30	FRB210117	23 58 41	18.9	199.7	1.3		12.2	-17	1156	No stop
06 13 00	---	00 02 11	18.7	200.6	1.4		12.7	193	1183	06 09 31
06 13 00	J2236-1706	00 02 11	17.6	201.3	1.4		13.2	-17	1183	No stop
06 14 30	=2233-173	00 03 41	17.5	201.6	1.4		13.4	73	1194	06 13 01
06 14 30	FRB210117	00 03 41	18.6	201.0	1.4		12.9	-17	1194	No stop
06 18 00	---	00 07 12	18.4	201.8	1.4		13.4	193	1221	06 14 31
06 18 30	J2236-1706	00 07 42	17.3	202.6	1.5		14.0	13	1221	06 18 30
06 19 30	=2233-173	00 08 42	17.2	202.9	1.5		14.1	60	1229	06 18 31
06 19 30	FRB210117	00 08 42	18.3	202.2	1.5		13.6	-17	1229	No stop
06 23 00	---	00 12 13	18.1	203.1	1.5		14.2	193	1256	06 19 31
06 23 00	J2236-1706	00 12 13	17.0	203.7	1.6		14.6	-17	1256	No stop
06 24 30	=2233-173	00 13 43	16.9	204.1	1.6		14.8	73	1268	06 23 01
06 24 30	FRB210117	00 13 43	18.0	203.4	1.5		14.4	-17	1268	No stop
06 28 00	---	00 17 14	17.8	204.3	1.6		14.9	193	1295	06 24 31
06 28 30	J2236-1706	00 17 44	16.6	205.0	1.7		15.4	13	1295	06 28 30
06 29 30	=2233-173	00 18 44	16.6	205.3	1.7		15.6	60	1302	06 28 31
06 29 30	FRB210117	00 18 44	17.7	204.6	1.6		15.1	-17	1302	No stop
06 33 00	---	00 22 14	17.5	205.5	1.7		15.6	193	1329	06 29 31
06 33 00	J2236-1706	00 22 14	16.4	206.1	1.7		16.1	-18	1329	No stop
06 34 30	=2233-173	00 23 45	16.2	206.5	1.8		16.3	72	1341	06 33 01

Schedule for TORUN (Code Tr) Page 7

Environments of localized FRBs: FRB210117

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Tue 31 May 2022 Day 151 ---										
06 34 30	FRB210117	00 23 45	17.4	205.9	1.7		15.8	-17	1341	No stop
06 38 00	---	00 27 15	17.2	206.7	1.8		16.3	193	1368	06 34 31
06 38 30	J2236-1706	00 27 45	16.0	207.4	1.8		16.8	12	1368	06 38 30
06 39 30	=2233-173	00 28 46	15.9	207.7	1.9		17.0	60	1376	06 38 31
06 39 30	J2232-1659	00 28 46	15.8	208.6	1.9		17.5	-14	1376	No stop
06 42 30	=2229-172	00 31 46	15.5	209.3	2.0		17.9	166	1399	06 39 31
06 43 00	J2236-1706	00 32 16	15.7	208.5	1.9		17.4	17	1399	06 43 00
06 44 00	=2233-173	00 33 16	15.6	208.8	1.9		17.6	60	1407	06 43 01
06 44 00	FRB210117	00 33 16	16.8	208.2	1.9		17.1	-17	1407	No stop
06 47 30	---	00 36 47	16.5	209.0	1.9		17.6	193	1434	06 44 01
06 47 30	J2236-1706	00 36 47	15.3	209.6	2.0		18.1	-18	1434	No stop
06 49 00	=2233-173	00 38 17	15.2	209.9	2.0		18.3	72	1445	06 47 31
06 49 00	FRB210117	00 38 17	16.4	209.4	2.0		17.8	-17	1445	No stop
06 52 30	---	00 41 48	16.1	210.2	2.0		18.3	193	1472	06 49 01
06 53 00	J2236-1706	00 42 18	14.9	210.9	2.1		18.8	12	1472	06 53 00
06 54 00	=2233-173	00 43 18	14.8	211.1	2.1		18.9	60	1480	06 53 01
06 54 00	FRB210117	00 43 18	16.0	210.5	2.0		18.5	-18	1480	No stop
06 57 30	---	00 46 48	15.8	211.4	2.1		19.0	192	1507	06 54 01
06 57 30	J2236-1706	00 46 48	14.6	211.9	2.2		19.4	-18	1507	No stop
06 59 00	=2233-173	00 48 19	14.4	212.3	2.2		19.6	72	1519	06 57 31
06 59 00	FRB210117	00 48 19	15.6	211.7	2.1		19.2	-18	1519	No stop
07 02 30	---	00 51 49	15.4	212.6	2.2		19.6	192	1546	06 59 01
07 03 00	J2236-1706	00 52 19	14.1	213.2	2.2		20.1	12	1546	07 03 00
07 04 00	=2233-173	00 53 20	14.0	213.4	2.3		20.2	60	1554	07 03 01
07 04 00	FRB210117	00 53 20	15.2	212.9	2.2		19.8	-18	1554	No stop
07 07 30	---	00 56 50	14.9	213.7	2.3		20.3	192	1581	07 04 01
07 07 30	J2236-1706	00 56 50	13.7	214.3	2.3		20.7	-18	1581	No stop
07 09 00	=2233-173	00 58 20	13.6	214.6	2.3		20.9	72	1592	07 07 31
07 09 00	FRB210117	00 58 20	14.8	214.1	2.3		20.5	-18	1592	No stop
07 12 30	---	01 01 51	14.5	214.9	2.3		20.9	192	1619	07 09 01

```
Schedule for TORUN     (Code Tr )                                Page   8
               Environments of localized FRBs: FRB210117
  UP:  D => Below limits;  H => Below horizon mask;  W => still slewing at end;  blank => Up.
  Early: Seconds between end of slew and start.   Dwell: On source seconds.
  Disk: GBytes recorded to this point.
  TPStart:  Recording start time.  Frequencies are LO sum (band edge).
  SYNC: Time correlator is expected to sync up.
-------------------------------------------------------------------------------------------
Start UT  Source               Start / Stop                 Early    Disk   TPStart
Stop UT                  LST      EL    AZ   HA  UP   ParA  Dwell   GBytes    SYNC
-------------------------------------------------------------------------------------------

 --- Tue  31 May 2022   Day 151 ---

07 13 00  J2236-1706   01 02 21  13.3 215.5  2.4      21.4    12     1619   07 13 00
07 14 00  =2233-173    01 03 21  13.2 215.8  2.4      21.5    60     1627   07 13 01

07 14 00  FRB210117    01 03 21  14.4 215.2  2.4      21.1   -18     1627   No stop
07 17 30  ---          01 06 52  14.1 216.1  2.4      21.6   192     1654   07 14 01

07 17 30  J2236-1706   01 06 52  12.9 216.6  2.5      22.0   -18     1654   No stop
07 19 00  =2233-173    01 08 22  12.7 216.9  2.5      22.1    72     1666   07 17 31

07 19 00  FRB210117    01 08 22  14.0 216.4  2.5      21.8   -18     1666   No stop
07 22 30  ---          01 11 53  13.6 217.2  2.5      22.2   192     1693   07 19 01

07 23 00  J2236-1706   01 12 23  12.4 217.8  2.6      22.6    12     1693   07 23 00
07 24 00  =2233-173    01 13 23  12.3 218.0  2.6      22.8    60     1700   07 23 01

07 26 30  0119+115     01 15 53  48.8 177.4 -0.1      -1.6    -1     1700   07 26 30
07 30 00  ---          01 19 24  48.8 178.7 -0.1      -0.8   209     1727   07 26 31



SETUP FILE INFORMATION:
   NOTE: If DOPPLER, FREQ, or BW were used, see the individual scans for the final BBC settings.


 ======== Setup file: sess222.L1024

   Setup group:    8         Station: TORUN            Total bit rate:  1024
   Format: VDIF              Bits per sample: 2        Sample rate: 64.000
   Number of channels:  8    DBE type: DBBC_DDC        Speedup factor:   1.00

   Disk used to record data.
```

```
 1st LO=   2300.00   2300.00   2300.00   2300.00   2300.00   2300.00   2300.00   2300.00
 Net SB=         L         L         U         U         L         L         U         U
 IF SB =         L         L         L         L         L         L         L         L
 Pol.  =       RCP       LCP       RCP       LCP       RCP       LCP       RCP       LCP
 BBC   =         1         9         1         9         2        10         2        10
 BBC SB=         U         U         L         L         U         U         L         L
 IF    =        A1        B1        A1        B1        A1        B1        A1        B1

The following frequency sets based on these setups were used.

 Frequency Set:   8  Setup file default.  Used with PCAL = off
 LO sum=   1626.49  1626.49  1626.49  1626.49  1690.49  1690.49  1690.49  1690.49
 BBC fr=    673.51   673.51   673.51   673.51   609.51   609.51   609.51   609.51
 Bandwd=     32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00
  Matching frequency sets:   8

 Track assignments are:
  track1=   1,  2,  3,  4,  5,  6,  7,  8
  barrel=roll_off
```

POSITIONS OF SOURCES USED IN RECORDING SCANS

```
  Source                          Source position (RA/Dec)                        Error
                       (B1950)             (J2000)             (Date)             (mas)

* FRB210117          22 37 14.464652   * 22 39 55.030000     22 41 06.080218       0.00
                    -16 24 44.67151    *-16 09 05.01000     -16 02 06.91131        0.00

  2233-173           22 33 28.216831   * 22 36 09.522777     22 37 20.922924       0.12
* J2236-1706        -17 21 55.78600    *-17 06 21.97327     -16 59 26.14912        0.15
                     rfc_2022a Petrov and Kovalev, in preparation  482 observations

  2229-172           22 29 40.999953   * 22 32 22.564567     22 33 34.100219       0.13
* J2232-1659        -17 14 29.56539    *-16 59 01.89181     -16 52 08.84975        0.16
                     rfc_2022a Petrov and Kovalev, in preparation  496 observations

* 0119+115           01 19 03.080126   * 01 21 41.595043     01 22 50.881706       0.00
  J0121+1149         11 34 09.31522    * 11 49 50.41321      11 56 41.49809        0.01
  J0121+11           /home/guest/rmc/SCHED/sched11.6/catalogs/sources.gsfc
                     GSFC 2016a X/S astro solution,  62476 observations.

* 2216-038           22 16 16.381734   * 22 18 52.037723     22 20 01.012272       0.01
  J2218-0335        -03 50 40.62449    *-03 35 36.87957     -03 28 59.25006        0.02
  J2218-03           /home/guest/rmc/SCHED/sched11.6/catalogs/sources.gsfc
                     GSFC 2016a X/S astro solution,  11059 observations.
```

eb089ctr

EB089 third epoch WX UMa Astrometry

PI: *Paul Boven*

```
Address:  JIVE

Observing mode:
Schedule for TORUN     (Code Tr )                                  Page   2
               EB089 third epoch WX UMa Astrometry
  UP:  D => Below limits;  H => Below horizon mask;  W => still slewing at end;  blank => Up.
  Early: Seconds between end of slew and start.   Dwell: On source seconds.
  Disk: GBytes recorded to this point.
  TPStart:  Recording start time.  Frequencies are LO sum (band edge).
  SYNC: Time correlator is expected to sync up.
-----------------------------------------------------------------------------------------
Start UT  Source                Start / Stop                 Early    Disk   TPStart
Stop UT                  LST      EL    AZ   HA  UP   ParA  Dwell   GBytes    SYNC
-----------------------------------------------------------------------------------------
 --- Tue  31 May 2022   Day 151 ---
 Next scan frequencies:  1626.49  1626.49  1626.49  1626.49  1690.49  1690.49  1690.49  1690.49
 Next BBC frequencies:    673.51   673.51   673.51   673.51   609.51   609.51   609.51   609.51
 Next scan bandwidths:     32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00

11 30 00  WXUMA        05 20 03  35.1  62.4 -5.8     -47.1     0        0   11 30 00
11 32 00  ---          05 22 04  35.4  62.7 -5.7     -47.3   120       15   11 30 01

11 32 20  J1108+4330   05 22 24  35.0  62.3 -5.8     -47.1     8       15   11 32 20
11 34 00  =1105+437    05 24 04  35.2  62.6 -5.8     -47.2   100       28   11 32 21

11 34 00  J1058+4304   05 24 04  36.3  64.6 -5.6     -47.8   -18       28   No stop
11 36 00  =1055+433    05 26 04  36.6  64.9 -5.6     -48.0   102       44   11 34 01

11 36 00  WXUMA        05 26 04  35.9  63.3 -5.7     -47.6   -16       44   No stop
11 38 00  ---          05 28 05  36.2  63.6 -5.6     -47.8   104       59   11 36 01

11 38 00  J1108+4330   05 28 05  35.8  63.2 -5.7     -47.5   -12       59   No stop
11 40 00  =1105+437    05 30 05  36.0  63.5 -5.7     -47.7   108       75   11 38 01

11 40 00  J1110+4403   05 30 05  36.1  62.6 -5.7     -47.8   -13       75   No stop
11 42 00  =1107+443    05 32 05  36.3  62.9 -5.7     -48.0   107       90   11 40 01

11 42 00  WXUMA        05 32 05  36.7  64.2 -5.6     -48.1   -15       90   No stop
11 44 00  ---          05 34 06  37.0  64.6 -5.5     -48.3   105      106   11 42 01

11 44 20  J1108+4330   05 34 26  36.6  64.2 -5.6     -48.1     8      106   11 44 20
11 46 00  =1105+437    05 36 06  36.8  64.4 -5.6     -48.2   100      119   11 44 21

11 46 00  J1058+4304   05 36 06  38.0  66.4 -5.4     -48.8   -18      119   No stop
11 48 00  =1055+433    05 38 06  38.2  66.7 -5.4     -48.9   102      134   11 46 01

11 48 00  WXUMA        05 38 06  37.5  65.2 -5.5     -48.6   -16      134   No stop
11 50 00  ---          05 40 07  37.8  65.5 -5.4     -48.8   104      149   11 48 01

11 50 00  J1108+4330   05 40 07  37.4  65.0 -5.5     -48.5   -12      149   No stop
11 52 00  =1105+437    05 42 07  37.7  65.3 -5.5     -48.7   108      165   11 50 01

11 52 00  J1110+4403   05 42 07  37.7  64.4 -5.5     -48.8   -13      165   No stop
11 54 00  =1107+443    05 44 07  38.0  64.7 -5.5     -49.0   107      180   11 52 01

11 54 00  WXUMA        05 44 07  38.4  66.1 -5.4     -49.1   -15      180   No stop
11 56 00  ---          05 46 08  38.6  66.4 -5.3     -49.2   105      196   11 54 01
```

Schedule for TORUN (Code Tr) Page 3

EB089 third epoch WX UMa Astrometry

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Tue	31 May 2022	Day 151 ---								
11 56 20	J1108+4330	05 46 28	38.3	66.0	-5.4		-49.0	8	196	11 56 20
11 58 00	=1105+437	05 48 08	38.5	66.2	-5.4		-49.1	100	209	11 56 21
11 58 00	J1058+4304	05 48 08	39.6	68.2	-5.2		-49.6	-18	209	No stop
12 00 00	=1055+433	05 50 08	39.9	68.5	-5.2		-49.8	102	224	11 58 01
12 00 00	WXUMA	05 50 08	39.2	67.0	-5.3		-49.5	-16	224	No stop
12 02 00	---	05 52 08	39.5	67.3	-5.2		-49.7	104	240	12 00 01
12 02 00	J1108+4330	05 52 08	39.0	66.8	-5.3		-49.5	-12	240	No stop
12 04 00	=1105+437	05 54 09	39.3	67.1	-5.3		-49.6	108	255	12 02 01
12 04 00	J1110+4403	05 54 09	39.3	66.3	-5.3		-49.8	-13	255	No stop
12 06 00	=1107+443	05 56 09	39.6	66.6	-5.3		-49.9	107	271	12 04 01
12 06 00	WXUMA	05 56 09	40.0	67.9	-5.2		-50.0	-15	271	No stop
12 08 00	---	05 58 09	40.3	68.2	-5.1		-50.1	105	286	12 06 01
12 08 20	J1108+4330	05 58 30	39.9	67.8	-5.2		-49.9	8	286	12 08 20
12 10 00	=1105+437	06 00 10	40.2	68.1	-5.2		-50.1	100	299	12 08 21
12 10 00	J1058+4304	06 00 10	41.3	70.1	-5.0		-50.5	-18	299	No stop
12 12 00	=1055+433	06 02 10	41.6	70.4	-5.0		-50.6	102	314	12 10 01
12 12 00	WXUMA	06 02 10	40.9	68.8	-5.1		-50.4	-16	314	No stop
12 14 00	---	06 04 10	41.1	69.1	-5.0		-50.6	104	330	12 12 01
12 14 00	J1108+4330	06 04 10	40.7	68.7	-5.1		-50.3	-12	330	No stop
12 16 00	=1105+437	06 06 11	41.0	69.0	-5.1		-50.5	108	345	12 14 01
12 16 00	J1110+4403	06 06 11	41.0	68.1	-5.1		-50.7	-13	345	No stop
12 18 00	=1107+443	06 08 11	41.3	68.4	-5.1		-50.8	107	361	12 16 01
12 18 00	WXUMA	06 08 11	41.7	69.7	-5.0		-50.8	-16	361	No stop
12 20 00	---	06 10 11	42.0	70.1	-4.9		-51.0	104	376	12 18 01
12 20 20	J1108+4330	06 10 32	41.6	69.7	-5.0		-50.8	8	376	12 20 20
12 22 00	=1105+437	06 12 12	41.8	69.9	-5.0		-50.9	100	389	12 20 21
12 22 00	J1058+4304	06 12 12	43.0	72.0	-4.8		-51.3	-18	389	No stop
12 24 00	=1055+433	06 14 12	43.3	72.3	-4.8		-51.4	102	404	12 22 01
12 24 00	WXUMA	06 14 12	42.6	70.7	-4.9		-51.3	-16	404	No stop
12 26 00	---	06 16 12	42.8	71.0	-4.8		-51.4	104	420	12 24 01
12 26 00	J1108+4330	06 16 12	42.4	70.5	-4.9		-51.2	-12	420	No stop
12 28 00	=1105+437	06 18 13	42.7	70.8	-4.9		-51.3	108	435	12 26 01

Schedule for TORUN (Code Tr) Page 4

EB089 third epoch WX UMa Astrometry

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Tue 31 May 2022 Day 151 ---										
12 28 00	J1110+4403	06 18 13	42.7	69.9	-4.9		-51.5	-14	435	No stop
12 30 00	=1107+443	06 20 13	43.0	70.2	-4.9		-51.7	106	451	12 28 01
12 30 00	WXUMA	06 20 13	43.4	71.6	-4.8		-51.7	-16	451	No stop
12 32 00	---	06 22 13	43.7	71.9	-4.7		-51.8	104	466	12 30 01
12 32 20	J1108+4330	06 22 33	43.3	71.5	-4.8		-51.6	8	466	12 32 20
12 34 00	=1105+437	06 24 14	43.5	71.8	-4.8		-51.7	100	479	12 32 21
12 34 00	J1058+4304	06 24 14	44.8	73.9	-4.6		-52.0	-18	479	No stop
12 36 00	=1055+433	06 26 14	45.0	74.2	-4.6		-52.1	102	495	12 34 01
12 36 00	WXUMA	06 26 14	44.3	72.5	-4.7		-52.0	-16	495	No stop
12 38 00	---	06 28 14	44.6	72.8	-4.6		-52.2	104	510	12 36 01
12 38 00	J1108+4330	06 28 14	44.1	72.4	-4.7		-52.0	-13	510	No stop
12 40 00	=1105+437	06 30 15	44.4	72.7	-4.7		-52.1	107	526	12 38 01
12 40 00	J1110+4403	06 30 15	44.4	71.7	-4.7		-52.4	-14	526	No stop
12 42 00	=1107+443	06 32 15	44.7	72.0	-4.7		-52.5	106	541	12 40 01
12 42 00	WXUMA	06 32 15	45.1	73.5	-4.6		-52.4	-16	541	No stop
12 44 00	---	06 34 15	45.4	73.8	-4.5		-52.5	104	556	12 42 01
12 44 20	J1108+4330	06 34 35	45.0	73.4	-4.6		-52.4	7	556	12 44 20
12 46 00	=1105+437	06 36 16	45.3	73.6	-4.6		-52.5	100	569	12 44 21
12 46 00	J1058+4304	06 36 16	46.5	75.8	-4.4		-52.7	-18	569	No stop
12 48 00	=1055+433	06 38 16	46.8	76.1	-4.4		-52.8	102	585	12 46 01
12 48 00	WXUMA	06 38 16	46.0	74.4	-4.5		-52.8	-17	585	No stop
12 50 00	---	06 40 16	46.3	74.7	-4.4		-52.9	103	600	12 48 01
12 50 00	J1108+4330	06 40 16	45.8	74.3	-4.5		-52.7	-13	600	No stop
12 52 00	=1105+437	06 42 17	46.1	74.6	-4.5		-52.8	107	616	12 50 01
12 52 00	J1110+4403	06 42 17	46.1	73.6	-4.5		-53.1	-14	616	No stop
12 54 00	=1107+443	06 44 17	46.4	73.9	-4.5		-53.3	106	631	12 52 01
12 54 00	WXUMA	06 44 17	46.9	75.4	-4.4		-53.1	-16	631	No stop
12 56 00	---	06 46 17	47.2	75.7	-4.3		-53.2	104	647	12 54 01
12 56 20	J1108+4330	06 46 37	46.8	75.3	-4.4		-53.1	7	647	12 56 20
12 58 00	=1105+437	06 48 18	47.0	75.6	-4.4		-53.2	100	660	12 56 21

Schedule for TORUN (Code Tr) Page 5

EB089 third epoch WX UMa Astrometry

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Tue 31 May 2022 Day 151 ---										
12 58 00	J1058+4304	06 48 18	48.3	77.7	-4.2		-53.3	-18	660	No stop
13 00 00	=1055+433	06 50 18	48.6	78.1	-4.2		-53.4	102	675	12 58 01
13 00 00	WXUMA	06 50 18	47.7	76.3	-4.3		-53.4	-17	675	No stop
13 02 00	---	06 52 18	48.0	76.7	-4.2		-53.5	103	690	13 00 01
13 02 00	J1108+4330	06 52 18	47.6	76.2	-4.3		-53.4	-13	690	No stop
13 04 00	=1105+437	06 54 19	47.9	76.5	-4.3		-53.5	107	706	13 02 01
13 04 00	J1110+4403	06 54 19	47.9	75.5	-4.3		-53.8	-14	706	No stop
13 06 00	=1107+443	06 56 19	48.2	75.8	-4.3		-53.9	106	721	13 04 01
13 06 00	WXUMA	06 56 19	48.6	77.3	-4.2		-53.7	-16	721	No stop
13 08 00	---	06 58 19	48.9	77.6	-4.1		-53.8	104	737	13 06 01
13 08 20	J1108+4330	06 58 39	48.5	77.2	-4.2		-53.7	7	737	13 08 20
13 10 00	=1105+437	07 00 20	48.8	77.5	-4.2		-53.8	100	750	13 08 21
13 10 00	J1058+4304	07 00 20	50.0	79.7	-4.0		-53.8	-19	750	No stop
13 12 00	=1055+433	07 02 20	50.3	80.1	-3.9		-53.9	101	765	13 10 01
13 12 00	WXUMA	07 02 20	49.5	78.3	-4.1		-54.0	-17	765	No stop
13 14 00	---	07 04 20	49.8	78.6	-4.0		-54.1	103	781	13 12 01
13 14 00	J1108+4330	07 04 20	49.4	78.1	-4.1		-54.0	-13	781	No stop
13 16 00	=1105+437	07 06 21	49.7	78.5	-4.1		-54.1	107	796	13 14 01
13 16 00	J1110+4403	07 06 21	49.6	77.4	-4.1		-54.5	-14	796	No stop
13 18 00	=1107+443	07 08 21	49.9	77.7	-4.1		-54.6	106	812	13 16 01
13 18 00	WXUMA	07 08 21	50.4	79.3	-4.0		-54.3	-16	812	No stop
13 20 00	---	07 10 21	50.7	79.6	-3.9		-54.4	104	827	13 18 01
13 20 20	J1108+4330	07 10 41	50.3	79.2	-4.0		-54.3	7	827	13 20 20
13 22 00	=1105+437	07 12 22	50.5	79.5	-4.0		-54.3	100	840	13 20 21
13 22 00	J1058+4304	07 12 22	51.8	81.8	-3.8		-54.3	-19	840	No stop
13 24 00	=1055+433	07 14 22	52.1	82.1	-3.7		-54.4	101	855	13 22 01
13 24 00	WXUMA	07 14 22	51.3	80.3	-3.9		-54.6	-17	855	No stop
13 26 00	---	07 16 22	51.6	80.6	-3.8		-54.6	103	871	13 24 01
13 26 00	J1108+4330	07 16 22	51.1	80.1	-3.9		-54.5	-13	871	No stop
13 28 00	=1105+437	07 18 23	51.4	80.5	-3.9		-54.6	107	886	13 26 01

Schedule for TORUN (Code Tr) Page 6

EB089 third epoch WX UMa Astrometry

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Tue 31 May 2022 Day 151 ---										
13 28 00	J1110+4403	07 18 23	51.4	79.4	-3.9		-55.0	-14	886	No stop
13 30 00	=1107+443	07 20 23	51.7	79.7	-3.9		-55.1	106	902	13 28 01
13 30 00	WXUMA	07 20 23	52.2	81.3	-3.8		-54.8	-16	902	No stop
13 32 00	---	07 22 23	52.5	81.7	-3.7		-54.9	104	917	13 30 01
13 32 20	J1108+4330	07 22 43	52.1	81.2	-3.8		-54.8	7	917	13 32 20
13 34 00	=1105+437	07 24 24	52.3	81.5	-3.8		-54.8	100	930	13 32 21
13 34 00	J1058+4304	07 24 24	53.6	83.9	-3.6		-54.7	-19	930	No stop
13 36 00	=1055+433	07 26 24	53.9	84.3	-3.5		-54.7	101	946	13 34 01
13 36 00	WXUMA	07 26 24	53.1	82.4	-3.7		-55.0	-17	946	No stop
13 38 00	---	07 28 24	53.4	82.7	-3.6		-55.1	103	961	13 36 01
13 38 00	J1108+4330	07 28 24	52.9	82.2	-3.7		-55.0	-13	961	No stop
13 40 00	=1105+437	07 30 25	53.2	82.5	-3.7		-55.0	107	976	13 38 01
13 40 00	J1110+4403	07 30 25	53.2	81.4	-3.7		-55.5	-14	976	No stop
13 42 00	=1107+443	07 32 25	53.5	81.7	-3.7		-55.6	106	992	13 40 01
13 42 00	WXUMA	07 32 25	54.0	83.4	-3.6		-55.2	-17	992	No stop
13 44 00	---	07 34 25	54.3	83.8	-3.5		-55.3	103	1007	13 42 01
13 44 20	J1108+4330	07 34 45	53.9	83.3	-3.6		-55.2	7	1007	13 44 20
13 46 00	=1105+437	07 36 26	54.1	83.6	-3.6		-55.2	100	1020	13 44 21
13 46 00	J1058+4304	07 36 26	55.4	86.1	-3.4		-54.9	-19	1020	No stop
13 48 00	=1055+433	07 38 26	55.7	86.5	-3.3		-55.0	101	1036	13 46 01
13 48 00	WXUMA	07 38 26	54.9	84.5	-3.5		-55.4	-17	1036	No stop
13 50 00	---	07 40 26	55.2	84.8	-3.4		-55.4	103	1051	13 48 01
13 50 00	J1108+4330	07 40 26	54.7	84.3	-3.5		-55.3	-13	1051	No stop
13 52 00	=1105+437	07 42 27	55.0	84.7	-3.5		-55.4	107	1067	13 50 01
13 52 00	J1110+4403	07 42 27	55.0	83.5	-3.5		-55.9	-15	1067	No stop
13 54 00	=1107+443	07 44 27	55.3	83.8	-3.5		-56.0	105	1082	13 52 01
13 54 00	WXUMA	07 44 27	55.8	85.6	-3.4		-55.5	-17	1082	No stop
13 56 00	---	07 46 27	56.1	85.9	-3.3		-55.5	103	1098	13 54 01
13 56 20	J1108+4330	07 46 47	55.7	85.5	-3.4		-55.5	7	1098	13 56 20
13 58 00	=1105+437	07 48 28	55.9	85.8	-3.4		-55.5	100	1110	13 56 21

Schedule for TORUN (Code Tr) Page 7

EB089 third epoch WX UMa Astrometry

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Tue 31 May 2022 Day 151 ---										
13 58 00	J1058+4304	07 48 28	57.2	88.4	-3.2		-55.1	-20	1110	No stop
14 00 00	=1055+433	07 50 28	57.5	88.7	-3.1		-55.1	100	1126	13 58 01
14 00 00	WXUMA	07 50 28	56.7	86.7	-3.3		-55.6	-18	1126	No stop
14 02 00	---	07 52 28	57.0	87.1	-3.2		-55.6	102	1141	14 00 01
14 02 00	J1108+4330	07 52 28	56.5	86.5	-3.3		-55.6	-13	1141	No stop
14 04 00	=1105+437	07 54 29	56.8	86.9	-3.3		-55.6	107	1157	14 02 01
14 04 00	J1110+4403	07 54 29	56.8	85.6	-3.3		-56.3	-15	1157	No stop
14 06 00	=1107+443	07 56 29	57.1	86.0	-3.3		-56.3	105	1172	14 04 01
14 06 00	WXUMA	07 56 29	57.6	87.8	-3.2		-55.7	-17	1172	No stop
14 08 00	---	07 58 29	57.9	88.2	-3.1		-55.7	103	1188	14 06 01
14 08 20	J1108+4330	07 58 49	57.5	87.7	-3.2		-55.7	7	1188	14 08 20
14 10 00	=1105+437	08 00 30	57.7	88.0	-3.2		-55.7	100	1201	14 08 21
14 10 00	J1058+4304	08 00 30	59.0	90.7	-3.0		-55.1	-20	1201	No stop
14 12 00	=1055+433	08 02 30	59.3	91.2	-2.9		-55.1	100	1216	14 10 01
14 12 00	WXUMA	08 02 30	58.5	89.0	-3.1		-55.7	-18	1216	No stop
14 14 00	---	08 04 30	58.8	89.4	-3.0		-55.7	102	1232	14 12 01
14 14 00	J1108+4330	08 04 30	58.3	88.8	-3.1		-55.7	-13	1232	No stop
14 16 00	=1105+437	08 06 31	58.6	89.2	-3.1		-55.7	107	1247	14 14 01
14 16 00	J1110+4403	08 06 31	58.6	87.9	-3.1		-56.4	-15	1247	No stop
14 18 00	=1107+443	08 08 31	58.9	88.2	-3.1		-56.5	105	1262	14 16 01
14 18 00	WXUMA	08 08 31	59.4	90.2	-3.0		-55.8	-18	1262	No stop
14 20 00	---	08 10 31	59.7	90.6	-2.9		-55.7	102	1278	14 18 01
14 20 20	J1108+4330	08 10 51	59.3	90.0	-3.0		-55.7	7	1278	14 20 20
14 22 00	=1105+437	08 12 31	59.5	90.4	-3.0		-55.7	100	1291	14 20 21
14 22 00	J1058+4304	08 12 31	60.8	93.3	-2.8		-55.0	-20	1291	No stop
14 24 00	=1055+433	08 14 32	61.1	93.7	-2.7		-55.0	100	1306	14 22 01
14 24 00	WXUMA	08 14 32	60.3	91.4	-2.9		-55.7	-18	1306	No stop
14 26 00	---	08 16 32	60.6	91.8	-2.8		-55.7	102	1322	14 24 01
14 26 00	J1108+4330	08 16 32	60.1	91.2	-2.9		-55.7	-13	1322	No stop
14 28 00	=1105+437	08 18 32	60.4	91.6	-2.9		-55.7	107	1337	14 26 01

Schedule for TORUN (Code Tr) Page 8

EB089 third epoch WX UMa Astrometry

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Tue 31 May 2022 Day 151 ---										
14 28 00	J1110+4403	08 18 32	60.4	90.2	-2.9		-56.5	-15	1337	No stop
14 30 00	=1107+443	08 20 33	60.7	90.6	-2.9		-56.5	105	1353	14 28 01
14 30 00	WXUMA	08 20 33	61.2	92.6	-2.8		-55.7	-18	1353	No stop
14 32 00	---	08 22 33	61.5	93.1	-2.7		-55.6	102	1368	14 30 01
14 32 20	J1108+4330	08 22 53	61.1	92.5	-2.8		-55.7	7	1368	14 32 20
14 34 00	=1105+437	08 24 33	61.3	92.9	-2.8		-55.6	100	1381	14 32 21
14 34 00	J1058+4304	08 24 33	62.6	95.9	-2.6		-54.7	-21	1381	No stop
14 36 00	=1055+433	08 26 34	62.9	96.4	-2.5		-54.6	99	1396	14 34 01
14 36 00	WXUMA	08 26 34	62.1	93.9	-2.7		-55.6	-19	1396	No stop
14 38 00	---	08 28 34	62.4	94.4	-2.6		-55.5	101	1412	14 36 01
14 38 00	J1108+4330	08 28 34	61.9	93.7	-2.7		-55.6	-13	1412	No stop
14 40 00	=1105+437	08 30 34	62.2	94.2	-2.7		-55.5	107	1427	14 38 01
14 40 00	J1110+4403	08 30 34	62.2	92.7	-2.7		-56.4	-16	1427	No stop
14 42 00	=1107+443	08 32 35	62.5	93.1	-2.7		-56.4	104	1443	14 40 01
14 42 00	WXUMA	08 32 35	63.0	95.3	-2.6		-55.4	-18	1443	No stop
14 44 00	---	08 34 35	63.3	95.7	-2.5		-55.3	102	1458	14 42 01
14 44 20	J1108+4330	08 34 55	62.9	95.2	-2.6		-55.4	7	1458	14 44 20
14 46 00	=1105+437	08 36 35	63.1	95.5	-2.6		-55.3	100	1471	14 44 21
14 46 00	J1058+4304	08 36 35	64.4	98.8	-2.4		-54.2	-21	1471	No stop
14 48 00	=1055+433	08 38 36	64.7	99.3	-2.3		-54.1	99	1487	14 46 01
14 48 00	WXUMA	08 38 36	63.9	96.7	-2.5		-55.2	-19	1487	No stop
14 50 00	---	08 40 36	64.2	97.2	-2.4		-55.1	101	1502	14 48 01
14 50 00	J1108+4330	08 40 36	63.7	96.5	-2.5		-55.2	-13	1502	No stop
14 52 00	=1105+437	08 42 36	64.0	96.9	-2.5		-55.1	107	1517	14 50 01
14 52 00	J1110+4403	08 42 36	64.0	95.4	-2.5		-56.1	-16	1517	No stop
14 54 00	=1107+443	08 44 37	64.3	95.8	-2.5		-56.1	104	1533	14 52 01
14 55 00	4C39.25	08 45 37	74.1	148.3	-0.7		-24.0	-61	1533	14 55 00
15 03 00	---	08 53 38	74.6	153.6	-0.6		-20.0	419	1595	14 55 01
15 04 00	WXUMA	08 54 38	66.3	100.7	-2.2		-54.3	-60	1595	15 04 00
15 06 00	---	08 56 39	66.6	101.2	-2.2		-54.2	60	1610	15 04 01

Schedule for TORUN (Code Tr) Page 9

EB089 third epoch WX UMa Astrometry

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Tue 31 May 2022 Day 151 ---										
15 06 00	WXUMA	08 56 39	66.6	101.2	-2.2		-54.2	-5	1610	No stop
15 08 00	---	08 58 39	66.9	101.7	-2.1		-54.0	115	1626	15 06 01
15 08 20	J1108+4330	08 58 59	66.5	101.0	-2.2		-54.2	7	1626	15 08 20
15 10 00	=1105+437	09 00 39	66.7	101.5	-2.1		-54.1	100	1639	15 08 21
15 10 00	J1058+4304	09 00 39	67.9	105.3	-2.0		-52.3	-23	1639	No stop
15 12 00	=1055+433	09 02 40	68.2	105.9	-1.9		-52.1	97	1654	15 10 01
15 12 00	WXUMA	09 02 40	67.4	102.8	-2.1		-53.7	-21	1654	No stop
15 14 00	---	09 04 40	67.7	103.4	-2.0		-53.5	99	1669	15 12 01
15 14 00	J1108+4330	09 04 40	67.3	102.6	-2.1		-53.8	-13	1669	No stop
15 16 00	=1105+437	09 06 40	67.6	103.2	-2.0		-53.6	107	1685	15 14 01
15 16 00	J1110+4403	09 06 40	67.5	101.3	-2.1		-54.8	-17	1685	No stop
15 18 00	=1107+443	09 08 41	67.8	101.9	-2.1		-54.7	103	1700	15 16 01
15 18 00	WXUMA	09 08 41	68.3	104.6	-2.0		-53.1	-20	1700	No stop
15 20 00	---	09 10 41	68.6	105.2	-1.9		-52.9	100	1716	15 18 01
15 20 20	J1108+4330	09 11 01	68.2	104.4	-2.0		-53.2	7	1716	15 20 20
15 22 00	=1105+437	09 12 41	68.5	104.9	-1.9		-53.0	100	1729	15 20 21
15 22 00	J1058+4304	09 12 41	69.7	109.1	-1.8		-50.8	-24	1729	No stop
15 24 00	=1055+433	09 14 42	70.0	109.8	-1.7		-50.5	96	1744	15 22 01
15 24 00	WXUMA	09 14 42	69.2	106.4	-1.9		-52.5	-21	1744	No stop
15 26 00	---	09 16 42	69.5	107.0	-1.8		-52.2	99	1760	15 24 01
15 26 00	J1108+4330	09 16 42	69.0	106.1	-1.9		-52.6	-13	1760	No stop
15 28 00	=1105+437	09 18 42	69.3	106.7	-1.8		-52.3	107	1775	15 26 01
15 28 00	J1110+4403	09 18 42	69.3	104.8	-1.9		-53.7	-17	1775	No stop
15 30 00	=1107+443	09 20 43	69.6	105.4	-1.9		-53.5	103	1791	15 28 01
15 30 00	WXUMA	09 20 43	70.1	108.3	-1.8		-51.7	-21	1791	No stop
15 32 00	---	09 22 43	70.3	109.0	-1.7		-51.4	99	1806	15 30 01
15 32 20	J1108+4330	09 23 03	69.9	108.1	-1.8		-51.8	6	1806	15 32 20
15 34 00	=1105+437	09 24 43	70.2	108.7	-1.7		-51.5	100	1819	15 32 21
15 34 00	J1058+4304	09 24 43	71.4	113.4	-1.6		-48.9	-25	1819	No stop
15 36 00	=1055+433	09 26 44	71.6	114.1	-1.5		-48.5	95	1834	15 34 01

Schedule for TORUN (Code Tr) Page 10

EB089 third epoch WX UMa Astrometry

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Tue 31 May 2022 Day 151 ---										
15 36 00	WXUMA	09 26 44	70.9	110.4	-1.7		-50.8	-22	1834	No stop
15 38 00	---	09 28 44	71.2	111.1	-1.6		-50.5	98	1850	15 36 01
15 38 00	J1108+4330	09 28 44	70.8	110.1	-1.7		-50.9	-14	1850	No stop
15 40 00	=1105+437	09 30 44	71.0	110.8	-1.6		-50.6	106	1865	15 38 01
15 40 00	J1110+4403	09 30 44	71.0	108.6	-1.7		-52.2	-18	1865	No stop
15 42 00	=1107+443	09 32 45	71.3	109.3	-1.7		-51.9	102	1881	15 40 01
15 42 00	WXUMA	09 32 45	71.7	112.6	-1.6		-49.8	-21	1881	No stop
15 44 00	---	09 34 45	72.0	113.3	-1.5		-49.4	99	1896	15 42 01
15 44 20	J1108+4330	09 35 05	71.6	112.3	-1.6		-49.9	6	1896	15 44 20
15 46 00	=1105+437	09 36 45	71.9	113.0	-1.5		-49.5	100	1909	15 44 21
15 46 00	J1058+4304	09 36 45	73.0	118.2	-1.4		-46.3	-26	1909	No stop
15 48 00	=1055+433	09 38 46	73.2	119.1	-1.3		-45.8	94	1925	15 46 01
15 48 00	WXUMA	09 38 46	72.6	114.9	-1.5		-48.6	-23	1925	No stop
15 50 00	---	09 40 46	72.8	115.7	-1.4		-48.1	97	1940	15 48 01
15 50 00	J1108+4330	09 40 46	72.4	114.5	-1.5		-48.8	-14	1940	No stop
15 52 00	=1105+437	09 42 46	72.7	115.3	-1.4		-48.3	106	1955	15 50 01
15 52 00	J1110+4403	09 42 46	72.7	113.0	-1.5		-50.1	-18	1955	No stop
15 54 00	=1107+443	09 44 47	73.0	113.8	-1.5		-49.7	102	1971	15 52 01
15 54 00	WXUMA	09 44 47	73.4	117.4	-1.4		-47.2	-22	1971	No stop
15 56 00	---	09 46 47	73.6	118.3	-1.3		-46.7	98	1986	15 54 01
15 56 20	J1108+4330	09 47 07	73.3	117.1	-1.4		-47.3	5	1986	15 56 20
15 58 00	=1105+437	09 48 47	73.5	117.9	-1.3		-46.9	100	1999	15 56 21
15 58 00	J1058+4304	09 48 47	74.5	123.8	-1.2		-43.0	-27	1999	No stop
16 00 00	=1055+433	09 50 48	74.8	124.8	-1.1		-42.3	93	2015	15 58 01
16 00 00	WXUMA	09 50 48	74.2	120.1	-1.3		-45.7	-24	2015	No stop
16 02 00	---	09 52 48	74.4	121.0	-1.2		-45.1	96	2030	16 00 01
16 02 00	J1108+4330	09 52 48	74.0	119.7	-1.3		-45.9	-15	2030	No stop
16 04 00	=1105+437	09 54 48	74.3	120.6	-1.2		-45.4	105	2046	16 02 01
16 04 00	J1110+4403	09 54 48	74.4	118.0	-1.3		-47.4	-19	2046	No stop
16 06 00	=1107+443	09 56 49	74.6	119.0	-1.3		-46.9	101	2061	16 04 01

Schedule for TORUN (Code Tr) Page 11

EB089 third epoch WX UMa Astrometry

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Tue 31 May 2022 Day 151 ---										
16 06 00	WXUMA	09 56 49	74.9	123.0	-1.2		-43.9	-23	2061	No stop
16 08 00	---	09 58 49	75.2	124.0	-1.1		-43.2	97	2077	16 06 01
16 08 20	J1108+4330	09 59 09	74.8	122.7	-1.2		-44.1	4	2077	16 08 20
16 10 00	=1105+437	10 00 49	75.1	123.5	-1.1		-43.5	100	2089	16 08 21
16 10 00	J1058+4304	10 00 49	76.0	130.4	-1.0		-38.7	-29	2089	No stop
16 12 00	=1055+433	10 02 50	76.2	131.6	-0.9		-37.9	91	2105	16 10 01
16 12 00	WXUMA	10 02 50	75.7	126.2	-1.1		-41.9	-25	2105	No stop
16 14 00	---	10 04 50	75.9	127.3	-1.0		-41.1	95	2120	16 12 01
16 14 00	J1108+4330	10 04 50	75.6	125.6	-1.1		-42.2	-16	2120	No stop
16 16 00	=1105+437	10 06 50	75.8	126.7	-1.0		-41.5	104	2136	16 14 01
16 16 00	J1110+4403	10 06 50	75.9	123.9	-1.1		-43.8	-20	2136	No stop
16 18 00	=1107+443	10 08 51	76.2	125.0	-1.1		-43.1	100	2151	16 16 01
16 18 00	WXUMA	10 08 51	76.4	129.6	-1.0		-39.6	-25	2151	No stop
16 20 00	---	10 10 51	76.6	130.8	-0.9		-38.7	95	2167	16 18 01
16 20 20	J1108+4330	10 11 11	76.3	129.2	-1.0		-39.8	3	2167	16 20 20
16 22 00	=1105+437	10 12 51	76.5	130.2	-0.9		-39.1	100	2180	16 20 21
16 22 00	J1058+4304	10 12 51	77.3	138.1	-0.8		-33.3	-31	2180	No stop
16 24 00	=1055+433	10 14 52	77.5	139.5	-0.7		-32.2	89	2195	16 22 01
16 24 00	WXUMA	10 14 52	77.1	133.3	-0.9		-37.0	-27	2195	No stop
16 26 00	---	10 16 52	77.3	134.7	-0.8		-36.0	93	2211	16 24 01
16 26 00	J1108+4330	10 16 52	77.0	132.7	-0.9		-37.4	-17	2211	No stop
16 28 00	=1105+437	10 18 52	77.2	134.0	-0.8		-36.5	103	2226	16 26 01
16 28 00	J1110+4403	10 18 52	77.3	131.0	-0.9		-39.0	-20	2226	No stop
16 30 00	=1107+443	10 20 53	77.6	132.3	-0.9		-38.1	100	2241	16 28 01
16 30 00	WXUMA	10 20 53	77.7	137.4	-0.8		-34.0	-26	2241	No stop
16 32 00	---	10 22 53	77.9	138.8	-0.7		-33.0	94	2257	16 30 01
16 32 20	J1108+4330	10 23 13	77.6	137.0	-0.8		-34.3	2	2257	16 32 20
16 34 00	=1105+437	10 24 53	77.8	138.2	-0.7		-33.5	100	2270	16 32 21
16 34 00	J1058+4304	10 24 53	78.4	147.1	-0.6		-26.5	-34	2270	No stop
16 36 00	=1055+433	10 26 54	78.5	148.8	-0.5		-25.2	86	2285	16 34 01

Schedule for TORUN (Code Tr) Page 12

EB089 third epoch WX UMa Astrometry

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Tue 31 May 2022 Day 151 ---										
16 36 00	WXUMA	10 26 54	78.3	141.9	-0.7		-30.7	-28	2285	No stop
16 38 00	---	10 28 54	78.5	143.4	-0.6		-29.5	92	2301	16 36 01
16 38 00	J1108+4330	10 28 54	78.2	141.1	-0.7		-31.3	-18	2301	No stop
16 40 00	=1105+437	10 30 54	78.4	142.7	-0.6		-30.1	102	2316	16 38 01
16 40 00	J1110+4403	10 30 54	78.6	139.4	-0.7		-32.9	-21	2316	No stop
16 42 00	=1107+443	10 32 54	78.8	141.0	-0.7		-31.7	99	2332	16 40 01
16 42 00	WXUMA	10 32 54	78.8	146.7	-0.6		-27.0	-27	2332	No stop
16 44 00	---	10 34 55	79.0	148.4	-0.5		-25.7	93	2347	16 42 01
16 44 20	J1108+4330	10 35 15	78.8	146.1	-0.6		-27.4	1	2347	16 44 20
16 46 00	=1105+437	10 36 55	78.9	147.5	-0.5		-26.3	100	2360	16 44 21
16 46 00	J1058+4304	10 36 55	79.2	157.6	-0.4		-18.2	-36	2360	No stop
16 48 00	=1055+433	10 38 55	79.3	159.5	-0.3		-16.7	84	2375	16 46 01
16 48 00	WXUMA	10 38 55	79.3	151.9	-0.5		-22.9	-29	2375	No stop
16 50 00	---	10 40 56	79.4	153.7	-0.4		-21.5	91	2391	16 48 01
16 50 00	J1108+4330	10 40 56	79.2	151.0	-0.5		-23.6	-19	2391	No stop
16 52 00	=1105+437	10 42 56	79.3	152.8	-0.4		-22.2	101	2406	16 50 01
16 52 00	J1110+4403	10 42 56	79.7	149.5	-0.5		-25.1	-21	2406	No stop
16 54 00	=1107+443	10 44 56	79.8	151.3	-0.5		-23.6	99	2422	16 52 01
16 54 00	WXUMA	10 44 56	79.7	157.5	-0.4		-18.4	-28	2422	No stop
16 56 00	---	10 46 57	79.8	159.4	-0.3		-16.9	92	2437	16 54 01
16 56 20	J1108+4330	10 47 17	79.6	156.9	-0.4		-18.9	0	2437	16 56 20
16 58 00	=1105+437	10 48 57	79.7	158.5	-0.3		-17.6	100	2450	16 56 21
16 58 00	J1058+4304	10 48 57	79.7	169.3	-0.2		-8.7	-38	2450	No stop
17 00 00	=1055+433	10 50 57	79.8	171.4	-0.1		-7.1	82	2466	16 58 01
17 00 00	WXUMA	10 50 57	80.0	163.4	-0.3		-13.6	-30	2466	No stop
17 02 00	---	10 52 58	80.1	165.5	-0.2		-12.0	90	2481	17 00 01
17 02 00	J1108+4330	10 52 58	79.9	162.4	-0.3		-14.4	-20	2481	No stop
17 04 00	=1105+437	10 54 58	80.0	164.5	-0.2		-12.8	100	2497	17 02 01
17 04 00	J1110+4403	10 54 58	80.4	161.2	-0.3		-15.6	-20	2497	No stop
17 06 00	=1107+443	10 56 58	80.5	163.3	-0.3		-13.8	100	2512	17 04 01

Schedule for TORUN (Code Tr) Page 13

EB089 third epoch WX UMa Astrometry

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Tue 31 May 2022 Day 151 ---										
17 06 00	WXUMA	10 56 58	80.2	169.7	-0.2		-8.5	-28	2512	No stop
17 08 00	---	10 58 59	80.2	171.8	-0.1		-6.8	92	2527	17 06 01
17 08 20	J1108+4330	10 59 19	80.2	169.0	-0.2		-9.1	0	2527	17 08 20
17 10 00	=1105+437	11 00 59	80.2	170.7	-0.1		-7.7	100	2540	17 08 21
17 10 00	J1058+4304	11 00 59	79.9	181.7	0.0		1.4	-38	2540	No stop
17 12 00	=1055+433	11 02 59	79.8	183.8	0.1		3.1	82	2556	17 10 01
17 12 00	WXUMA	11 02 59	80.3	176.1	-0.1		-3.2	-30	2556	No stop
17 14 00	---	11 05 00	80.3	178.2	-0.0		-1.4	90	2571	17 12 01
17 14 00	J1108+4330	11 05 00	80.3	175.0	-0.1		-4.1	-20	2571	No stop
17 16 00	=1105+437	11 07 00	80.3	177.2	-0.0		-2.3	100	2587	17 14 01
17 16 00	J1110+4403	11 07 00	80.8	174.3	-0.1		-4.7	-19	2587	No stop
17 18 00	=1107+443	11 09 00	80.8	176.6	-0.1		-2.8	101	2602	17 16 01
17 18 00	WXUMA	11 09 00	80.3	182.6	0.0		2.1	-28	2602	No stop
17 20 00	---	11 11 01	80.3	184.7	0.1		3.9	92	2618	17 18 01
17 20 20	J1108+4330	11 11 21	80.3	181.8	0.0		1.5	0	2618	17 20 20
17 22 00	=1105+437	11 13 01	80.3	183.6	0.1		3.0	100	2630	17 20 21
17 22 00	J1058+4304	11 13 01	79.6	194.0	0.2		11.5	-37	2630	No stop
17 24 00	=1055+433	11 15 01	79.5	196.0	0.3		13.1	83	2646	17 22 01
17 24 00	WXUMA	11 15 01	80.2	189.0	0.1		7.4	-28	2646	No stop
17 26 00	---	11 17 02	80.2	191.1	0.2		9.2	92	2661	17 24 01
17 26 00	J1108+4330	11 17 02	80.2	187.9	0.1		6.5	-20	2661	No stop
17 28 00	=1105+437	11 19 02	80.2	190.1	0.2		8.3	100	2677	17 26 01
17 28 00	J1110+4403	11 19 02	80.8	187.9	0.1		6.6	-17	2677	No stop
17 30 00	=1107+443	11 21 02	80.7	190.1	0.2		8.4	103	2692	17 28 01
17 30 00	WXUMA	11 21 02	80.0	195.3	0.2		12.6	-26	2692	No stop
17 32 00	---	11 23 03	79.9	197.3	0.3		14.3	94	2708	17 30 01
17 32 20	J1108+4330	11 23 23	80.0	194.6	0.2		12.0	0	2708	17 32 20
17 34 00	=1105+437	11 25 03	80.0	196.3	0.3		13.4	100	2721	17 32 21
17 34 00	J1058+4304	11 25 03	79.0	205.5	0.4		20.7	-34	2721	No stop
17 36 00	=1055+433	11 27 03	78.9	207.2	0.5		22.1	86	2736	17 34 01

Schedule for TORUN (Code Tr) Page 14

EB089 third epoch WX UMa Astrometry

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Tue 31 May 2022 Day 151 ---										
17 36 00	WXUMA	11 27 03	79.7	201.3	0.3		17.5	-26	2736	No stop
17 38 00	---	11 29 04	79.6	203.2	0.4		19.0	94	2752	17 36 01
17 38 00	J1108+4330	11 29 04	79.8	200.3	0.3		16.7	-20	2752	No stop
17 40 00	=1105+437	11 31 04	79.7	202.2	0.4		18.2	100	2767	17 38 01
17 40 00	J1110+4403	11 31 04	80.3	200.8	0.3		17.3	-15	2767	No stop
17 42 00	=1107+443	11 33 04	80.2	202.9	0.4		18.9	105	2782	17 40 01
17 42 00	WXUMA	11 33 04	79.4	207.0	0.4		22.0	-24	2782	No stop
17 44 00	---	11 35 05	79.2	208.8	0.5		23.5	96	2798	17 42 01
17 44 20	J1108+4330	11 35 25	79.4	206.3	0.4		21.5	1	2798	17 44 20
17 46 00	=1105+437	11 37 05	79.3	207.9	0.5		22.7	100	2811	17 44 21
17 46 00	J1058+4304	11 37 05	78.1	215.6	0.6		28.5	-31	2811	No stop
17 48 00	=1055+433	11 39 05	77.9	217.1	0.7		29.7	89	2826	17 46 01
17 48 00	WXUMA	11 39 05	78.9	212.3	0.5		26.2	-24	2826	No stop
17 50 00	---	11 41 06	78.8	214.0	0.6		27.5	96	2842	17 48 01
17 50 00	J1108+4330	11 41 06	79.0	211.4	0.5		25.5	-19	2842	No stop
17 52 00	=1105+437	11 43 06	78.8	213.1	0.6		26.8	101	2857	17 50 01
17 52 00	J1110+4403	11 43 06	79.5	212.3	0.5		26.5	-14	2857	No stop
17 54 00	=1107+443	11 45 06	79.3	214.1	0.6		27.9	106	2873	17 52 01
17 55 00	OQ208	11 46 06	54.1	119.4	-2.4		-36.5	-143	2873	17 55 00
18 03 00	---	11 54 08	55.1	121.9	-2.2		-35.4	337	2934	17 55 01
18 06 00	WXUMA	11 57 08	77.2	225.9	0.8		36.4	-44	2934	18 06 00
18 08 00	---	11 59 09	77.0	227.2	0.9		37.3	76	2950	18 06 01
18 08 20	J1108+4330	11 59 29	77.3	225.4	0.8		36.0	3	2950	18 08 20
18 10 00	=1105+437	12 01 09	77.1	226.5	0.9		36.8	100	2963	18 08 21
18 10 00	J1058+4304	12 01 09	75.6	231.6	1.0		40.0	-26	2963	No stop
18 12 00	=1055+433	12 03 09	75.3	232.7	1.1		40.7	94	2978	18 10 01
18 12 00	WXUMA	12 03 09	76.5	229.7	0.9		39.1	-20	2978	No stop
18 14 00	---	12 05 10	76.3	230.9	1.0		39.9	100	2994	18 12 01
18 14 00	J1108+4330	12 05 10	76.6	229.0	0.9		38.6	-17	2994	No stop
18 16 00	=1105+437	12 07 10	76.4	230.2	1.0		39.4	103	3009	18 14 01

Schedule for TORUN (Code Tr) Page 15

EB089 third epoch WX UMa Astrometry

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Tue 31 May 2022 Day 151 ---										
18 16 00	J1110+4403	12 07 10	77.1	230.3	0.9		39.9	-14	3009	No stop
18 18 00	=1107+443	12 09 10	76.9	231.5	1.0		40.8	106	3025	18 16 01
18 18 00	WXUMA	12 09 10	75.8	233.2	1.0		41.4	-17	3025	No stop
18 20 00	---	12 11 11	75.6	234.3	1.1		42.1	103	3040	18 18 01
18 20 20	J1108+4330	12 11 31	75.9	232.7	1.0		41.1	4	3040	18 20 20
18 22 00	=1105+437	12 13 11	75.7	233.7	1.1		41.7	100	3053	18 20 21
18 22 00	J1058+4304	12 13 11	74.1	237.8	1.2		44.0	-24	3053	No stop
18 24 00	=1055+433	12 15 11	73.9	238.8	1.3		44.6	96	3068	18 22 01
18 24 00	WXUMA	12 15 11	75.1	236.4	1.1		43.5	-19	3068	No stop
18 26 00	---	12 17 12	74.8	237.4	1.2		44.1	101	3084	18 24 01
18 26 00	J1108+4330	12 17 12	75.2	235.8	1.1		43.1	-16	3084	No stop
18 28 00	=1105+437	12 19 12	75.0	236.8	1.2		43.8	104	3099	18 26 01
18 28 00	J1110+4403	12 19 12	75.7	237.1	1.1		44.4	-14	3099	No stop
18 30 00	=1107+443	12 21 12	75.4	238.1	1.2		45.1	106	3115	18 28 01
18 30 00	WXUMA	12 21 12	74.3	239.3	1.2		45.3	-17	3115	No stop
18 32 00	---	12 23 13	74.1	240.3	1.3		45.9	103	3130	18 30 01
18 32 20	J1108+4330	12 23 33	74.4	239.0	1.2		45.1	5	3130	18 32 20
18 34 00	=1105+437	12 25 13	74.2	239.8	1.3		45.6	100	3143	18 32 21
18 34 00	J1058+4304	12 25 13	72.5	243.2	1.4		47.1	-22	3143	No stop
18 36 00	=1055+433	12 27 13	72.3	244.0	1.5		47.5	98	3159	18 34 01
18 36 00	WXUMA	12 27 13	73.5	242.1	1.3		46.9	-18	3159	No stop
18 38 00	---	12 29 14	73.3	242.9	1.4		47.4	102	3174	18 36 01
18 38 00	J1108+4330	12 29 14	73.7	241.6	1.3		46.6	-15	3174	No stop
18 40 00	=1105+437	12 31 14	73.4	242.5	1.4		47.1	105	3190	18 38 01
18 40 00	J1110+4403	12 31 14	74.1	242.9	1.3		47.9	-14	3190	No stop
18 42 00	=1107+443	12 33 14	73.8	243.7	1.4		48.4	106	3205	18 40 01
18 42 00	WXUMA	12 33 14	72.7	244.6	1.4		48.3	-17	3205	No stop
18 44 00	---	12 35 15	72.5	245.4	1.5		48.7	103	3220	18 42 01
18 44 20	J1108+4330	12 35 35	72.8	244.3	1.4		48.1	5	3220	18 44 20
18 46 00	=1105+437	12 37 15	72.6	245.0	1.5		48.5	100	3233	18 44 21

Schedule for TORUN (Code Tr) Page 16

EB089 third epoch WX UMa Astrometry

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Tue 31 May 2022 Day 151 ---										
18 46 00	J1058+4304	12 37 15	70.9	247.9	1.6		49.5	-20	3233	No stop
18 48 00	=1055+433	12 39 15	70.6	248.6	1.7		49.8	100	3249	18 46 01
18 48 00	WXUMA	12 39 15	71.9	247.0	1.5		49.5	-18	3249	No stop
18 50 00	---	12 41 16	71.6	247.7	1.6		49.9	102	3264	18 48 01
18 50 00	J1108+4330	12 41 16	72.0	246.6	1.5		49.3	-14	3264	No stop
18 52 00	=1105+437	12 43 16	71.8	247.3	1.6		49.7	106	3280	18 50 01
18 52 00	J1110+4403	12 43 16	72.4	247.8	1.5		50.5	-14	3280	No stop
18 54 00	=1107+443	12 45 16	72.2	248.5	1.6		50.9	106	3295	18 52 01
18 54 00	WXUMA	12 45 16	71.1	249.2	1.6		50.6	-17	3295	No stop
18 56 00	---	12 47 17	70.8	249.9	1.7		50.9	103	3311	18 54 01
18 56 20	J1108+4330	12 47 37	71.2	248.9	1.6		50.5	6	3311	18 56 20
18 58 00	=1105+437	12 49 17	70.9	249.5	1.7		50.7	100	3324	18 56 21
18 58 00	J1058+4304	12 49 17	69.2	252.0	1.8		51.3	-20	3324	No stop
19 00 00	=1055+433	12 51 17	68.9	252.6	1.9		51.5	100	3339	18 58 01
19 00 00	WXUMA	12 51 17	70.2	251.3	1.7		51.5	-18	3339	No stop
19 02 00	---	12 53 17	69.9	251.9	1.8		51.8	102	3354	19 00 01
19 02 00	J1108+4330	12 53 17	70.4	250.9	1.7		51.3	-14	3354	No stop
19 04 00	=1105+437	12 55 18	70.1	251.6	1.8		51.6	106	3370	19 02 01
19 04 00	J1110+4403	12 55 18	70.8	252.0	1.7		52.5	-14	3370	No stop
19 06 00	=1107+443	12 57 18	70.5	252.7	1.8		52.8	106	3385	19 04 01
19 06 00	WXUMA	12 57 18	69.4	253.2	1.8		52.3	-17	3385	No stop
19 08 00	---	12 59 18	69.1	253.8	1.9		52.6	103	3401	19 06 01
19 08 20	J1108+4330	12 59 39	69.5	253.0	1.8		52.2	6	3401	19 08 20
19 10 00	=1105+437	13 01 19	69.2	253.5	1.9		52.4	100	3414	19 08 21
19 10 00	J1058+4304	13 01 19	67.5	255.7	2.0		52.7	-20	3414	No stop
19 12 00	=1055+433	13 03 19	67.2	256.2	2.1		52.8	100	3429	19 10 01
19 12 00	WXUMA	13 03 19	68.5	255.1	1.9		53.0	-18	3429	No stop
19 14 00	---	13 05 19	68.2	255.6	2.0		53.2	102	3445	19 12 01
19 14 00	J1108+4330	13 05 19	68.6	254.7	1.9		52.9	-13	3445	No stop
19 16 00	=1105+437	13 07 20	68.3	255.3	2.0		53.1	107	3460	19 14 01

Schedule for TORUN (Code Tr) Page 17

EB089 third epoch WX UMa Astrometry

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Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	LST	Start / Stop EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Tue 31 May 2022 Day 151 ---										
19 16 00	J1110+4403	13 07 20	69.0	255.8	1.9		54.0	-14	3460	No stop
19 18 00	=1107+443	13 09 20	68.7	256.4	2.0		54.2	106	3476	19 16 01
19 18 00	WXUMA	13 09 20	67.6	256.8	2.0		53.6	-17	3476	No stop
19 20 00	---	13 11 20	67.3	257.4	2.1		53.8	103	3491	19 18 01
19 20 20	J1108+4330	13 11 41	67.7	256.6	2.0		53.5	7	3491	19 20 20
19 22 00	=1105+437	13 13 21	67.5	257.1	2.1		53.7	100	3504	19 20 21
19 22 00	J1058+4304	13 13 21	65.7	259.0	2.2		53.7	-21	3504	No stop
19 24 00	=1055+433	13 15 21	65.4	259.5	2.3		53.8	99	3519	19 22 01
19 24 00	WXUMA	13 15 21	66.7	258.5	2.1		54.1	-18	3519	No stop
19 26 00	---	13 17 21	66.4	259.0	2.2		54.2	102	3535	19 24 01
19 26 00	J1108+4330	13 17 21	66.9	258.2	2.1		54.0	-13	3535	No stop
19 28 00	=1105+437	13 19 22	66.6	258.7	2.2		54.1	107	3550	19 26 01
19 28 00	J1110+4403	13 19 22	67.3	259.2	2.1		55.0	-14	3550	No stop
19 30 00	=1107+443	13 21 22	67.0	259.7	2.2		55.1	106	3566	19 28 01
19 30 00	WXUMA	13 21 22	65.9	260.1	2.2		54.5	-17	3566	No stop
19 32 00	---	13 23 22	65.6	260.6	2.3		54.6	103	3581	19 30 01
19 32 20	J1108+4330	13 23 42	65.9	259.9	2.2		54.4	7	3581	19 32 20
19 34 00	=1105+437	13 25 23	65.7	260.3	2.3		54.5	100	3594	19 32 21
19 34 00	J1058+4304	13 25 23	63.9	262.0	2.4		54.4	-21	3594	No stop
19 36 00	=1055+433	13 27 23	63.6	262.5	2.5		54.4	99	3610	19 34 01
19 36 00	WXUMA	13 27 23	65.0	261.6	2.3		54.9	-18	3610	No stop
19 38 00	---	13 29 23	64.7	262.1	2.4		55.0	102	3625	19 36 01
19 38 00	J1108+4330	13 29 23	65.1	261.3	2.3		54.8	-13	3625	No stop
19 40 00	=1105+437	13 31 24	64.8	261.8	2.4		54.9	107	3640	19 38 01
19 40 00	J1110+4403	13 31 24	65.5	262.3	2.3		55.7	-14	3640	No stop
19 42 00	=1107+443	13 33 24	65.2	262.8	2.4		55.8	106	3656	19 40 01
19 42 00	WXUMA	13 33 24	64.1	263.0	2.4		55.1	-17	3656	No stop
19 44 00	---	13 35 24	63.8	263.5	2.5		55.2	103	3671	19 42 01
19 44 20	J1108+4330	13 35 44	64.2	262.8	2.4		55.1	7	3671	19 44 20
19 46 00	=1105+437	13 37 25	63.9	263.2	2.5		55.2	100	3684	19 44 21

Schedule for TORUN (Code Tr) Page 18

EB089 third epoch WX UMa Astrometry

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Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Tue 31 May 2022 Day 151 ---										
19 46 00	J1058+4304	13 37 25	62.1	264.8	2.6		54.8	-21	3684	No stop
19 48 00	=1055+433	13 39 25	61.8	265.3	2.7		54.9	99	3700	19 46 01
19 48 00	WXUMA	13 39 25	63.2	264.4	2.5		55.4	-18	3700	No stop
19 50 00	---	13 41 25	62.9	264.9	2.6		55.4	102	3715	19 48 01
19 50 00	J1108+4330	13 41 25	63.3	264.2	2.5		55.3	-13	3715	No stop
19 52 00	=1105+437	13 43 26	63.0	264.6	2.6		55.4	107	3731	19 50 01
19 52 00	J1110+4403	13 43 26	63.7	265.1	2.5		56.2	-14	3731	No stop
19 54 00	=1107+443	13 45 26	63.4	265.5	2.6		56.2	106	3746	19 52 01
19 54 00	WXUMA	13 45 26	62.3	265.8	2.6		55.5	-17	3746	No stop
19 56 00	---	13 47 26	62.0	266.2	2.7		55.6	103	3762	19 54 01
19 56 20	J1108+4330	13 47 46	62.4	265.6	2.6		55.5	7	3762	19 56 20
19 58 00	=1105+437	13 49 27	62.1	266.0	2.7		55.5	100	3774	19 56 21
19 58 00	J1058+4304	13 49 27	60.3	267.5	2.8		55.1	-21	3774	No stop
20 00 00	=1055+433	13 51 27	60.0	267.9	2.9		55.1	99	3790	19 58 01
20 00 00	WXUMA	13 51 27	61.4	267.1	2.7		55.6	-18	3790	No stop
20 02 00	---	13 53 27	61.1	267.5	2.8		55.7	102	3805	20 00 01
20 02 00	J1108+4330	13 53 27	61.5	266.8	2.7		55.6	-13	3805	No stop
20 04 00	=1105+437	13 55 28	61.2	267.3	2.8		55.6	107	3821	20 02 01
20 04 00	J1110+4403	13 55 28	61.9	267.7	2.7		56.4	-14	3821	No stop
20 06 00	=1107+443	13 57 28	61.6	268.1	2.8		56.5	106	3836	20 04 01
20 06 00	WXUMA	13 57 28	60.5	268.4	2.8		55.7	-17	3836	No stop
20 08 00	---	13 59 28	60.2	268.8	2.9		55.7	103	3852	20 06 01
20 08 20	J1108+4330	13 59 48	60.6	268.2	2.8		55.7	7	3852	20 08 20
20 10 00	=1105+437	14 01 29	60.3	268.5	2.9		55.7	100	3865	20 08 21
20 10 00	J1058+4304	14 01 29	58.5	269.9	3.0		55.1	-21	3865	No stop
20 12 00	=1055+433	14 03 29	58.2	270.3	3.1		55.1	99	3880	20 10 01
20 12 00	WXUMA	14 03 29	59.6	269.6	2.9		55.8	-18	3880	No stop
20 14 00	---	14 05 29	59.3	270.0	3.0		55.8	102	3895	20 12 01
20 14 00	J1108+4330	14 05 29	59.7	269.4	2.9		55.7	-13	3895	No stop
20 16 00	=1105+437	14 07 30	59.4	269.8	3.0		55.7	107	3911	20 14 01

Schedule for TORUN (Code Tr) Page 19

EB089 third epoch WX UMa Astrometry

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Tue 31 May 2022 Day 151 ---										
20 16 00	J1110+4403	14 07 30	60.1	270.2	2.9		56.5	-14	3911	No stop
20 18 00	=1107+443	14 09 30	59.8	270.6	3.0		56.5	106	3926	20 16 01
20 18 00	WXUMA	14 09 30	58.7	270.8	3.0		55.7	-17	3926	No stop
20 20 00	---	14 11 30	58.4	271.2	3.1		55.7	103	3942	20 18 01
20 20 20	J1108+4330	14 11 50	58.8	270.6	3.0		55.7	7	3942	20 20 20
20 22 00	=1105+437	14 13 31	58.5	271.0	3.1		55.7	100	3955	20 20 21
20 22 00	J1058+4304	14 13 31	56.7	272.3	3.2		55.1	-21	3955	No stop
20 24 00	=1055+433	14 15 31	56.4	272.7	3.3		55.1	99	3970	20 22 01
20 24 00	WXUMA	14 15 31	57.8	272.0	3.1		55.7	-18	3970	No stop
20 26 00	---	14 17 31	57.5	272.3	3.2		55.7	102	3986	20 24 01
20 26 00	J1108+4330	14 17 31	57.9	271.7	3.1		55.7	-13	3986	No stop
20 28 00	=1105+437	14 19 32	57.6	272.1	3.2		55.7	107	4001	20 26 01
20 28 00	J1110+4403	14 19 32	58.3	272.5	3.1		56.4	-14	4001	No stop
20 30 00	=1107+443	14 21 32	58.0	272.9	3.2		56.4	106	4017	20 28 01
20 30 00	WXUMA	14 21 32	56.9	273.1	3.2		55.6	-17	4017	No stop
20 32 00	---	14 23 32	56.6	273.5	3.3		55.6	103	4032	20 30 01
20 32 20	J1108+4330	14 23 52	56.9	272.9	3.2		55.6	7	4032	20 32 20
20 34 00	=1105+437	14 25 33	56.7	273.3	3.3		55.6	100	4045	20 32 21
20 34 00	J1058+4304	14 25 33	54.9	274.5	3.4		54.9	-21	4045	No stop
20 36 00	=1055+433	14 27 33	54.6	274.9	3.5		54.8	99	4060	20 34 01
20 36 00	WXUMA	14 27 33	56.0	274.2	3.3		55.5	-18	4060	No stop
20 38 00	---	14 29 33	55.7	274.6	3.4		55.5	102	4076	20 36 01
20 38 00	J1108+4330	14 29 33	56.1	274.0	3.3		55.5	-13	4076	No stop
20 40 00	=1105+437	14 31 34	55.8	274.4	3.4		55.5	107	4091	20 38 01
20 40 00	J1110+4403	14 31 34	56.5	274.7	3.3		56.2	-14	4091	No stop
20 42 00	=1107+443	14 33 34	56.2	275.1	3.4		56.2	106	4107	20 40 01
20 42 00	WXUMA	14 33 34	55.1	275.3	3.4		55.4	-17	4107	No stop
20 44 00	---	14 35 34	54.8	275.7	3.5		55.3	103	4122	20 42 01
20 44 20	J1108+4330	14 35 54	55.1	275.2	3.4		55.4	7	4122	20 44 20
20 46 00	=1105+437	14 37 35	54.9	275.5	3.5		55.4	100	4135	20 44 21

Schedule for TORUN (Code Tr) Page 20

EB089 third epoch WX UMa Astrometry

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	LST	Start / Stop EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Tue 31 May 2022 Day 151 ---										
20 46 00	J1058+4304	14 37 35	53.1	276.7	3.6		54.6	-21	4135	No stop
20 48 00	=1055+433	14 39 35	52.8	277.0	3.7		54.5	99	4151	20 46 01
20 48 00	WXUMA	14 39 35	54.2	276.4	3.5		55.2	-18	4151	No stop
20 50 00	---	14 41 35	53.9	276.7	3.6		55.2	102	4166	20 48 01
20 50 00	J1108+4330	14 41 35	54.3	276.2	3.5		55.2	-13	4166	No stop
20 52 00	=1105+437	14 43 36	54.0	276.5	3.6		55.2	107	4181	20 50 01
20 52 00	J1110+4403	14 43 36	54.7	276.9	3.5		55.9	-14	4181	No stop
20 54 00	=1107+443	14 45 36	54.4	277.2	3.6		55.8	106	4197	20 52 01
20 54 00	WXUMA	14 45 36	53.3	277.4	3.6		55.1	-17	4197	No stop
20 56 00	---	14 47 36	53.0	277.8	3.7		55.0	103	4212	20 54 01
20 56 20	J1108+4330	14 47 56	53.4	277.3	3.6		55.1	7	4212	20 56 20
20 58 00	=1105+437	14 49 37	53.1	277.6	3.7		55.0	100	4225	20 56 21
20 58 00	J1058+4304	14 49 37	51.3	278.8	3.8		54.2	-21	4225	No stop
21 00 00	=1055+433	14 51 37	51.0	279.1	3.9		54.1	99	4241	20 58 01
21 00 00	WXUMA	14 51 37	52.4	278.5	3.7		54.8	-18	4241	No stop
21 02 00	---	14 53 37	52.1	278.8	3.8		54.8	102	4256	21 00 01
21 02 00	J1108+4330	14 53 37	52.5	278.3	3.7		54.9	-12	4256	No stop
21 04 00	=1105+437	14 55 38	52.2	278.6	3.8		54.8	108	4272	21 02 01
21 04 00	J1110+4403	14 55 38	52.9	278.9	3.7		55.5	-14	4272	No stop
21 06 00	=1107+443	14 57 38	52.6	279.3	3.8		55.4	106	4287	21 04 01
21 06 00	WXUMA	14 57 38	51.5	279.5	3.9		54.6	-17	4287	No stop
21 08 00	---	14 59 38	51.2	279.8	3.9		54.5	103	4303	21 06 01
21 08 20	J1108+4330	14 59 58	51.6	279.4	3.8		54.6	8	4303	21 08 20
21 10 00	=1105+437	15 01 39	51.3	279.6	3.9		54.6	100	4315	21 08 21
21 10 00	J1058+4304	15 01 39	49.5	280.8	4.0		53.7	-21	4315	No stop
21 12 00	=1055+433	15 03 39	49.2	281.2	4.1		53.6	99	4331	21 10 01
21 12 00	WXUMA	15 03 39	50.6	280.5	4.0		54.4	-18	4331	No stop
21 14 00	---	15 05 39	50.3	280.8	4.0		54.3	102	4346	21 12 01
21 14 00	J1108+4330	15 05 39	50.7	280.3	3.9		54.4	-12	4346	No stop
21 16 00	=1105+437	15 07 40	50.4	280.6	4.0		54.3	108	4362	21 14 01

Schedule for TORUN (Code Tr) Page 21

EB089 third epoch WX UMa Astrometry

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Tue 31 May 2022 Day 151 ---										
21 16 00	J1110+4403	15 07 40	51.1	281.0	3.9		55.0	-14	4362	No stop
21 18 00	=1107+443	15 09 40	50.8	281.3	4.0		54.9	106	4377	21 16 01
21 18 00	WXUMA	15 09 40	49.7	281.5	4.1		54.1	-17	4377	No stop
21 20 00	---	15 11 40	49.4	281.8	4.1		54.0	103	4393	21 18 01
21 20 20	J1108+4330	15 12 00	49.8	281.4	4.0		54.1	8	4393	21 20 20
21 22 00	=1105+437	15 13 40	49.5	281.6	4.1		54.0	100	4406	21 20 21
21 22 00	J1058+4304	15 13 40	47.8	282.8	4.2		53.1	-21	4406	No stop
21 24 00	=1055+433	15 15 41	47.5	283.1	4.3		53.0	99	4421	21 22 01
21 24 00	WXUMA	15 15 41	48.8	282.5	4.2		53.8	-18	4421	No stop
21 26 00	---	15 17 41	48.5	282.8	4.2		53.7	102	4437	21 24 01
21 26 00	J1108+4330	15 17 41	49.0	282.3	4.1		53.8	-12	4437	No stop
21 28 00	=1105+437	15 19 41	48.7	282.6	4.2		53.7	108	4452	21 26 01
21 28 00	J1110+4403	15 19 41	49.3	282.9	4.1		54.4	-14	4452	No stop
21 30 00	=1107+443	15 21 42	49.0	283.2	4.2		54.3	106	4467	21 28 01
21 30 00	WXUMA	15 21 42	47.9	283.5	4.3		53.5	-17	4467	No stop
21 32 00	---	15 23 42	47.6	283.8	4.3		53.4	103	4483	21 30 01
21 32 20	J1108+4330	15 24 02	48.0	283.3	4.2		53.5	8	4483	21 32 20
21 34 00	=1105+437	15 25 42	47.8	283.6	4.3		53.4	100	4496	21 32 21
21 34 00	J1058+4304	15 25 42	46.0	284.8	4.4		52.5	-21	4496	No stop
21 36 00	=1055+433	15 27 43	45.7	285.1	4.5		52.4	99	4511	21 34 01
21 36 00	WXUMA	15 27 43	47.1	284.4	4.4		53.2	-18	4511	No stop
21 38 00	---	15 29 43	46.8	284.7	4.4		53.1	102	4527	21 36 01
21 38 00	J1108+4330	15 29 43	47.2	284.2	4.3		53.2	-12	4527	No stop
21 40 00	=1105+437	15 31 43	46.9	284.6	4.4		53.1	108	4542	21 38 01
21 40 00	J1110+4403	15 31 43	47.6	284.8	4.3		53.7	-14	4542	No stop
21 42 00	=1107+443	15 33 44	47.3	285.1	4.4		53.6	106	4558	21 40 01
21 42 00	WXUMA	15 33 44	46.2	285.4	4.5		52.8	-17	4558	No stop
21 44 00	---	15 35 44	45.9	285.7	4.5		52.7	103	4573	21 42 01
21 44 20	J1108+4330	15 36 04	46.3	285.3	4.4		52.9	8	4573	21 44 20
21 46 00	=1105+437	15 37 44	46.0	285.5	4.5		52.8	100	4586	21 44 21

Schedule for TORUN (Code Tr) Page 22

EB089 third epoch WX UMa Astrometry

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Tue 31 May 2022 Day 151 ---										
21 46 00	J1058+4304	15 37 44	44.3	286.7	4.6		51.8	-20	4586	No stop
21 48 00	=1055+433	15 39 45	44.0	287.0	4.7		51.7	100	4601	21 46 01
21 48 00	WXUMA	15 39 45	45.3	286.3	4.6		52.5	-18	4601	No stop
21 50 00	---	15 41 45	45.0	286.6	4.6		52.4	102	4617	21 48 01
21 50 00	J1108+4330	15 41 45	45.5	286.2	4.5		52.5	-12	4617	No stop
21 52 00	=1105+437	15 43 45	45.2	286.5	4.6		52.4	108	4632	21 50 01
21 52 00	J1110+4403	15 43 45	45.8	286.7	4.5		53.0	-14	4632	No stop
21 54 00	=1107+443	15 45 46	45.5	287.0	4.6		52.9	106	4648	21 52 01
21 54 00	WXUMA	15 45 46	44.4	287.3	4.7		52.1	-17	4648	No stop
21 56 00	---	15 47 46	44.2	287.6	4.7		52.0	103	4663	21 54 01
21 56 20	J1108+4330	15 48 06	44.5	287.2	4.6		52.2	8	4663	21 56 20
21 58 00	=1105+437	15 49 46	44.3	287.4	4.7		52.1	100	4676	21 56 21
21 58 00	J1058+4304	15 49 46	42.6	288.6	4.8		51.1	-20	4676	No stop
22 00 00	=1055+433	15 51 47	42.3	288.9	4.9		50.9	100	4692	21 58 01
22 00 00	WXUMA	15 51 47	43.6	288.2	4.8		51.7	-18	4692	No stop
22 02 00	---	15 53 47	43.3	288.5	4.8		51.6	102	4707	22 00 01
22 02 00	J1108+4330	15 53 47	43.7	288.0	4.7		51.8	-12	4707	No stop
22 04 00	=1105+437	15 55 47	43.4	288.3	4.8		51.7	108	4723	22 02 01
22 04 00	J1110+4403	15 55 47	44.1	288.6	4.7		52.2	-14	4723	No stop
22 06 00	=1107+443	15 57 48	43.8	288.9	4.8		52.1	106	4738	22 04 01
22 06 00	WXUMA	15 57 48	42.7	289.1	4.9		51.3	-17	4738	No stop
22 08 00	---	15 59 48	42.4	289.4	4.9		51.2	103	4753	22 06 01
22 08 20	J1108+4330	16 00 08	42.8	289.0	4.8		51.4	8	4753	22 08 20
22 10 00	=1105+437	16 01 48	42.6	289.3	4.9		51.3	100	4766	22 08 21
22 10 00	J1058+4304	16 01 48	40.8	290.4	5.0		50.3	-20	4766	No stop
22 12 00	=1055+433	16 03 49	40.6	290.7	5.1		50.1	100	4782	22 10 01
22 12 00	WXUMA	16 03 49	41.9	290.1	5.0		50.9	-18	4782	No stop
22 14 00	---	16 05 49	41.6	290.4	5.0		50.8	102	4797	22 12 01
22 14 00	J1108+4330	16 05 49	42.0	289.9	4.9		51.0	-12	4797	No stop
22 16 00	=1105+437	16 07 49	41.7	290.2	5.0		50.9	108	4813	22 14 01

Schedule for TORUN (Code Tr) Page 23

EB089 third epoch WX UMa Astrometry

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Tue 31 May 2022 Day 151 ---										
22 16 00	J1110+4403	16 07 49	42.4	290.4	4.9		51.4	-14	4813	No stop
22 18 00	=1107+443	16 09 50	42.1	290.7	5.0		51.3	106	4828	22 16 01
22 18 00	WXUMA	16 09 50	41.0	291.0	5.1		50.5	-17	4828	No stop
22 20 00	---	16 11 50	40.8	291.3	5.1		50.4	103	4844	22 18 01
22 20 20	J1108+4330	16 12 10	41.1	290.9	5.0		50.6	8	4844	22 20 20
22 22 00	=1105+437	16 13 50	40.9	291.1	5.1		50.4	100	4856	22 20 21
22 22 00	J1058+4304	16 13 50	39.2	292.3	5.2		49.4	-20	4856	No stop
22 24 00	=1055+433	16 15 51	38.9	292.6	5.3		49.3	100	4872	22 22 01
22 24 00	WXUMA	16 15 51	40.2	291.9	5.2		50.1	-18	4872	No stop
22 26 00	---	16 17 51	39.9	292.2	5.2		49.9	102	4887	22 24 01
22 26 00	J1108+4330	16 17 51	40.3	291.7	5.1		50.1	-12	4887	No stop
22 28 00	=1105+437	16 19 51	40.0	292.0	5.2		50.0	108	4903	22 26 01
22 28 00	J1110+4403	16 19 51	40.7	292.2	5.1		50.5	-14	4903	No stop
22 30 00	=1107+443	16 21 52	40.4	292.5	5.2		50.4	106	4918	22 28 01
22 30 00	WXUMA	16 21 52	39.4	292.8	5.3		49.6	-17	4918	No stop
22 32 00	---	16 23 52	39.1	293.1	5.3		49.5	103	4934	22 30 01
22 32 20	J1108+4330	16 24 12	39.4	292.7	5.2		49.7	8	4934	22 32 20
22 34 00	=1105+437	16 25 52	39.2	293.0	5.3		49.5	100	4947	22 32 21
22 34 00	J1058+4304	16 25 52	37.5	294.1	5.4		48.5	-20	4947	No stop
22 36 00	=1055+433	16 27 53	37.2	294.4	5.5		48.3	100	4962	22 34 01
22 36 00	WXUMA	16 27 53	38.5	293.7	5.4		49.2	-18	4962	No stop
22 38 00	---	16 29 53	38.3	294.0	5.4		49.0	102	4978	22 36 01
22 38 00	J1108+4330	16 29 53	38.7	293.6	5.3		49.2	-12	4978	No stop
22 40 00	=1105+437	16 31 53	38.4	293.9	5.4		49.1	108	4993	22 38 01
22 40 00	J1110+4403	16 31 53	39.1	294.0	5.3		49.6	-14	4993	No stop
22 42 00	=1107+443	16 33 54	38.8	294.3	5.4		49.4	106	5008	22 40 01
22 42 00	WXUMA	16 33 54	37.7	294.7	5.5		48.7	-17	5008	No stop
22 44 00	---	16 35 54	37.4	295.0	5.5		48.5	103	5024	22 42 01
22 44 20	J1108+4330	16 36 14	37.8	294.5	5.4		48.7	8	5024	22 44 20
22 46 00	=1105+437	16 37 54	37.6	294.8	5.5		48.6	100	5037	22 44 21

Schedule for TORUN (Code Tr) Page 24

EB089 third epoch WX UMa Astrometry

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Tue 31 May 2022 Day 151 ---										
22 46 00	J1058+4304	16 37 54	35.9	296.0	5.6		47.5	-20	5037	No stop
22 48 00	=1055+433	16 39 55	35.6	296.3	5.7		47.4	100	5052	22 46 01
22 48 00	WXUMA	16 39 55	36.9	295.6	5.6		48.2	-18	5052	No stop
22 50 00	---	16 41 55	36.6	295.9	5.6		48.1	102	5068	22 48 01
22 50 00	J1108+4330	16 41 55	37.0	295.4	5.5		48.3	-12	5068	No stop
22 52 00	=1105+437	16 43 55	36.7	295.7	5.6		48.1	108	5083	22 50 01
22 52 00	J1110+4403	16 43 55	37.4	295.9	5.5		48.6	-14	5083	No stop
22 54 00	=1107+443	16 45 56	37.2	296.2	5.6		48.5	106	5099	22 52 01
22 54 00	WXUMA	16 45 56	36.1	296.5	5.7		47.7	-17	5099	No stop
22 56 00	---	16 47 56	35.8	296.8	5.7		47.6	103	5114	22 54 01
22 56 20	J1108+4330	16 48 16	36.2	296.4	5.6		47.8	8	5114	22 56 20
22 58 00	=1105+437	16 49 56	35.9	296.6	5.7		47.6	100	5127	22 56 21
22 58 00	J1058+4304	16 49 56	34.3	297.8	5.8		46.5	-20	5127	No stop
23 00 00	=1055+433	16 51 57	34.0	298.1	5.9		46.4	100	5142	22 58 01
23 00 00	WXUMA	16 51 57	35.3	297.4	5.8		47.2	-18	5142	No stop
23 02 00	---	16 53 57	35.0	297.7	5.8		47.1	102	5158	23 00 01
23 02 00	J1108+4330	16 53 57	35.4	297.2	5.7		47.3	-12	5158	No stop
23 04 00	=1105+437	16 55 57	35.1	297.5	5.8		47.1	108	5173	23 02 01
23 04 00	J1110+4403	16 55 57	35.8	297.7	5.7		47.6	-14	5173	No stop
23 06 00	=1107+443	16 57 58	35.5	298.0	5.8		47.4	106	5189	23 04 01
23 06 00	WXUMA	16 57 58	34.5	298.3	5.9		46.7	-17	5189	No stop
23 08 00	---	16 59 58	34.2	298.6	5.9		46.5	103	5204	23 06 01
23 08 20	J1108+4330	17 00 18	34.6	298.2	5.8		46.8	8	5204	23 08 20
23 10 00	=1105+437	17 01 58	34.3	298.4	5.9		46.6	100	5217	23 08 21
23 10 00	J1058+4304	17 01 58	32.7	299.6	6.0		45.5	-20	5217	No stop
23 12 00	=1055+433	17 03 59	32.4	299.9	6.1		45.3	100	5233	23 10 01
23 12 00	WXUMA	17 03 59	33.7	299.2	6.0		46.2	-18	5233	No stop
23 14 00	---	17 05 59	33.4	299.5	6.0		46.0	102	5248	23 12 01
23 14 00	J1108+4330	17 05 59	33.8	299.0	5.9		46.3	-12	5248	No stop
23 16 00	=1105+437	17 07 59	33.5	299.3	6.0		46.1	108	5264	23 14 01

```
Schedule for TORUN     (Code Tr )                                Page  25
               EB089 third epoch WX UMa Astrometry
  UP:  D => Below limits;  H => Below horizon mask;  W => still slewing at end;  blank => Up.
  Early: Seconds between end of slew and start.   Dwell: On source seconds.
  Disk: GBytes recorded to this point.
  TPStart:  Recording start time.  Frequencies are LO sum (band edge).
  SYNC: Time correlator is expected to sync up.
-----------------------------------------------------------------------------------------
Start UT  Source               Start / Stop                 Early    Disk   TPStart
Stop UT                  LST      EL    AZ   HA  UP   ParA  Dwell   GBytes    SYNC
-----------------------------------------------------------------------------------------

 --- Tue  31 May 2022   Day 151 ---

23 16 00  J1110+4403   17 07 59  34.2 299.5  5.9      46.6   -14     5264   No stop
23 18 00  =1107+443    17 10 00  34.0 299.8  6.0      46.4   106     5279   23 16 01

23 18 00  WXUMA        17 10 00  32.9 300.1  6.1      45.6   -17     5279   No stop
23 20 00  ---          17 12 00  32.6 300.4  6.1      45.5   103     5294   23 18 01

23 20 20  J1108+4330   17 12 20  33.0 300.0  6.0      45.7     8     5294   23 20 20
23 22 00  =1105+437    17 14 00  32.8 300.2  6.1      45.6   100     5307   23 20 21

23 22 00  J1058+4304   17 14 00  31.1 301.5  6.2      44.4   -20     5307   No stop
23 24 00  =1055+433    17 16 01  30.9 301.8  6.3      44.2   100     5323   23 22 01

23 24 00  WXUMA        17 16 01  32.1 301.0  6.2      45.1   -18     5323   No stop
23 26 00  ---          17 18 01  31.9 301.3  6.2      44.9   102     5338   23 24 01

23 26 00  J1108+4330   17 18 01  32.2 300.9  6.1      45.2   -12     5338   No stop
23 28 00  =1105+437    17 20 01  32.0 301.2  6.2      45.0   108     5354   23 26 01

23 28 00  J1110+4403   17 20 01  32.7 301.3  6.1      45.5   -14     5354   No stop
23 30 00  =1107+443    17 22 02  32.4 301.6  6.2      45.3   106     5369   23 28 01



SETUP FILE INFORMATION:
   NOTE: If DOPPLER, FREQ, or BW were used, see the individual scans for the final BBC settings.


 ======== Setup file: sess222.L1024

   Setup group:    8         Station: TORUN            Total bit rate:  1024
   Format: VDIF              Bits per sample: 2        Sample rate: 64.000
   Number of channels:  8    DBE type: DBBC_DDC        Speedup factor:   1.00

   Disk used to record data.
```

```
  1st LO=   2300.00   2300.00   2300.00   2300.00   2300.00   2300.00   2300.00   2300.00
  Net SB=         L         L         U         U         L         L         U         U
  IF SB =         L         L         L         L         L         L         L         L
  Pol.  =       RCP       LCP       RCP       LCP       RCP       LCP       RCP       LCP
  BBC   =         1         9         1         9         2        10         2        10
  BBC SB=         U         U         L         L         U         U         L         L
  IF    =        A1        B1        A1        B1        A1        B1        A1        B1

 The following frequency sets based on these setups were used.

  Frequency Set:   7  Setup file default.  Used with PCAL = off
  LO sum=   1626.49  1626.49  1626.49  1626.49  1690.49  1690.49  1690.49  1690.49
  BBC fr=    673.51   673.51   673.51   673.51   609.51   609.51   609.51   609.51
  Bandwd=     32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00
   Matching frequency sets:   7

  Track assignments are:
   track1=   1,  2,  3,  4,  5,  6,  7,  8
   barrel=roll_off



POSITIONS OF SOURCES USED IN RECORDING SCANS

  Source                          Source position (RA/Dec)                        Error
                       (B1950)             (J2000)             (Date)             (mas)

* WXUMA             11 02 32.855455   * 11 05 22.043790     11 06 37.139025       0.00
                    43 47 51.38932    * 43 31 39.30502      43 24 40.87837        0.00

* 4C39.25           09 23 55.319216   * 09 27 03.013937     09 28 25.488225       0.31
  J0927+3902        39 15 23.56644    * 39 02 20.85185      38 56 44.56228        0.16
  0923+392          /home/guest/rmc/SCHED/sched11.6/catalogs/sources.gsfc
  J0927+39          GSFC 2016a X/S astro solution, 250526 observations.

  1055+433          10 55 12.034150   * 10 58 02.920796     10 59 18.699907       0.11
* J1058+4304        43 20 45.33545    * 43 04 41.50524      42 57 46.66962        0.10
                    /home/guest/rmc/SCHED/sched11.6/catalogs/sources.gsfc
                    GSFC 2016a X/S astro solution,    155 observations.

  1105+437          11 05 35.113886   * 11 08 23.476922     11 09 38.234433       0.11
* J1108+4330        43 47 08.86379    * 43 30 53.65748      43 23 53.81378        0.11
                    /home/guest/rmc/SCHED/sched11.6/catalogs/sources.gsfc
                    GSFC 2016a X/S astro solution,    174 observations.

  1107+443          11 07 58.361505   * 11 10 46.345775     11 12 00.959846       0.13
* J1110+4403        44 19 43.46615    * 44 03 25.92554      43 56 25.17401        0.13
                    /home/guest/rmc/SCHED/sched11.6/catalogs/sources.gsfc
                    GSFC 2016a X/S astro solution,    216 observations.

* OQ208             14 04 45.615156   * 14 07 00.394415     14 08 01.339184       0.24
  J1407+2827        28 41 29.23515    * 28 27 14.69019      28 20 58.78901        0.35
  1404+286          /home/guest/rmc/SCHED/sched11.6/catalogs/sources.gsfc
  J1407+28          GSFC 2016a X/S astro solution,  68278 observations.
```

ew029atr

Monitoring the old, discovering the new; mas-scale radio emission i

PI: *Dr David Williams*

```
Address:  Jodrell Band Centre for Astrophysics

Observing mode:
Schedule for TORUN     (Code Tr )                                    Page   2
               Monitoring the old, discovering the new; mas-scale radio emission in M82
  UP:  D => Below limits;  H => Below horizon mask;  W => still slewing at end;  blank => Up.
  Early: Seconds between end of slew and start.   Dwell: On source seconds.
  Disk: GBytes recorded to this point.
  TPStart:  Recording start time.  Frequencies are LO sum (band edge).
  SYNC: Time correlator is expected to sync up.
-------------------------------------------------------------------------------------------
Start UT  Source               Start / Stop                 Early    Disk   TPStart
Stop UT                  LST      EL    AZ   HA  UP   ParA  Dwell   GBytes    SYNC
-------------------------------------------------------------------------------------------
 --- Wed   1 Jun 2022   Day 152 ---
 Next scan frequencies:  1626.49  1626.49  1626.49  1626.49  1690.49  1690.49  1690.49  1690.49
 Next BBC frequencies:    673.51   673.51   673.51   673.51   609.51   609.51   609.51   609.51
 Next scan bandwidths:     32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00

04 00 00  3C84         21 52 46  36.3  66.9 -5.5     -47.6     0        0   04 00 00
04 06 00  ---          21 58 47  37.2  67.8 -5.4     -48.0   360       46   04 00 01

04 12 00  J0958+65     22 04 48  28.6   0.5-11.9      -0.7   210       46   04 12 00
04 18 00  ---          22 10 49  28.6   1.2-11.8      -1.8   360       93   04 12 01

04 18 40  J0958+65     22 11 29  28.6   1.3-11.8      -1.9    34       93   04 18 40
04 20 00  ---          22 12 49  28.6   1.5-11.8      -2.1    80      103   04 18 41

04 20 00  M82          22 12 49  32.7   1.6-11.7      -2.7   -29      103   No stop
04 27 30  ---          22 20 20  32.7   2.3-11.6      -4.0   421      161   04 20 01

04 28 10  J0958+65     22 21 00  28.6   2.4-11.7      -3.5    11      161   04 28 10
04 29 30  ---          22 22 21  28.6   2.6-11.6      -3.7    80      171   04 28 11

04 29 30  M82          22 22 21  32.8   2.6-11.6      -4.4   -29      171   No stop
04 37 00  ---          22 29 52  32.8   3.3-11.5      -5.7   421      229   04 29 31

04 37 40  J0958+65     22 30 32  28.7   3.6-11.5      -5.1    11      229   04 37 40
04 39 00  ---          22 31 52  28.7   3.7-11.5      -5.4    80      240   04 37 41

04 39 00  M82          22 31 52  32.8   3.5-11.4      -6.1   -29      240   No stop
04 46 15  ---          22 39 08  32.9   4.3-11.3      -7.4   406      296   04 39 01

04 46 55  J0958+65     22 39 49  28.8   4.6-11.3      -6.7    11      296   04 46 55
04 48 15  ---          22 41 09  28.8   4.8-11.3      -7.0    80      306   04 46 56

04 48 15  M82          22 41 09  32.9   4.5-11.3      -7.8   -29      306   No stop
04 55 45  ---          22 48 40  33.0   5.3-11.1      -9.1   421      364   04 48 16

04 56 25  J0958+65     22 49 20  28.9   5.8-11.2      -8.3    11      364   04 56 25
04 57 45  ---          22 50 40  28.9   5.9-11.2      -8.6    80      374   04 56 26

04 57 45  M82          22 50 40  33.1   5.5-11.1      -9.5   -29      374   No stop
05 05 15  ---          22 58 12  33.2   6.2-11.0     -10.8   421      432   04 57 46

05 05 55  J0958+65     22 58 52  29.1   6.9-11.0     -10.0    11      432   05 05 55
05 07 15  ---          23 00 12  29.1   7.0-11.0     -10.2    80      442   05 05 56
```

Schedule for TORUN (Code Tr) Page 3

Monitoring the old, discovering the new; mas-scale radio emission in M82

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Wed 1 Jun 2022 Day 152 ---										
05 07 15	M82	23 00 12	33.2	6.5	-11.0		-11.2	-29	442	No stop
05 14 30	---	23 07 28	33.3	7.2	-10.8		-12.4	406	499	05 07 16
05 15 10	J0958+65	23 08 08	29.3	8.0	-10.9		-11.6	11	499	05 15 10
05 16 30	---	23 09 28	29.3	8.1	-10.8		-11.8	80	509	05 15 11
05 16 30	M82	23 09 28	33.4	7.4	-10.8		-12.8	-29	509	No stop
05 24 00	---	23 17 00	33.5	8.2	-10.7		-14.1	421	567	05 16 31
05 24 40	J0958+65	23 17 40	29.5	9.1	-10.7		-13.2	11	567	05 24 40
05 26 00	---	23 19 00	29.5	9.2	-10.7		-13.4	80	577	05 24 41
05 26 00	M82	23 19 00	33.6	8.4	-10.6		-14.5	-29	577	No stop
05 33 30	---	23 26 31	33.7	9.1	-10.5		-15.8	421	635	05 26 01
05 34 10	J0958+65	23 27 11	29.7	10.2	-10.6		-14.8	11	635	05 34 10
05 35 30	---	23 28 32	29.8	10.3	-10.5		-15.0	80	645	05 34 11
05 35 30	M82	23 28 32	33.8	9.3	-10.5		-16.2	-29	645	No stop
05 42 45	---	23 35 48	34.0	10.1	-10.4		-17.5	406	701	05 35 31
05 43 25	J0958+65	23 36 28	30.0	11.2	-10.4		-16.4	11	701	05 43 25
05 44 45	---	23 37 48	30.0	11.4	-10.4		-16.6	80	712	05 43 26
05 44 45	M82	23 37 48	34.0	10.3	-10.3		-17.9	-29	712	No stop
05 52 15	---	23 45 19	34.2	11.0	-10.2		-19.2	421	770	05 44 46
05 52 55	J0958+65	23 45 59	30.3	12.3	-10.2		-18.0	11	770	05 52 55
05 54 15	---	23 47 20	30.3	12.5	-10.2		-18.2	80	780	05 52 56
05 54 15	M82	23 47 20	34.3	11.2	-10.2		-19.6	-29	780	No stop
06 01 45	---	23 54 51	34.5	12.0	-10.0		-20.9	421	838	05 54 16
06 02 25	J0958+65	23 55 31	30.6	13.4	-10.1		-19.6	11	838	06 02 25
06 03 45	---	23 56 51	30.6	13.6	-10.1		-19.8	80	848	06 02 26
06 03 45	M82	23 56 51	34.6	12.2	-10.0		-21.3	-29	848	No stop
06 11 00	---	00 04 07	34.8	12.9	-9.9		-22.5	406	904	06 03 46
06 11 40	J0958+65	00 04 48	30.9	14.5	-9.9		-21.2	11	904	06 11 40
06 13 00	---	00 06 08	31.0	14.6	-9.9		-21.4	80	915	06 11 41
06 13 00	M82	00 06 08	34.9	13.1	-9.9		-22.9	-29	915	No stop
06 20 30	---	00 13 39	35.1	13.8	-9.7		-24.2	421	973	06 13 01
06 21 10	J0958+65	00 14 19	31.3	15.5	-9.8		-22.8	12	973	06 21 10
06 22 30	---	00 15 39	31.3	15.7	-9.7		-23.0	80	983	06 21 11

Schedule for TORUN (Code Tr) Page 4

Monitoring the old, discovering the new; mas-scale radio emission in M82

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Wed 1 Jun 2022 Day 152 ---										
06 22 30	M82	00 15 39	35.2	14.0	-9.7		-24.6	-28	983	No stop
06 30 00	---	00 23 11	35.5	14.7	-9.6		-25.9	422	1041	06 22 31
06 30 40	J0958+65	00 23 51	31.7	16.6	-9.6		-24.4	12	1041	06 30 40
06 32 00	---	00 25 11	31.7	16.8	-9.6		-24.6	80	1051	06 30 41
06 32 00	M82	00 25 11	35.6	14.9	-9.5		-26.3	-28	1051	No stop
06 39 15	---	00 32 27	35.9	15.6	-9.4		-27.6	407	1107	06 32 01
06 39 55	J0958+65	00 33 07	32.1	17.6	-9.5		-26.0	12	1107	06 39 55
06 41 15	---	00 34 27	32.2	17.8	-9.4		-26.2	80	1118	06 39 56
06 41 15	M82	00 34 27	35.9	15.8	-9.4		-28.0	-28	1118	No stop
06 48 45	---	00 41 59	36.3	16.5	-9.3		-29.3	422	1175	06 41 16
06 49 25	J0958+65	00 42 39	32.5	18.7	-9.3		-27.6	12	1175	06 49 25
06 50 45	---	00 43 59	32.6	18.8	-9.3		-27.8	80	1186	06 49 26
06 50 45	M82	00 43 59	36.3	16.7	-9.2		-29.7	-28	1186	No stop
06 58 15	---	00 51 30	36.7	17.4	-9.1		-31.0	422	1244	06 50 46
06 58 55	J0958+65	00 52 10	33.0	19.7	-9.1		-29.2	12	1244	06 58 55
07 00 15	---	00 53 30	33.1	19.9	-9.1		-29.4	80	1254	06 58 56
07 00 15	M82	00 53 30	36.8	17.6	-9.1		-31.4	-28	1254	No stop
07 07 30	---	01 00 47	37.1	18.3	-8.9		-32.7	407	1310	07 00 16
07 08 10	J0958+65	01 01 27	33.5	20.7	-9.0		-30.8	13	1310	07 08 10
07 09 30	---	01 02 47	33.6	20.9	-9.0		-31.0	80	1320	07 08 11
07 09 30	M82	01 02 47	37.2	18.5	-8.9		-33.0	-28	1320	No stop
07 17 00	---	01 10 18	37.6	19.1	-8.8		-34.4	422	1378	07 09 31
07 17 40	J0958+65	01 10 58	34.0	21.7	-8.8		-32.4	13	1378	07 17 40
07 19 00	---	01 12 19	34.1	21.9	-8.8		-32.6	80	1389	07 17 41
07 19 00	M82	01 12 19	37.7	19.3	-8.8		-34.7	-27	1389	No stop
07 26 30	---	01 19 50	38.0	20.0	-8.6		-36.1	423	1447	07 19 01
07 27 10	J0958+65	01 20 30	34.6	22.7	-8.7		-34.0	13	1447	07 27 10
07 28 30	---	01 21 50	34.6	22.9	-8.6		-34.2	80	1457	07 27 11
07 28 30	M82	01 21 50	38.1	20.2	-8.6		-36.4	-27	1457	No stop
07 35 45	---	01 29 06	38.5	20.8	-8.5		-37.7	408	1513	07 28 31

Schedule for TORUN (Code Tr) Page 5

Monitoring the old, discovering the new; mas-scale radio emission in M82

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Wed 1 Jun 2022 Day 152 ---										
07 36 25	J0958+65	01 29 46	35.1	23.7	-8.5		-35.5	13	1513	07 36 25
07 37 45	---	01 31 07	35.2	23.8	-8.5		-35.7	80	1523	07 36 26
07 37 45	M82	01 31 07	38.6	21.0	-8.4		-38.1	-27	1523	No stop
07 45 15	---	01 38 38	39.0	21.7	-8.3		-39.4	423	1581	07 37 46
07 45 55	J0958+65	01 39 18	35.7	24.7	-8.4		-37.1	13	1581	07 45 55
07 47 15	---	01 40 38	35.8	24.8	-8.3		-37.3	80	1592	07 45 56
07 47 15	M82	01 40 38	39.2	21.8	-8.3		-39.8	-27	1592	No stop
07 54 45	---	01 48 09	39.6	22.5	-8.2		-41.1	423	1650	07 47 16
07 55 25	J0958+65	01 48 50	36.3	25.6	-8.2		-38.7	14	1650	07 55 25
07 56 45	---	01 50 10	36.4	25.8	-8.2		-38.9	80	1660	07 55 26
07 56 45	M82	01 50 10	39.7	22.7	-8.1		-41.5	-26	1660	No stop
08 04 00	---	01 57 26	40.1	23.3	-8.0		-42.8	409	1716	07 56 46
08 04 40	J0958+65	01 58 06	36.9	26.6	-8.0		-40.3	14	1716	08 04 40
08 06 00	---	01 59 26	37.0	26.7	-8.0		-40.5	80	1726	08 04 41
08 06 00	M82	01 59 26	40.2	23.4	-8.0		-43.2	-26	1726	No stop
08 13 30	---	02 06 58	40.7	24.1	-7.8		-44.5	424	1784	08 06 01
08 14 10	J0958+65	02 07 38	37.6	27.5	-7.9		-41.9	14	1784	08 14 10
08 15 30	---	02 08 58	37.7	27.6	-7.9		-42.1	80	1794	08 14 11
08 15 30	M82	02 08 58	40.8	24.2	-7.8		-44.9	-26	1794	No stop
08 23 00	---	02 16 29	41.3	24.8	-7.7		-46.3	424	1852	08 15 31
08 23 40	J0958+65	02 17 09	38.2	28.4	-7.7		-43.5	15	1852	08 23 40
08 25 00	---	02 18 29	38.3	28.5	-7.7		-43.7	80	1863	08 23 41
08 25 00	M82	02 18 29	41.4	25.0	-7.7		-46.6	-26	1863	No stop
08 32 15	---	02 25 46	41.9	25.6	-7.5		-47.9	409	1919	08 25 01
08 32 55	J0958+65	02 26 26	38.9	29.3	-7.6		-45.0	15	1919	08 32 55
08 34 15	---	02 27 46	39.0	29.4	-7.5		-45.3	80	1929	08 32 56
08 34 15	M82	02 27 46	42.0	25.7	-7.5		-48.3	-25	1929	No stop
08 41 45	---	02 35 17	42.5	26.3	-7.4		-49.7	425	1987	08 34 16
08 42 25	J0958+65	02 35 57	39.6	30.2	-7.4		-46.6	15	1987	08 42 25
08 43 45	---	02 37 17	39.7	30.3	-7.4		-46.9	80	1997	08 42 26

Schedule for TORUN (Code Tr) Page 6

Monitoring the old, discovering the new; mas-scale radio emission in M82

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

--- Wed 1 Jun 2022 Day 152 ---

Start UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
Stop UT										
08 43 45	M82	02 37 17	42.6	26.5	-7.3		-50.1	-25	1997	No stop
08 51 15	---	02 44 49	43.1	27.0	-7.2		-51.4	425	2055	08 43 46
08 51 55	J0958+65	02 45 29	40.3	31.1	-7.2		-48.2	15	2055	08 51 55
08 53 15	---	02 46 49	40.4	31.2	-7.2		-48.5	80	2066	08 51 56
08 53 15	M82	02 46 49	43.3	27.2	-7.2		-51.8	-25	2066	No stop
09 00 30	---	02 54 05	43.8	27.7	-7.1		-53.1	410	2122	08 53 16
09 01 10	J0958+65	02 54 45	41.1	31.9	-7.1		-49.8	16	2122	09 01 10
09 02 30	---	02 56 06	41.2	32.0	-7.1		-50.0	80	2132	09 01 11
09 02 30	M82	02 56 06	43.9	27.8	-7.0		-53.5	-24	2132	No stop
09 10 00	---	03 03 37	44.5	28.4	-6.9		-54.9	426	2190	09 02 31
09 10 40	J0958+65	03 04 17	41.8	32.7	-6.9		-51.4	16	2190	09 10 40
09 12 00	---	03 05 37	41.9	32.8	-6.9		-51.7	80	2200	09 10 41
09 12 00	M82	03 05 37	44.6	28.5	-6.9		-55.3	-24	2200	No stop
09 19 30	---	03 13 08	45.1	29.0	-6.7		-56.7	426	2258	09 12 01
09 20 10	J0958+65	03 13 48	42.6	33.5	-6.8		-53.0	16	2258	09 20 10
09 21 30	---	03 15 09	42.7	33.7	-6.8		-53.3	80	2269	09 20 11
09 21 30	M82	03 15 09	45.3	29.2	-6.7		-57.0	-24	2269	No stop
09 28 45	---	03 22 25	45.8	29.7	-6.6		-58.4	411	2325	09 21 31
09 29 25	J0958+65	03 23 05	43.4	34.3	-6.6		-54.6	16	2325	09 29 25
09 30 45	---	03 24 25	43.5	34.4	-6.6		-54.8	80	2335	09 29 26
09 30 45	M82	03 24 25	46.0	29.8	-6.6		-58.8	-24	2335	No stop
09 38 15	---	03 31 56	46.5	30.3	-6.4		-60.2	426	2393	09 30 46
09 38 55	J0958+65	03 32 37	44.2	35.1	-6.5		-56.2	15	2393	09 38 55
09 40 15	---	03 33 57	44.3	35.2	-6.4		-56.5	80	2403	09 38 56
09 40 15	M82	03 33 57	46.7	30.4	-6.4		-60.6	-25	2403	No stop
09 47 45	---	03 41 28	47.3	30.9	-6.3		-62.0	425	2461	09 40 16
09 48 25	J0958+65	03 42 08	45.0	35.9	-6.3		-57.9	15	2461	09 48 25
09 49 45	---	03 43 28	45.2	36.0	-6.3		-58.1	80	2471	09 48 26
09 49 45	M82	03 43 28	47.4	31.0	-6.2		-62.4	-25	2471	No stop
09 57 00	---	03 50 45	48.0	31.4	-6.1		-63.7	410	2527	09 49 46

Schedule for TORUN (Code Tr) Page 7

Monitoring the old, discovering the new; mas-scale radio emission in M82

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Wed 1 Jun 2022 Day 152 ---										
09 57 40	J0958+65	03 51 25	45.9	36.6	-6.2		-59.5	15	2527	09 57 40
09 59 00	---	03 52 45	46.0	36.7	-6.1		-59.7	80	2538	09 57 41
09 59 00	M82	03 52 45	48.1	31.5	-6.1		-64.1	-25	2538	No stop
10 06 30	---	04 00 16	48.7	31.9	-6.0		-65.6	425	2596	09 59 01
10 07 10	J0958+65	04 00 56	46.7	37.3	-6.0		-61.1	14	2596	10 07 10
10 08 30	---	04 02 16	46.8	37.4	-6.0		-61.4	80	2606	10 07 11
10 08 30	M82	04 02 16	48.9	32.1	-5.9		-66.0	-26	2606	No stop
10 16 00	---	04 09 48	49.5	32.5	-5.8		-67.4	424	2664	10 08 31
10 16 40	J0958+65	04 10 28	47.6	38.0	-5.8		-62.8	14	2664	10 16 40
10 18 00	---	04 11 48	47.7	38.1	-5.8		-63.0	80	2674	10 16 41
10 18 00	M82	04 11 48	49.7	32.6	-5.8		-67.8	-26	2674	No stop
10 25 15	---	04 19 04	50.3	32.9	-5.6		-69.2	409	2730	10 18 01
10 25 55	J0958+65	04 19 44	48.4	38.6	-5.7		-64.4	14	2730	10 25 55
10 27 15	---	04 21 04	48.6	38.7	-5.7		-64.7	80	2741	10 25 56
10 27 15	M82	04 21 04	50.4	33.0	-5.6		-69.6	-26	2741	No stop
10 34 45	---	04 28 36	51.0	33.4	-5.5		-71.1	424	2799	10 27 16
10 35 25	J0958+65	04 29 16	49.3	39.2	-5.5		-66.1	13	2799	10 35 25
10 36 45	---	04 30 36	49.5	39.3	-5.5		-66.4	80	2809	10 35 26
10 36 45	M82	04 30 36	51.2	33.4	-5.5		-71.5	-27	2809	No stop
10 44 15	---	04 38 07	51.8	33.8	-5.3		-73.0	423	2867	10 36 46
10 44 55	J0958+65	04 38 47	50.3	39.8	-5.4		-67.8	13	2867	10 44 55
10 46 15	---	04 40 08	50.4	39.9	-5.3		-68.1	80	2877	10 44 56
10 46 15	M82	04 40 08	52.0	33.8	-5.3		-73.5	-27	2877	No stop
10 53 30	---	04 47 24	52.6	34.1	-5.2		-74.9	408	2933	10 46 16
10 54 10	J0958+65	04 48 04	51.2	40.4	-5.2		-69.5	13	2933	10 54 10
10 55 30	---	04 49 24	51.3	40.5	-5.2		-69.8	80	2944	10 54 11
10 55 30	M82	04 49 24	52.8	34.2	-5.1		-75.3	-27	2944	No stop
11 03 00	---	04 56 55	53.4	34.5	-5.0		-76.9	423	3001	10 55 31
11 03 40	J0958+65	04 57 35	52.1	40.9	-5.0		-71.3	12	3001	11 03 40
11 05 00	---	04 58 56	52.2	41.0	-5.0		-71.5	80	3012	11 03 41

Schedule for TORUN (Code Tr) Page 8

Monitoring the old, discovering the new; mas-scale radio emission in M82

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

--- Wed 1 Jun 2022 Day 152 ---

Start UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
Stop UT										
11 05 00	M82	04 58 56	53.6	34.5	-5.0		-77.3	-28	3012	No stop
11 12 30	---	05 06 27	54.2	34.8	-4.9		-78.9	422	3070	11 05 01
11 13 10	J0958+65	05 07 07	53.0	41.4	-4.9		-73.0	12	3070	11 13 10
11 14 30	---	05 08 27	53.2	41.5	-4.9		-73.3	80	3080	11 13 11
11 14 30	M82	05 08 27	54.4	34.8	-4.8		-79.3	-28	3080	No stop
11 21 45	---	05 15 43	55.0	35.0	-4.7		-80.9	407	3136	11 14 31
11 21 45	J0958+65	05 15 43	53.9	41.8	-4.7		-74.7	-29	3136	No stop
11 24 45	---	05 18 44	54.2	42.0	-4.7		-75.2	151	3159	11 21 46
11 26 45	J0927+39	05 20 44	46.3	83.0	-4.1		-50.0	23	3159	11 26 45
11 31 45	---	05 25 45	47.0	83.9	-4.0		-50.1	300	3198	11 26 46
11 33 45	J0958+65	05 27 45	55.1	42.4	-4.5		-77.0	22	3198	11 33 45
11 35 45	---	05 29 46	55.3	42.4	-4.5		-77.4	120	3213	11 33 46
11 35 45	M82	05 29 46	56.2	35.3	-4.5		-83.9	-29	3213	No stop
11 43 15	---	05 37 17	56.9	35.4	-4.3		-85.6	421	3271	11 35 46
11 43 55	J0958+65	05 37 57	56.1	42.7	-4.4		-79.0	10	3271	11 43 55
11 45 15	---	05 39 17	56.3	42.8	-4.4		-79.2	80	3282	11 43 56
11 45 15	M82	05 39 17	57.1	35.4	-4.3		-86.0	-30	3282	No stop
11 52 45	---	05 46 49	57.7	35.5	-4.2		-87.7	420	3340	11 45 16
11 53 25	J0958+65	05 47 29	57.1	43.1	-4.2		-80.9	10	3340	11 53 25
11 54 45	---	05 48 49	57.2	43.1	-4.2		-81.1	80	3350	11 53 26
11 54 45	M82	05 48 49	57.9	35.5	-4.1		-88.2	-30	3350	No stop
12 02 00	---	05 56 05	58.5	35.5	-4.0		-89.9	405	3406	11 54 46
12 02 40	J0958+65	05 56 45	58.1	43.3	-4.1		-82.8	9	3406	12 02 40
12 04 00	---	05 58 05	58.2	43.4	-4.0		-83.0	80	3416	12 02 41
12 04 00	M82	05 58 05	58.7	35.5	-4.0		-90.4	-31	3416	No stop
12 11 30	---	06 05 37	59.4	35.5	-3.9		-92.1	419	3474	12 04 01
12 12 10	J0958+65	06 06 17	59.0	43.5	-3.9		-84.8	9	3474	12 12 10
12 13 30	---	06 07 37	59.2	43.5	-3.9		-85.0	80	3485	12 12 11
12 13 30	M82	06 07 37	59.5	35.5	-3.8		-92.6	-31	3485	No stop
12 21 00	---	06 15 08	60.2	35.4	-3.7		-94.5	419	3543	12 13 31

Schedule for TORUN (Code Tr) Page 9

Monitoring the old, discovering the new; mas-scale radio emission in M82

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

--- Wed 1 Jun 2022 Day 152 ---

Start UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
12 21 40	J0958+65	06 15 48	60.0	43.7	-3.7		-86.8	8	3543	12 21 40
12 23 00	---	06 17 09	60.2	43.7	-3.7		-87.1	80	3553	12 21 41
12 23 00	M82	06 17 09	60.4	35.4	-3.7		-95.0	-32	3553	No stop
12 30 15	---	06 24 25	61.0	35.2	-3.6		-96.8	403	3609	12 23 01
12 30 55	J0958+65	06 25 05	61.0	43.7	-3.6		-88.8	8	3609	12 30 55
12 32 15	---	06 26 25	61.1	43.7	-3.6		-89.1	80	3619	12 30 56
12 32 15	M82	06 26 25	61.2	35.2	-3.5		-97.3	-32	3619	No stop
12 39 45	---	06 33 56	61.8	35.0	-3.4		-99.2	418	3677	12 32 16
12 40 25	J0958+65	06 34 36	62.0	43.7	-3.4		-91.0	8	3677	12 40 25
12 41 45	---	06 35 57	62.1	43.7	-3.4		-91.3	80	3687	12 40 26
12 41 45	M82	06 35 57	62.0	34.9	-3.4		-99.7	-33	3687	No stop
12 49 15	---	06 43 28	62.6	34.7	-3.2		-101.7	417	3745	12 41 46
12 49 55	J0958+65	06 44 08	63.0	43.7	-3.3		-93.2	7	3745	12 49 55
12 51 15	---	06 45 28	63.1	43.6	-3.2		-93.6	80	3756	12 49 56
12 51 15	M82	06 45 28	62.8	34.6	-3.2		-102.3	-33	3756	No stop
12 58 30	---	06 52 44	63.4	34.3	-3.1		-104.3	402	3812	12 51 16
12 59 10	J0958+65	06 53 24	63.9	43.5	-3.1		-95.5	7	3812	12 59 10
13 00 30	---	06 54 45	64.1	43.5	-3.1		-95.8	80	3822	12 59 11
13 00 30	M82	06 54 45	63.6	34.2	-3.0		-104.8	-34	3822	No stop
13 08 00	---	07 02 16	64.2	33.8	-2.9		-107.0	416	3880	13 00 31
13 08 40	J0958+65	07 02 56	64.9	43.2	-3.0		-97.9	6	3880	13 08 40
13 10 00	---	07 04 16	65.0	43.2	-2.9		-98.3	80	3890	13 08 41
13 10 00	M82	07 04 16	64.4	33.6	-2.9		-107.5	-34	3890	No stop
13 17 30	---	07 11 47	65.0	33.2	-2.8		-109.7	416	3948	13 10 01
13 18 10	J0958+65	07 12 28	65.9	42.9	-2.8		-100.4	6	3948	13 18 10
13 19 30	---	07 13 48	66.0	42.8	-2.8		-100.8	80	3959	13 18 11
13 19 30	M82	07 13 48	65.2	33.0	-2.7		-110.3	-35	3959	No stop
13 26 45	---	07 21 04	65.8	32.5	-2.6		-112.5	400	4015	13 19 31
13 27 25	J0958+65	07 21 44	66.8	42.4	-2.6		-103.0	5	4015	13 27 25
13 28 45	---	07 23 04	67.0	42.3	-2.6		-103.4	80	4025	13 27 26

Schedule for TORUN (Code Tr) Page 10

Monitoring the old, discovering the new; mas-scale radio emission in M82

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

--- Wed 1 Jun 2022 Day 152 ---

Start UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
Stop UT										
13 28 45	M82	07 23 04	65.9	32.3	-2.6		-113.2	-35	4025	No stop
13 36 15	---	07 30 36	66.5	31.6	-2.5		-115.5	415	4083	13 28 46
13 36 55	J0958+65	07 31 16	67.8	41.7	-2.5		-105.7	5	4083	13 36 55
13 38 15	---	07 32 36	67.9	41.6	-2.5		-106.1	80	4093	13 36 56
13 38 15	M82	07 32 36	66.7	31.4	-2.4		-116.2	-36	4093	No stop
13 45 45	---	07 40 07	67.3	30.7	-2.3		-118.7	414	4151	13 38 16
13 46 25	J0958+65	07 40 47	68.7	40.9	-2.3		-108.6	4	4151	13 46 25
13 47 45	---	07 42 07	68.9	40.8	-2.3		-109.0	80	4162	13 46 26
13 47 45	M82	07 42 07	67.4	30.4	-2.3		-119.3	-36	4162	No stop
13 55 00	---	07 49 24	68.0	29.6	-2.1		-121.8	399	4218	13 47 46
13 55 40	J0958+65	07 50 04	69.6	40.0	-2.2		-111.6	4	4218	13 55 40
13 57 00	---	07 51 24	69.8	39.9	-2.2		-112.0	80	4228	13 55 41
13 57 00	M82	07 51 24	68.1	29.3	-2.1		-122.5	-36	4228	No stop
14 04 30	---	07 58 55	68.7	28.3	-2.0		-125.2	414	4286	13 57 01
14 05 10	J0958+65	07 59 35	70.5	38.9	-2.0		-114.8	4	4286	14 05 10
14 06 30	---	08 00 56	70.7	38.7	-2.0		-115.3	80	4296	14 05 11
14 06 30	M82	08 00 56	68.8	28.1	-1.9		-125.9	-36	4296	No stop
14 14 00	---	08 08 27	69.3	26.9	-1.8		-128.7	414	4354	14 06 31
14 14 40	J0958+65	08 09 07	71.4	37.5	-1.9		-118.3	4	4354	14 14 40
14 16 00	---	08 10 27	71.6	37.3	-1.8		-118.8	80	4364	14 14 41
14 16 00	M82	08 10 27	69.5	26.6	-1.8		-129.5	-36	4364	No stop
14 23 15	---	08 17 43	69.9	25.4	-1.7		-132.3	399	4420	14 16 01
14 23 55	J0958+65	08 18 23	72.3	36.0	-1.7		-121.9	4	4420	14 23 55
14 25 15	---	08 19 44	72.4	35.7	-1.7		-122.4	80	4431	14 23 56
14 25 15	M82	08 19 44	70.1	25.1	-1.6		-133.1	-36	4431	No stop
14 32 45	---	08 27 15	70.5	23.7	-1.5		-136.2	414	4489	14 25 16
14 33 25	J0958+65	08 27 55	73.1	34.1	-1.5		-125.8	4	4489	14 33 25
14 34 45	---	08 29 15	73.2	33.8	-1.5		-126.4	80	4499	14 33 26
14 34 45	M82	08 29 15	70.6	23.3	-1.5		-137.0	-36	4499	No stop
14 42 15	---	08 36 46	71.1	21.8	-1.3		-140.2	414	4557	14 34 46

```
Schedule for TORUN     (Code Tr )                                  Page  11
               Monitoring the old, discovering the new; mas-scale radio emission in M82
  UP:  D => Below limits;  H => Below horizon mask;  W => still slewing at end;  blank => Up.
  Early: Seconds between end of slew and start.   Dwell: On source seconds.
  Disk: GBytes recorded to this point.
  TPStart:  Recording start time.  Frequencies are LO sum (band edge).
  SYNC: Time correlator is expected to sync up.
-----------------------------------------------------------------------------------------
Start UT  Source               Start / Stop                 Early    Disk   TPStart
Stop UT                  LST      EL    AZ   HA  UP   ParA  Dwell   GBytes    SYNC
-----------------------------------------------------------------------------------------

 --- Wed   1 Jun 2022   Day 152 ---

14 42 55  J0958+65     08 37 26  73.9  32.0 -1.4    -130.0     5     4557   14 42 55
14 44 15  ---          08 38 47  74.0  31.6 -1.4    -130.6    80     4567   14 42 56

14 44 15  M82          08 38 47  71.2  21.4 -1.3    -141.1   -36     4567   No stop
14 51 30  ---          08 46 03  71.6  19.8 -1.2    -144.3   399     4623   14 44 16

14 52 10  J0958+65     08 46 43  74.6  29.6 -1.2    -134.4     5     4623   14 52 10
14 53 30  ---          08 48 03  74.7  29.2 -1.2    -135.1    80     4634   14 52 11

14 55 30  J0927+39     08 50 04  74.4 151.2 -0.6     -21.8  -142     4634   14 55 30
15 00 00  ---          08 54 34  74.7 154.3 -0.6     -19.6   128     4668   14 55 31



SETUP FILE INFORMATION:
   NOTE: If DOPPLER, FREQ, or BW were used, see the individual scans for the final BBC settings.


 ======== Setup file: sess222.L1024

   Setup group:    7         Station: TORUN            Total bit rate:  1024
   Format: VDIF              Bits per sample: 2        Sample rate: 64.000
   Number of channels:  8    DBE type: DBBC_DDC        Speedup factor:   1.00

   Disk used to record data.
```

```
  1st LO=   2300.00   2300.00   2300.00   2300.00   2300.00   2300.00   2300.00   2300.00
  Net SB=         L         L         U         U         L         L         U         U
  IF SB =         L         L         L         L         L         L         L         L
  Pol.  =       RCP       LCP       RCP       LCP       RCP       LCP       RCP       LCP
  BBC   =         1         9         1         9         2        10         2        10
  BBC SB=         U         U         L         L         U         U         L         L
  IF    =        A1        B1        A1        B1        A1        B1        A1        B1

 The following frequency sets based on these setups were used.

  Frequency Set:   8  Setup file default.  Used with PCAL = off
  LO sum=   1626.49  1626.49  1626.49  1626.49  1690.49  1690.49  1690.49  1690.49
  BBC fr=    673.51   673.51   673.51   673.51   609.51   609.51   609.51   609.51
  Bandwd=     32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00
   Matching frequency sets:   8

  Track assignments are:
   track1=   1,  2,  3,  4,  5,  6,  7,  8
   barrel=roll_off



POSITIONS OF SOURCES USED IN RECORDING SCANS

  Source                          Source position (RA/Dec)                        Error
                       (B1950)             (J2000)             (Date)             (mas)

* M82                09 51 41.952886   * 09 55 50.690000     09 57 39.530362       0.00
                    69 54 57.45661    * 69 40 43.76000      69 34 42.80686        0.00

* 3C84              03 16 29.567265   * 03 19 48.160096     03 21 14.479983       1.50
  J0319+4130        41 19 51.91692    * 41 30 42.10404      41 35 23.57153        2.86
  0316+413          /home/guest/rmc/SCHED/sched11.6/catalogs/sources.gsfc
  J0319+41          GSFC 2016a X/S astro solution,  10291 observations.

  4C39.25           09 23 55.319216   * 09 27 03.013937     09 28 25.482775       0.31
  J0927+3902        39 15 23.56644    * 39 02 20.85185      38 56 44.52749        0.16
  0923+392          /home/guest/rmc/SCHED/sched11.6/catalogs/sources.gsfc
* J0927+39          GSFC 2016a X/S astro solution, 250526 observations.

  0954+658          09 54 57.847924   * 09 58 47.245105     10 00 27.877997       0.02
  J0958+6533        65 48 15.53888    * 65 33 54.81807      65 27 50.31771        0.01
* J0958+65          /home/guest/rmc/SCHED/sched11.6/catalogs/sources.gsfc
                    GSFC 2016a X/S astro solution,  15018 observations.
```

gm081btr

Radio AGN feedback

PI: *Suma Murthy*

```
Address:  JIVE

Observing mode: vlbi
Schedule for TORUN     (Code Tr )                                  Page   2
               Radio AGN feedback
  UP:  D => Below limits;  H => Below horizon mask;  W => still slewing at end;  blank => Up.
  Early: Seconds between end of slew and start.   Dwell: On source seconds.
  Disk: GBytes recorded to this point.
  TPStart:  Recording start time.  Frequencies are LO sum (band edge).
  SYNC: Time correlator is expected to sync up.
-----------------------------------------------------------------------------------------
Start UT  Source               Start / Stop                 Early    Disk   TPStart
Stop UT                  LST      EL    AZ   HA  UP   ParA  Dwell   GBytes    SYNC
-----------------------------------------------------------------------------------------
 --- Wed   1 Jun 2022   Day 152 ---
 Next scan frequencies:  1272.50  1272.50  1272.50  1272.50  1288.50  1288.50  1288.50  1288.50
                         1304.50  1304.50  1304.50  1304.50  1320.50  1320.50  1320.50  1320.50
 Next BBC frequencies:    827.50   827.50   827.50   827.50   811.50   811.50   811.50   811.50
                          795.50   795.50   795.50   795.50   779.50   779.50   779.50   779.50
 Next scan bandwidths:      8.00     8.00     8.00     8.00     8.00     8.00     8.00     8.00
                            8.00     8.00     8.00     8.00     8.00     8.00     8.00     8.00

16 00 00  J1407+2827   09 54 44  38.1  92.2 -4.2     -43.0     0        0   16 00 00
16 05 00  =OQ208       09 59 45  38.8  93.3 -4.1     -42.9   300       19   16 00 01

16 06 30  J1439+4958   10 01 15  48.1  65.0 -4.7     -57.7    18       19   16 06 30
16 08 30  ---          10 03 16  48.4  65.3 -4.6     -57.8   120       27   16 06 31

16 08 30  J1435+5051   10 03 16  49.5  64.7 -4.5     -59.1   -17       27   No stop
16 13 30  ---          10 08 16  50.2  65.3 -4.5     -59.6   283       46   16 08 31

16 14 00  J1439+4958   10 08 46  49.2  66.0 -4.5     -58.4    13       46   16 14 00
16 15 30  ---          10 10 17  49.4  66.2 -4.5     -58.5    90       52   16 14 01

16 15 30  J1435+5051   10 10 17  50.4  65.6 -4.4     -59.8   -17       52   No stop
16 20 30  ---          10 15 18  51.1  66.2 -4.3     -60.3   283       71   16 15 31

16 21 00  J1439+4958   10 15 48  50.1  66.9 -4.4     -59.0    13       71   16 21 00
16 22 30  ---          10 17 18  50.3  67.1 -4.4     -59.1    90       77   16 21 01

16 22 30  J1435+5051   10 17 18  51.4  66.5 -4.3     -60.5   -17       77   No stop
16 27 30  ---          10 22 19  52.1  67.1 -4.2     -61.0   283       97   16 22 31

16 28 00  J1439+4958   10 22 49  51.1  67.8 -4.3     -59.6    13       97   16 28 00
16 29 30  ---          10 24 19  51.3  68.0 -4.3     -59.8    90      102   16 28 01

16 29 30  J1435+5051   10 24 19  52.4  67.3 -4.2     -61.2   -17      102   No stop
16 34 30  ---          10 29 20  53.1  68.0 -4.1     -61.6   283      122   16 29 31

16 35 00  J1439+4958   10 29 50  52.1  68.7 -4.2     -60.3    13      122   16 35 00
16 36 30  ---          10 31 20  52.3  68.9 -4.2     -60.4    90      128   16 35 01

16 36 30  J1435+5051   10 31 20  53.4  68.2 -4.1     -61.8   -17      128   No stop
16 41 30  ---          10 36 21  54.1  68.9 -4.0     -62.3   283      147   16 36 31

16 42 00  J1439+4958   10 36 51  53.1  69.7 -4.1     -60.9    13      147   16 42 00
16 43 30  ---          10 38 21  53.3  69.9 -4.0     -61.0    90      153   16 42 01
```

Schedule for TORUN (Code Tr) Page 3

Radio AGN feedback

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT	Source	Start / Stop						Early	Disk	TPStart
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC
--- Wed 1 Jun 2022 Day 152 ---										
16 43 30	J1435+5051	10 38 21	54.3	69.1	-4.0		-62.5	-17	153	No stop
16 48 30	---	10 43 22	55.0	69.7	-3.9		-62.9	283	172	16 43 31
16 49 00	J1439+4958	10 43 52	54.1	70.6	-3.9		-61.5	13	172	16 49 00
16 50 30	---	10 45 22	54.3	70.8	-3.9		-61.6	90	178	16 49 01
16 50 30	J1435+5051	10 45 22	55.3	70.0	-3.8		-63.1	-17	178	No stop
16 55 30	---	10 50 23	56.0	70.6	-3.8		-63.6	283	197	16 50 31
16 56 00	J1439+4958	10 50 53	55.1	71.5	-3.8		-62.1	13	197	16 56 00
16 57 30	---	10 52 24	55.3	71.7	-3.8		-62.2	90	203	16 56 01
16 57 30	J1435+5051	10 52 24	56.3	70.9	-3.7		-63.7	-17	203	No stop
17 02 30	---	10 57 24	57.0	71.5	-3.6		-64.2	283	222	16 57 31
17 03 00	J1439+4958	10 57 54	56.1	72.4	-3.7		-62.7	13	222	17 03 00
17 04 30	---	10 59 25	56.3	72.6	-3.7		-62.8	90	228	17 03 01
17 04 30	J1435+5051	10 59 25	57.3	71.8	-3.6		-64.4	-17	228	No stop
17 09 30	---	11 04 26	58.0	72.4	-3.5		-64.8	283	247	17 04 31
17 10 00	J1439+4958	11 04 56	57.1	73.4	-3.6		-63.2	13	247	17 10 00
17 11 30	---	11 06 26	57.3	73.6	-3.6		-63.3	90	253	17 10 01
17 11 30	J1435+5051	11 06 26	58.3	72.6	-3.5		-65.0	-17	253	No stop
17 16 30	---	11 11 27	59.0	73.3	-3.4		-65.4	283	272	17 11 31
17 17 00	J1439+4958	11 11 57	58.1	74.3	-3.5		-63.8	14	272	17 17 00
17 18 30	---	11 13 27	58.3	74.5	-3.5		-63.9	90	278	17 17 01
17 18 30	J1435+5051	11 13 27	59.3	73.5	-3.4		-65.6	-17	278	No stop
17 23 30	---	11 18 28	60.0	74.2	-3.3		-66.0	283	298	17 18 31
17 24 00	J1439+4958	11 18 58	59.1	75.3	-3.4		-64.3	14	298	17 24 00
17 25 30	---	11 20 28	59.3	75.5	-3.3		-64.4	90	303	17 24 01
17 25 30	J1435+5051	11 20 28	60.3	74.4	-3.3		-66.1	-17	303	No stop
17 30 30	---	11 25 29	61.1	75.1	-3.2		-66.5	283	323	17 25 31
17 31 00	J1439+4958	11 25 59	60.1	76.2	-3.2		-64.8	14	323	17 31 00
17 32 30	---	11 27 29	60.3	76.4	-3.2		-64.9	90	328	17 31 01
17 32 30	J1435+5051	11 27 29	61.4	75.4	-3.1		-66.7	-17	328	No stop
17 37 30	---	11 32 30	62.1	76.0	-3.1		-67.1	283	348	17 32 31
17 38 00	J1439+4958	11 33 00	61.2	77.2	-3.1		-65.3	14	348	17 38 00
17 39 30	---	11 34 30	61.4	77.4	-3.1		-65.4	90	354	17 38 01

Schedule for TORUN (Code Tr) Page 4

Radio AGN feedback

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT	Source	Start / Stop						Early	Disk	TPStart
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC
--- Wed 1 Jun 2022 Day 152 ---										
17 39 30	J1435+5051	11 34 30	62.4	76.3	-3.0		-67.3	-17	354	No stop
17 44 30	---	11 39 31	63.1	76.9	-2.9		-67.6	283	373	17 39 31
17 45 00	J1439+4958	11 40 01	62.2	78.2	-3.0		-65.8	14	373	17 45 00
17 46 30	---	11 41 32	62.4	78.4	-3.0		-65.9	90	379	17 45 01
17 46 30	J1435+5051	11 41 32	63.4	77.2	-2.9		-67.8	-17	379	No stop
17 51 30	---	11 46 32	64.1	77.9	-2.8		-68.1	283	398	17 46 31
17 52 00	J1439+4958	11 47 03	63.2	79.2	-2.9		-66.2	14	398	17 52 00
17 53 30	---	11 48 33	63.4	79.4	-2.9		-66.3	90	404	17 52 01
17 53 30	J1435+5051	11 48 33	64.4	78.2	-2.8		-68.3	-17	404	No stop
17 58 30	---	11 53 34	65.2	78.8	-2.7		-68.6	283	423	17 53 31
17 59 00	J1439+4958	11 54 04	64.2	80.2	-2.8		-66.7	14	423	17 59 00
18 00 30	---	11 55 34	64.5	80.4	-2.8		-66.7	90	429	17 59 01
18 00 30	J1435+5051	11 55 34	65.5	79.1	-2.7		-68.8	-17	429	No stop
18 05 30	---	12 00 35	66.2	79.8	-2.6		-69.1	283	448	18 00 31
18 06 00	J1439+4958	12 01 05	65.3	81.2	-2.7		-67.1	14	448	18 06 00
18 07 30	---	12 02 35	65.5	81.5	-2.6		-67.1	90	454	18 06 01
18 07 30	J1435+5051	12 02 35	66.5	80.1	-2.6		-69.3	-17	454	No stop
18 12 30	---	12 07 36	67.2	80.8	-2.5		-69.6	283	473	18 07 31
18 13 00	J1439+4958	12 08 06	66.3	82.3	-2.5		-67.4	14	473	18 13 00
18 14 30	---	12 09 36	66.6	82.5	-2.5		-67.5	90	479	18 13 01
18 16 00	J1407+2827	12 11 06	57.2	127.4	-1.9		-32.8	-15	479	18 16 00
18 21 00	=OQ208	12 16 07	57.8	129.2	-1.9		-31.9	285	499	18 16 01
18 23 00	J1439+4958	12 18 08	67.8	83.9	-2.4		-67.9	14	499	18 23 00
18 25 30	---	12 20 38	68.2	84.3	-2.3		-68.0	150	508	18 23 01
18 25 30	J1435+5051	12 20 38	69.2	82.7	-2.3		-70.3	-17	508	No stop
18 30 30	---	12 25 39	69.9	83.5	-2.2		-70.6	283	528	18 25 31
18 31 00	J1439+4958	12 26 09	69.0	85.2	-2.2		-68.2	13	528	18 31 00
18 32 30	---	12 27 39	69.3	85.5	-2.2		-68.3	90	533	18 31 01
18 32 30	J1435+5051	12 27 39	70.2	83.8	-2.1		-70.7	-17	533	No stop
18 37 30	---	12 32 40	71.0	84.6	-2.1		-70.9	283	553	18 32 31

Schedule for TORUN (Code Tr) Page 5

Radio AGN feedback

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Wed 1 Jun 2022 Day 152 ---										
18 38 00	J1439+4958	12 33 10	70.1	86.4	-2.1		-68.4	13	553	18 38 00
18 39 30	---	12 34 40	70.3	86.7	-2.1		-68.5	90	558	18 38 01
18 39 30	J1435+5051	12 34 40	71.3	84.9	-2.0		-71.0	-17	558	No stop
18 44 30	---	12 39 41	72.0	85.7	-1.9		-71.2	283	578	18 39 31
18 45 00	J1439+4958	12 40 11	71.1	87.6	-2.0		-68.6	13	578	18 45 00
18 46 30	---	12 41 42	71.4	87.9	-2.0		-68.6	90	584	18 45 01
18 46 30	J1435+5051	12 41 42	72.3	86.0	-1.9		-71.3	-17	584	No stop
18 51 30	---	12 46 42	73.1	86.9	-1.8		-71.4	283	603	18 46 31
18 52 00	J1439+4958	12 47 12	72.2	89.0	-1.9		-68.7	12	603	18 52 00
18 53 30	---	12 48 43	72.4	89.2	-1.9		-68.7	90	609	18 52 01
18 53 30	J1435+5051	12 48 43	73.4	87.2	-1.8		-71.5	-18	609	No stop
18 58 30	---	12 53 43	74.1	88.1	-1.7		-71.6	282	628	18 53 31
18 59 00	J1439+4958	12 54 14	73.2	90.3	-1.8		-68.7	12	628	18 59 00
19 00 30	---	12 55 44	73.5	90.6	-1.7		-68.7	90	634	18 59 01
19 00 30	J1435+5051	12 55 44	74.4	88.5	-1.7		-71.6	-18	634	No stop
19 05 30	---	13 00 45	75.2	89.4	-1.6		-71.7	282	653	19 00 31
19 06 00	J1439+4958	13 01 15	74.3	91.8	-1.7		-68.6	11	653	19 06 00
19 07 30	---	13 02 45	74.5	92.1	-1.6		-68.6	90	659	19 06 01
19 07 30	J1435+5051	13 02 45	75.5	89.8	-1.6		-71.7	-18	659	No stop
19 12 30	---	13 07 46	76.2	90.9	-1.5		-71.7	282	678	19 07 31
19 13 00	J1439+4958	13 08 16	75.3	93.4	-1.5		-68.5	11	678	19 13 00
19 14 30	---	13 09 46	75.6	93.7	-1.5		-68.4	90	684	19 13 01
19 14 30	J1435+5051	13 09 46	76.5	91.3	-1.4		-71.6	-19	684	No stop
19 19 30	---	13 14 47	77.3	92.4	-1.4		-71.5	281	703	19 14 31
19 20 00	J1439+4958	13 15 17	76.4	95.1	-1.4		-68.1	10	703	19 20 00
19 21 30	---	13 16 47	76.6	95.5	-1.4		-68.0	90	709	19 20 01
19 21 30	J1435+5051	13 16 47	77.6	92.9	-1.3		-71.5	-19	709	No stop
19 26 30	---	13 21 48	78.3	94.1	-1.2		-71.2	281	728	19 21 31
19 27 00	J1439+4958	13 22 18	77.4	97.0	-1.3		-67.6	10	728	19 27 00
19 28 30	---	13 23 48	77.7	97.4	-1.3		-67.5	90	734	19 27 01

Schedule for TORUN (Code Tr) Page 6

Radio AGN feedback

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	LST	Start / Stop EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Wed 1 Jun 2022 Day 152 ---										
19 28 30	J1435+5051	13 23 48	78.6	94.6	-1.2		-71.1	-20	734	No stop
19 33 30	---	13 28 49	79.4	95.9	-1.1		-70.8	280	754	19 28 31
19 34 00	J1439+4958	13 29 19	78.5	99.1	-1.2		-66.9	9	754	19 34 00
19 35 30	---	13 30 50	78.7	99.6	-1.2		-66.8	90	759	19 34 01
19 35 30	J1435+5051	13 30 50	79.7	96.5	-1.1		-70.6	-20	759	No stop
19 40 30	---	13 35 50	80.4	98.1	-1.0		-70.0	280	779	19 35 31
19 41 00	J1439+4958	13 36 20	79.5	101.4	-1.1		-66.0	9	779	19 41 00
19 42 30	---	13 37 51	79.7	102.0	-1.0		-65.7	90	785	19 41 01
19 42 30	J1435+5051	13 37 51	80.7	98.7	-1.0		-69.8	-21	785	No stop
19 47 30	---	13 42 52	81.5	100.5	-0.9		-69.0	279	804	19 42 31
19 48 00	J1439+4958	13 43 22	80.5	104.2	-1.0		-64.6	8	804	19 48 00
19 49 30	---	13 44 52	80.8	104.8	-0.9		-64.3	90	810	19 48 01
19 49 30	J1435+5051	13 44 52	81.8	101.3	-0.9		-68.6	-21	810	No stop
19 54 30	---	13 49 53	82.5	103.5	-0.8		-67.4	279	829	19 49 31
19 55 00	J1439+4958	13 50 23	81.6	107.4	-0.8		-62.8	8	829	19 55 00
19 56 30	---	13 51 53	81.8	108.2	-0.8		-62.3	90	835	19 55 01
19 56 30	J1435+5051	13 51 53	82.8	104.5	-0.7		-66.8	-22	835	No stop
20 01 30	---	13 56 54	83.5	107.2	-0.7		-65.1	278	854	19 56 31
20 02 00	J1439+4958	13 57 24	82.6	111.3	-0.7		-60.2	7	854	20 02 00
20 03 30	---	13 58 54	82.8	112.3	-0.7		-59.6	90	860	20 02 01
20 03 30	J1435+5051	13 58 54	83.8	108.4	-0.6		-64.3	-22	860	No stop
20 08 30	---	14 03 55	84.5	111.9	-0.5		-61.7	278	879	20 03 31
20 09 00	J1439+4958	14 04 25	83.5	116.2	-0.6		-56.7	7	879	20 09 00
20 10 30	---	14 05 55	83.7	117.4	-0.6		-55.8	90	885	20 09 01
20 10 30	J1435+5051	14 05 55	84.8	113.6	-0.5		-60.5	-22	885	No stop
20 15 30	---	14 10 56	85.5	118.5	-0.4		-56.6	278	904	20 10 31
20 16 00	J1439+4958	14 11 26	84.4	122.5	-0.5		-51.8	8	904	20 16 00
20 17 30	---	14 12 56	84.6	124.1	-0.5		-50.5	90	910	20 16 01
20 17 30	J1435+5051	14 12 56	85.7	120.8	-0.4		-54.6	-20	910	No stop
20 22 30	---	14 17 57	86.4	128.0	-0.3		-48.5	280	929	20 17 31

Schedule for TORUN (Code Tr) Page 7

Radio AGN feedback

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT	Source	Start / Stop						Early	Disk	TPStart
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC
--- Wed 1 Jun 2022 Day 152 ---										
20 23 00	J1439+4958	14 18 27	85.3	130.9	-0.4		-44.8	11	929	20 23 00
20 24 30	---	14 19 58	85.5	133.1	-0.3		-42.9	90	935	20 23 01
20 24 30	J1435+5051	14 19 58	86.6	131.5	-0.3		-45.3	-17	935	No stop
20 29 30	---	14 24 58	87.1	142.5	-0.2		-35.3	283	955	20 24 31
20 30 00	J1439+4958	14 25 29	86.0	142.4	-0.3		-34.7	13	955	20 30 00
20 31 30	---	14 26 59	86.1	145.3	-0.2		-32.0	90	960	20 30 01
20 33 00	J1407+2827	14 28 29	65.0	190.7	0.3		7.3	-16	960	20 33 00
20 38 00	=OQ208	14 33 30	64.8	193.3	0.4		9.0	284	980	20 33 01
20 40 00	J1439+4958	14 35 30	86.7	165.7	-0.1		-13.3	24	980	20 40 00
20 42 30	---	14 38 01	86.8	172.7	-0.0		-6.8	150	989	20 40 01
20 42 30	J1435+5051	14 38 01	87.6	187.2	0.0		6.8	-49	989	No stop
20 47 30	---	14 43 01	87.4	205.1	0.1		23.7	251	1009	20 42 31
20 48 00	J1439+4958	14 43 31	86.7	188.4	0.0		7.8	-17	1009	20 48 00
20 49 30	---	14 45 02	86.7	192.6	0.1		11.7	73	1014	20 48 01
20 49 30	J1435+5051	14 45 02	87.3	211.3	0.1		29.5	-57	1014	No stop
20 54 30	---	14 50 03	86.8	223.9	0.2		41.2	243	1034	20 49 31
20 55 00	J1439+4958	14 50 33	86.4	206.7	0.2		24.8	-18	1034	20 55 00
20 56 30	---	14 52 03	86.3	210.1	0.2		27.9	72	1040	20 55 01
20 56 30	J1435+5051	14 52 03	86.6	228.0	0.3		44.8	-54	1040	No stop
21 01 30	---	14 57 04	86.0	236.2	0.3		52.1	246	1059	20 56 31
21 02 00	J1439+4958	14 57 34	85.8	221.1	0.3		37.7	-15	1059	21 02 00
21 03 30	---	14 59 04	85.7	223.6	0.3		40.0	75	1065	21 02 01
21 03 30	J1435+5051	14 59 04	85.8	238.8	0.4		54.3	-47	1065	No stop
21 08 30	---	15 04 05	85.1	244.3	0.5		58.8	253	1084	21 03 31
21 09 00	J1439+4958	15 04 35	85.1	231.6	0.4		46.9	-10	1084	21 09 00
21 10 30	---	15 06 05	84.9	233.5	0.4		48.5	80	1090	21 09 01
21 10 30	J1435+5051	15 06 05	84.8	246.2	0.5		60.3	-41	1090	No stop
21 15 30	---	15 11 06	84.1	250.1	0.6		63.2	259	1109	21 10 31
21 16 00	J1439+4958	15 11 36	84.2	239.4	0.5		53.3	-6	1109	21 16 00
21 17 30	---	15 13 06	84.0	240.8	0.5		54.4	84	1115	21 16 01

Schedule for TORUN (Code Tr) Page 8

Radio AGN feedback

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT	Source	Start / Stop						Early	Disk	TPStart
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC
--- Wed 1 Jun 2022 Day 152 ---										
21 17 30	J1435+5051	15 13 06	83.8	251.4	0.6		64.1	-37	1115	No stop
21 22 30	---	15 18 07	83.1	254.4	0.7		66.1	263	1134	21 17 31
21 23 00	J1439+4958	15 18 37	83.3	245.2	0.6		57.8	-3	1134	21 23 00
21 24 30	---	15 20 07	83.1	246.3	0.7		58.6	87	1140	21 23 01
21 24 30	J1435+5051	15 20 07	82.8	255.4	0.7		66.7	-34	1140	No stop
21 29 30	---	15 25 08	82.1	257.7	0.8		68.1	266	1159	21 24 31
21 30 00	J1439+4958	15 25 38	82.3	249.8	0.8		61.0	-1	1159	21 30 00
21 31 30	---	15 27 09	82.1	250.7	0.8		61.6	89	1165	21 30 01
21 31 30	J1435+5051	15 27 09	81.8	258.6	0.8		68.5	-31	1165	No stop
21 36 30	---	15 32 09	81.1	260.5	0.9		69.4	269	1184	21 31 31
21 37 00	J1439+4958	15 32 40	81.3	253.5	0.9		63.3	1	1184	21 37 00
21 38 30	---	15 34 10	81.1	254.2	0.9		63.7	90	1190	21 37 01
21 38 30	J1435+5051	15 34 10	80.8	261.2	1.0		69.7	-29	1190	No stop
21 43 30	---	15 39 11	80.0	262.8	1.1		70.4	271	1210	21 38 31
21 44 00	J1439+4958	15 39 41	80.3	256.6	1.0		65.0	3	1210	21 44 00
21 45 30	---	15 41 11	80.1	257.2	1.0		65.3	90	1215	21 44 01
21 45 30	J1435+5051	15 41 11	79.7	263.4	1.1		70.6	-28	1215	No stop
21 50 30	---	15 46 12	79.0	264.8	1.2		71.0	272	1235	21 45 31
21 51 00	J1439+4958	15 46 42	79.2	259.2	1.1		66.3	4	1235	21 51 00
21 52 30	---	15 48 12	79.0	259.7	1.1		66.5	90	1241	21 51 01
21 52 30	J1435+5051	15 48 12	78.7	265.3	1.2		71.1	-26	1241	No stop
21 58 00	---	15 53 43	77.9	266.7	1.3		71.4	304	1262	21 52 31
21 58 00	J1439+4958	15 53 43	78.2	261.5	1.2		67.2	-25	1262	No stop
22 00 00	---	15 55 43	77.9	262.1	1.3		67.4	95	1270	21 58 01
22 00 00	J1407+2827	15 55 43	58.3	229.3	1.8		31.2	-88	1270	No stop
22 05 00	=OQ208	16 00 44	57.7	231.1	1.9		32.1	212	1289	22 00 01
22 06 30	J1439+4958	16 02 14	76.9	264.0	1.4		67.9	4	1289	22 06 30
22 08 30	---	16 04 15	76.6	264.5	1.4		68.0	120	1297	22 06 31
22 08 30	J1435+5051	16 04 15	76.3	269.1	1.5		71.7	-24	1297	No stop
22 13 30	---	16 09 16	75.5	270.1	1.6		71.7	276	1316	22 08 31

Schedule for TORUN (Code Tr) Page 9

Radio AGN feedback

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	LST	Start / Stop EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Wed 1 Jun 2022 Day 152 ---										
22 14 00	J1439+4958	16 09 46	75.8	265.9	1.5		68.3	6	1316	22 14 00
22 15 30	---	16 11 16	75.6	266.2	1.5		68.4	90	1322	22 14 01
22 15 30	J1435+5051	16 11 16	75.2	270.5	1.6		71.7	-24	1322	No stop
22 20 30	---	16 16 17	74.5	271.5	1.7		71.6	276	1341	22 15 31
22 21 00	J1439+4958	16 16 47	74.8	267.5	1.6		68.6	7	1341	22 21 00
22 22 30	---	16 18 17	74.5	267.8	1.6		68.6	90	1347	22 21 01
22 22 30	J1435+5051	16 18 17	74.2	271.8	1.7		71.6	-23	1347	No stop
22 27 30	---	16 23 18	73.4	272.7	1.8		71.5	277	1366	22 22 31
22 28 00	J1439+4958	16 23 48	73.7	269.0	1.7		68.7	8	1366	22 28 00
22 29 30	---	16 25 18	73.5	269.3	1.7		68.7	90	1372	22 28 01
22 29 30	J1435+5051	16 25 18	73.1	273.1	1.8		71.4	-22	1372	No stop
22 34 30	---	16 30 19	72.4	273.9	1.9		71.3	278	1391	22 29 31
22 35 00	J1439+4958	16 30 49	72.7	270.4	1.8		68.7	8	1391	22 35 00
22 36 30	---	16 32 19	72.4	270.7	1.9		68.7	90	1397	22 35 01
22 36 30	J1435+5051	16 32 19	72.1	274.3	1.9		71.2	-22	1397	No stop
22 41 30	---	16 37 20	71.3	275.1	2.0		71.0	278	1416	22 36 31
22 42 00	J1439+4958	16 37 50	71.6	271.8	2.0		68.6	9	1416	22 42 00
22 43 30	---	16 39 20	71.4	272.1	2.0		68.6	90	1422	22 42 01
22 43 30	J1435+5051	16 39 20	71.0	275.4	2.1		70.9	-21	1422	No stop
22 48 30	---	16 44 21	70.3	276.2	2.1		70.7	279	1441	22 43 31
22 49 00	J1439+4958	16 44 51	70.5	273.1	2.1		68.5	9	1441	22 49 00
22 50 30	---	16 46 22	70.3	273.3	2.1		68.5	90	1447	22 49 01
22 50 30	J1435+5051	16 46 22	70.0	276.5	2.2		70.6	-21	1447	No stop
22 55 30	---	16 51 22	69.2	277.3	2.3		70.3	279	1467	22 50 31
22 56 00	J1439+4958	16 51 52	69.5	274.3	2.2		68.3	9	1467	22 56 00
22 57 30	---	16 53 23	69.3	274.5	2.2		68.3	90	1472	22 56 01
22 57 30	J1435+5051	16 53 23	68.9	277.6	2.3		70.2	-21	1472	No stop
23 02 30	---	16 58 24	68.2	278.3	2.4		69.9	279	1492	22 57 31
23 03 00	J1439+4958	16 58 54	68.4	275.4	2.3		68.1	10	1492	23 03 00
23 04 30	---	17 00 24	68.2	275.7	2.3		68.0	90	1498	23 03 01

Schedule for TORUN (Code Tr) Page 10

Radio AGN feedback

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT	Source	Start / Stop						Early	Disk	TPStart
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC
--- Wed 1 Jun 2022 Day 152 ---										
23 04 30	J1435+5051	17 00 24	67.9	278.6	2.4		69.8	-20	1498	No stop
23 09 30	---	17 05 25	67.1	279.3	2.5		69.5	280	1517	23 04 31
23 10 00	J1439+4958	17 05 55	67.4	276.6	2.4		67.8	10	1517	23 10 00
23 11 30	---	17 07 25	67.2	276.8	2.4		67.7	90	1523	23 10 01
23 11 30	J1435+5051	17 07 25	66.8	279.6	2.5		69.4	-20	1523	No stop
23 16 30	---	17 12 26	66.1	280.3	2.6		69.1	280	1542	23 11 31
23 17 00	J1439+4958	17 12 56	66.3	277.7	2.5		67.4	10	1542	23 17 00
23 18 30	---	17 14 26	66.1	277.9	2.6		67.4	90	1548	23 17 01
23 18 30	J1435+5051	17 14 26	65.8	280.6	2.6		68.9	-20	1548	No stop
23 23 30	---	17 19 27	65.1	281.3	2.7		68.6	280	1567	23 18 31
23 24 00	J1439+4958	17 19 57	65.3	278.7	2.7		67.1	11	1567	23 24 00
23 25 30	---	17 21 27	65.1	279.0	2.7		67.0	90	1573	23 24 01
23 25 30	J1435+5051	17 21 27	64.8	281.5	2.8		68.5	-19	1573	No stop
23 30 30	---	17 26 28	64.0	282.2	2.8		68.1	281	1592	23 25 31
23 31 00	J1439+4958	17 26 58	64.3	279.8	2.8		66.7	11	1592	23 31 00
23 32 30	---	17 28 28	64.0	280.0	2.8		66.6	90	1598	23 31 01
23 32 30	J1435+5051	17 28 28	63.7	282.5	2.9		68.0	-19	1598	No stop
23 37 30	---	17 33 29	63.0	283.2	3.0		67.6	281	1617	23 32 31
23 38 00	J1439+4958	17 33 59	63.2	280.8	2.9		66.2	11	1617	23 38 00
23 39 30	---	17 35 30	63.0	281.0	2.9		66.1	90	1623	23 38 01
23 39 30	J1435+5051	17 35 30	62.7	283.4	3.0		67.4	-19	1623	No stop
23 44 30	---	17 40 30	62.0	284.1	3.1		67.0	281	1642	23 39 31
23 45 00	J1439+4958	17 41 01	62.2	281.8	3.0		65.8	11	1642	23 45 00
23 46 30	---	17 42 31	62.0	282.0	3.0		65.7	90	1648	23 45 01
23 46 30	J1435+5051	17 42 31	61.7	284.3	3.1		66.9	-19	1648	No stop
23 51 30	---	17 47 32	61.0	285.0	3.2		66.5	281	1668	23 46 31
23 52 00	J1439+4958	17 48 02	61.2	282.8	3.1		65.3	12	1668	23 52 00
23 53 30	---	17 49 32	60.9	283.0	3.1		65.2	90	1673	23 52 01
23 53 30	J1435+5051	17 49 32	60.7	285.3	3.2		66.3	-19	1673	No stop
23 58 30	---	17 54 33	59.9	285.9	3.3		65.9	281	1693	23 53 31

Schedule for TORUN (Code Tr) Page 11

Radio AGN feedback

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Start: Wed 1 Jun 2022 Day 152 -- Stop: Thu 2 Jun 2022 Day 153 ---										
23 59 00	J1439+4958	17 55 03	60.1	283.8	3.2		64.8	12	1693	23 59 00
00 00 30	---	17 56 33	59.9	284.0	3.3		64.7	90	1698	23 59 01
00 00 30	J1435+5051	17 56 33	59.7	286.2	3.3		65.8	-18	1698	No stop
00 05 30	---	18 01 34	58.9	286.8	3.4		65.3	282	1718	00 00 31
00 06 00	J1439+4958	18 02 04	59.1	284.7	3.4		64.3	12	1718	00 06 00
00 07 30	---	18 03 34	58.9	284.9	3.4		64.2	90	1724	00 06 01
00 07 30	J1435+5051	18 03 34	58.6	287.1	3.5		65.2	-18	1724	No stop
00 12 30	---	18 08 35	57.9	287.7	3.5		64.7	282	1743	00 07 31
00 13 00	J1439+4958	18 09 05	58.1	285.7	3.5		63.8	12	1743	00 13 00
00 14 30	---	18 10 35	57.9	285.9	3.5		63.7	90	1749	00 13 01
00 16 00	J1407+2827	18 12 06	39.5	265.9	4.1		42.9	7	1749	00 16 00
00 21 00	=OQ208	18 17 06	38.7	266.9	4.2		42.9	300	1768	00 16 01
00 23 00	J1439+4958	18 19 07	56.7	287.0	3.6		63.0	38	1768	00 23 00
00 25 30	---	18 21 37	56.3	287.4	3.7		62.8	150	1778	00 23 01
00 25 30	J1435+5051	18 21 37	56.1	289.3	3.8		63.6	-18	1778	No stop
00 30 30	---	18 26 38	55.4	290.0	3.8		63.1	282	1797	00 25 31
00 31 00	J1439+4958	18 27 08	55.5	288.1	3.8		62.3	13	1797	00 31 00
00 32 30	---	18 28 38	55.3	288.3	3.8		62.2	90	1803	00 31 01
00 32 30	J1435+5051	18 28 38	55.1	290.2	3.9		63.0	-18	1803	No stop
00 37 30	---	18 33 39	54.4	290.9	4.0		62.5	282	1822	00 32 31
00 38 00	J1439+4958	18 34 09	54.5	289.0	3.9		61.8	13	1822	00 38 00
00 39 30	---	18 35 39	54.3	289.2	3.9		61.6	90	1828	00 38 01
00 39 30	J1435+5051	18 35 39	54.1	291.1	4.0		62.3	-17	1828	No stop
00 44 30	---	18 40 40	53.4	291.7	4.1		61.9	283	1847	00 39 31
00 45 00	J1439+4958	18 41 10	53.5	289.9	4.0		61.2	13	1847	00 45 00
00 46 30	---	18 42 41	53.3	290.1	4.0		61.0	90	1853	00 45 01
00 46 30	J1435+5051	18 42 41	53.1	292.0	4.1		61.7	-17	1853	No stop
00 51 30	---	18 47 41	52.4	292.6	4.2		61.2	283	1872	00 46 31
00 52 00	J1439+4958	18 48 12	52.5	290.8	4.1		60.5	13	1872	00 52 00
00 53 30	---	18 49 42	52.3	291.0	4.2		60.4	90	1878	00 52 01

Schedule for TORUN (Code Tr) Page 12

Radio AGN feedback

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	LST	Start / Stop EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Thu 2 Jun 2022 Day 153 ---										
00 53 30	J1435+5051	18 49 42	52.1	292.9	4.2		61.0	-17	1878	No stop
00 58 30	---	18 54 43	51.4	293.5	4.3		60.5	283	1898	00 53 31
00 59 00	J1439+4958	18 55 13	51.5	291.8	4.2		59.9	13	1898	00 59 00
01 00 30	---	18 56 43	51.3	292.0	4.3		59.8	90	1903	00 59 01
01 00 30	J1435+5051	18 56 43	51.2	293.7	4.3		60.3	-17	1903	No stop
01 05 30	---	19 01 44	50.5	294.4	4.4		59.9	283	1923	01 00 31
01 06 00	J1439+4958	19 02 14	50.6	292.7	4.4		59.3	13	1923	01 06 00
01 07 30	---	19 03 44	50.4	292.9	4.4		59.2	90	1928	01 06 01
01 07 30	J1435+5051	19 03 44	50.2	294.6	4.5		59.7	-17	1928	No stop
01 12 30	---	19 08 45	49.5	295.2	4.5		59.2	283	1948	01 07 31
01 13 00	J1439+4958	19 09 15	49.6	293.6	4.5		58.6	13	1948	01 13 00
01 14 30	---	19 10 45	49.4	293.8	4.5		58.5	90	1954	01 13 01
01 14 30	J1435+5051	19 10 45	49.3	295.5	4.6		59.0	-17	1954	No stop
01 19 30	---	19 15 46	48.6	296.1	4.7		58.5	283	1973	01 14 31
01 20 00	J1439+4958	19 16 16	48.6	294.5	4.6		58.0	13	1973	01 20 00
01 21 30	---	19 17 46	48.4	294.7	4.6		57.9	90	1979	01 20 01
01 21 30	J1435+5051	19 17 46	48.3	296.4	4.7		58.3	-17	1979	No stop
01 26 30	---	19 22 47	47.6	297.0	4.8		57.8	283	1998	01 21 31
01 27 00	J1439+4958	19 23 17	47.7	295.4	4.7		57.3	14	1998	01 27 00
01 28 30	---	19 24 48	47.5	295.6	4.7		57.2	90	2004	01 27 01
01 28 30	J1435+5051	19 24 48	47.4	297.3	4.8		57.6	-17	2004	No stop
01 33 30	---	19 29 48	46.7	297.9	4.9		57.0	283	2023	01 28 31
01 34 00	J1439+4958	19 30 18	46.7	296.3	4.8		56.7	14	2023	01 34 00
01 35 30	---	19 31 49	46.5	296.5	4.9		56.5	90	2029	01 34 01
01 35 30	J1435+5051	19 31 49	46.4	298.1	4.9		56.8	-17	2029	No stop
01 40 30	---	19 36 50	45.8	298.8	5.0		56.3	283	2048	01 35 31
01 41 00	J1439+4958	19 37 20	45.8	297.2	4.9		56.0	14	2048	01 41 00
01 42 30	---	19 38 50	45.6	297.4	5.0		55.8	90	2054	01 41 01
01 42 30	J1435+5051	19 38 50	45.5	299.0	5.0		56.1	-16	2054	No stop
01 47 30	---	19 43 51	44.9	299.6	5.1		55.6	284	2073	01 42 31

Schedule for TORUN (Code Tr) Page 13

Radio AGN feedback

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Thu 2 Jun 2022 Day 153 ---										
01 48 00	J1439+4958	19 44 21	44.9	298.1	5.1		55.3	14	2073	01 48 00
01 49 30	---	19 45 51	44.7	298.3	5.1		55.1	90	2079	01 48 01
01 49 30	J1435+5051	19 45 51	44.6	299.9	5.2		55.4	-16	2079	No stop
01 54 30	---	19 50 52	43.9	300.5	5.2		54.9	284	2098	01 49 31
01 55 00	J1439+4958	19 51 22	43.9	299.0	5.2		54.6	14	2098	01 55 00
01 56 30	---	19 52 52	43.7	299.2	5.2		54.4	90	2104	01 55 01
01 56 30	J1435+5051	19 52 52	43.7	300.8	5.3		54.6	-16	2104	No stop
02 01 30	---	19 57 53	43.0	301.4	5.4		54.1	284	2124	01 56 31
02 02 00	J1439+4958	19 58 23	43.0	299.9	5.3		53.8	14	2124	02 02 00
02 03 30	---	19 59 53	42.8	300.1	5.3		53.7	90	2129	02 02 01
02 03 30	J1435+5051	19 59 53	42.8	301.7	5.4		53.9	-16	2129	No stop
02 08 30	---	20 04 54	42.1	302.3	5.5		53.4	284	2149	02 03 31
02 09 00	J1439+4958	20 05 24	42.1	300.8	5.4		53.1	14	2149	02 09 00
02 10 30	---	20 06 54	41.9	301.0	5.4		53.0	90	2155	02 09 01
02 10 30	J1435+5051	20 06 54	41.9	302.6	5.5		53.1	-16	2155	No stop
02 15 30	---	20 11 55	41.3	303.2	5.6		52.6	284	2174	02 10 31
02 16 00	J1439+4958	20 12 25	41.2	301.8	5.5		52.4	14	2174	02 16 00
02 17 30	---	20 13 56	41.0	302.0	5.6		52.2	90	2180	02 16 01
02 17 30	J1435+5051	20 13 56	41.0	303.5	5.6		52.4	-16	2180	No stop
02 22 30	---	20 18 56	40.4	304.1	5.7		51.8	284	2199	02 17 31
02 23 00	J1439+4958	20 19 26	40.3	302.7	5.6		51.7	14	2199	02 23 00
02 24 30	---	20 20 57	40.1	302.9	5.7		51.5	90	2205	02 23 01
02 24 30	J1435+5051	20 20 57	40.1	304.4	5.7		51.6	-16	2205	No stop
02 29 30	---	20 25 58	39.5	305.0	5.8		51.0	284	2224	02 24 31
02 30 00	J1439+4958	20 26 28	39.4	303.6	5.8		50.9	14	2224	02 30 00
02 31 30	---	20 27 58	39.3	303.8	5.8		50.7	90	2230	02 30 01
02 33 00	J1407+2827	20 29 28	19.3	291.8	6.4		39.3	1	2230	02 33 00
02 38 00	=OQ208	20 34 29	18.6	292.7	6.4		39.0	300	2249	02 33 01
02 40 00	J1439+4958	20 36 29	38.2	304.9	5.9		49.8	32	2249	02 40 00
02 42 30	---	20 39 00	37.9	305.3	6.0		49.5	150	2259	02 40 01

Schedule for TORUN (Code Tr) Page 14

Radio AGN feedback

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Thu 2 Jun 2022 Day 153 ---										
02 42 30	J1435+5051	20 39 00	37.9	306.7	6.0		49.6	-16	2259	No stop
02 47 30	---	20 44 01	37.3	307.3	6.1		49.0	284	2278	02 42 31
02 48 00	J1439+4958	20 44 31	37.2	306.0	6.1		48.9	14	2278	02 48 00
02 49 30	---	20 46 01	37.0	306.2	6.1		48.8	90	2284	02 48 01
02 49 30	J1435+5051	20 46 01	37.1	307.6	6.2		48.8	-16	2284	No stop
02 54 30	---	20 51 02	36.5	308.3	6.2		48.2	284	2303	02 49 31
02 55 00	J1439+4958	20 51 32	36.4	306.9	6.2		48.1	14	2303	02 55 00
02 56 30	---	20 53 02	36.2	307.1	6.2		48.0	90	2309	02 55 01
02 56 30	J1435+5051	20 53 02	36.3	308.5	6.3		48.0	-16	2309	No stop
03 01 30	---	20 58 03	35.7	309.2	6.4		47.4	284	2328	02 56 31
03 02 00	J1439+4958	20 58 33	35.5	307.9	6.3		47.4	15	2328	03 02 00
03 03 30	---	21 00 03	35.4	308.1	6.3		47.2	90	2334	03 02 01
03 03 30	J1435+5051	21 00 03	35.4	309.5	6.4		47.1	-16	2334	No stop
03 08 30	---	21 05 04	34.9	310.1	6.5		46.5	284	2354	03 03 31
03 09 00	J1439+4958	21 05 34	34.7	308.8	6.4		46.6	15	2354	03 09 00
03 10 30	---	21 07 04	34.5	309.0	6.4		46.4	90	2359	03 09 01
03 10 30	J1435+5051	21 07 04	34.6	310.4	6.5		46.3	-16	2359	No stop
03 15 30	---	21 12 05	34.1	311.0	6.6		45.7	284	2379	03 10 31
03 16 00	J1439+4958	21 12 35	33.9	309.8	6.5		45.8	15	2379	03 16 00
03 17 30	---	21 14 05	33.7	310.0	6.6		45.6	90	2384	03 16 01
03 17 30	J1435+5051	21 14 05	33.8	311.3	6.6		45.5	-16	2384	No stop
03 22 30	---	21 19 06	33.3	312.0	6.7		44.9	284	2404	03 17 31
03 23 00	J1439+4958	21 19 36	33.1	310.7	6.7		44.9	15	2404	03 23 00
03 24 30	---	21 21 07	32.9	310.9	6.7		44.8	90	2410	03 23 01
03 24 30	J1435+5051	21 21 07	33.0	312.3	6.7		44.6	-15	2410	No stop
03 29 30	---	21 26 07	32.5	312.9	6.8		44.0	285	2429	03 24 31
03 30 00	J1439+4958	21 26 37	32.3	311.7	6.8		44.1	15	2429	03 30 00
03 31 30	---	21 28 08	32.1	311.9	6.8		43.9	90	2435	03 30 01
03 31 30	J1435+5051	21 28 08	32.3	313.2	6.9		43.8	-15	2435	No stop
03 36 30	---	21 33 09	31.7	313.9	6.9		43.2	285	2454	03 31 31

```
Schedule for TORUN     (Code Tr )                                Page  15
               Radio AGN feedback
  UP:  D => Below limits;  H => Below horizon mask;  W => still slewing at end;  blank => Up.
  Early: Seconds between end of slew and start.   Dwell: On source seconds.
  Disk: GBytes recorded to this point.
  TPStart:  Recording start time.  Frequencies are LO sum (band edge).
  SYNC: Time correlator is expected to sync up.
-----------------------------------------------------------------------------------------
Start UT  Source               Start / Stop                 Early    Disk   TPStart
Stop UT                  LST      EL    AZ   HA  UP   ParA  Dwell   GBytes    SYNC
-----------------------------------------------------------------------------------------

 --- Thu   2 Jun 2022   Day 153 ---

03 37 00  J1439+4958   21 33 39  31.5 312.6  6.9      43.3    15     2454   03 37 00
03 38 30  ---          21 35 09  31.3 312.8  6.9      43.1    90     2460   03 37 01

03 38 30  J1435+5051   21 35 09  31.5 314.2  7.0      42.9   -15     2460   No stop
03 43 30  ---          21 40 10  31.0 314.8  7.1      42.3   285     2479   03 38 31

03 44 00  J1439+4958   21 40 40  30.7 313.6  7.0      42.4    15     2479   03 44 00
03 45 30  ---          21 42 10  30.6 313.8  7.0      42.3    90     2485   03 44 01

03 45 30  J1435+5051   21 42 10  30.8 315.1  7.1      42.1   -15     2485   No stop
03 50 30  ---          21 47 11  30.2 315.8  7.2      41.4   285     2504   03 45 31

03 51 00  J1439+4958   21 47 41  30.0 314.6  7.1      41.6    15     2504   03 51 00
03 52 30  ---          21 49 11  29.8 314.8  7.1      41.4    90     2510   03 51 01

03 52 30  J1435+5051   21 49 11  30.0 316.1  7.2      41.2   -15     2510   No stop
03 58 00  ---          21 54 42  29.5 316.8  7.3      40.5   315     2531   03 52 31

03 58 00  J1439+4958   21 54 42  29.2 315.6  7.2      40.7   -15     2531   No stop
04 00 00  ---          21 56 42  29.0 315.8  7.3      40.5   105     2539   03 58 01



SETUP FILE INFORMATION:
   NOTE: If DOPPLER, FREQ, or BW were used, see the individual scans for the final BBC settings.


 ======== Setup file: sess222H5globline.setini

   Setup group:   16         Station: TORUN            Total bit rate:   512
   Format: VDIF              Bits per sample: 2        Sample rate: 16.000
   Number of channels: 16    DBE type: DBBC_DDC        Speedup factor:   1.00

   Disk used to record data.
```

```
  1st LO=   2100.00   2100.00   2100.00   2100.00   2100.00   2100.00   2100.00   2100.00
            2100.00   2100.00   2100.00   2100.00   2100.00   2100.00   2100.00   2100.00
  Net SB=         L         L         U         U         L         L         U         U
                  L         L         U         U         L         L         U         U
  IF SB =         L         L         L         L         L         L         L         L
                  L         L         L         L         L         L         L         L
  Pol.  =       RCP       LCP       RCP       LCP       RCP       LCP       RCP       LCP
                RCP       LCP       RCP       LCP       RCP       LCP       RCP       LCP
  BBC   =         1         9         1         9         2        10         2        10
                  3        11         3        11         4        12         4        12
  BBC SB=         U         U         L         L         U         U         L         L
                  U         U         L         L         U         U         L         L
  IF    =        A1        B1        A1        B1        A1        B1        A1        B1
                 A1        B1        A1        B1        A1        B1        A1        B1

 The following frequency sets based on these setups were used.

  Frequency Set:   5  Setup file default.  Used with PCAL = off
  LO sum=   1272.50  1272.50  1272.50  1272.50  1288.50  1288.50  1288.50  1288.50
            1304.50  1304.50  1304.50  1304.50  1320.50  1320.50  1320.50  1320.50
  BBC fr=    827.50   827.50   827.50   827.50   811.50   811.50   811.50   811.50
             795.50   795.50   795.50   795.50   779.50   779.50   779.50   779.50
  Bandwd=      8.00     8.00     8.00     8.00     8.00     8.00     8.00     8.00
               8.00     8.00     8.00     8.00     8.00     8.00     8.00     8.00
   Matching frequency sets:   5

  Track assignments are:
   track1=   1,  2,  3,  4,  5,  6,  7,  8,  9, 10, 11, 12, 13, 14, 15, 16
   barrel=roll_off



POSITIONS OF SOURCES USED IN RECORDING SCANS

  Source                          Source position (RA/Dec)                        Error
                       (B1950)             (J2000)             (Date)             (mas)

* J1435+5051        14 33 39.332909   * 14 35 21.677000     14 36 09.048726       0.00
                    51 04 25.55781    * 50 51 22.92000      50 45 41.33201        0.00

* J1439+4958        14 38 04.222104   * 14 39 46.976000     14 40 34.505301       0.00
                    50 10 55.89403    * 49 58 05.45600      49 52 28.84641        0.00

  OQ208             14 04 45.615156   * 14 07 00.394415     14 08 01.337818       0.24
* J1407+2827        28 41 29.23515    * 28 27 14.69019      28 20 58.97386        0.35
  1404+286          /home/guest/rmc/SCHED/sched11.6/catalogs/sources.gsfc
  J1407+28          GSFC 2016a X/S astro solution,  68278 observations.
```

ew029btr

Monitoring the old, discovering the new; mas-scale radio emission I

PI: *Dr David Williams*

```
Address:  Jodrell Band Centre for Astrophysics

Observing mode:
Schedule for TORUN     (Code Tr )                                   Page   2
               Monitoring the old, discovering the new; mas-scale radio emission in M82
  UP:  D => Below limits;  H => Below horizon mask;  W => still slewing at end;  blank => Up.
  Early: Seconds between end of slew and start.   Dwell: On source seconds.
  Disk: GBytes recorded to this point.
  TPStart:  Recording start time.  Frequencies are LO sum (band edge).
  SYNC: Time correlator is expected to sync up.
-----------------------------------------------------------------------------------------
Start UT  Source               Start / Stop                 Early    Disk   TPStart
Stop UT                  LST      EL    AZ   HA  UP   ParA  Dwell   GBytes    SYNC
-----------------------------------------------------------------------------------------
 --- Thu   2 Jun 2022   Day 153 ---
 Next scan frequencies:  1626.49  1626.49  1626.49  1626.49  1690.49  1690.49  1690.49  1690.49
 Next BBC frequencies:    673.51   673.51   673.51   673.51   609.51   609.51   609.51   609.51
 Next scan bandwidths:     32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00

06 00 00  3C84         23 57 02  54.4  87.8 -3.4     -53.3     0        0   06 00 00
06 06 00  ---          00 03 03  55.3  88.9 -3.3     -53.4   360       46   06 00 01

06 12 00  J0958+65     00 09 04  31.1  15.0 -9.9     -21.9   196       46   06 12 00
06 18 00  ---          00 15 05  31.3  15.6 -9.8     -22.9   360       93   06 12 01

06 18 40  J0958+65     00 15 45  31.4  15.7 -9.7     -23.0    34       93   06 18 40
06 20 00  ---          00 17 05  31.4  15.9 -9.7     -23.3    80      103   06 18 41

06 20 00  M82          00 17 05  35.3  14.1 -9.7     -24.9   -28      103   No stop
06 27 30  ---          00 24 37  35.6  14.9 -9.6     -26.2   422      161   06 20 01

06 28 10  J0958+65     00 25 17  31.8  16.8 -9.6     -24.7    12      161   06 28 10
06 29 30  ---          00 26 37  31.8  16.9 -9.6     -24.9    80      171   06 28 11

06 29 30  M82          00 26 37  35.6  15.1 -9.5     -26.6   -28      171   No stop
06 37 00  ---          00 34 08  35.9  15.8 -9.4     -27.9   422      229   06 29 31

06 37 40  J0958+65     00 34 48  32.2  17.8 -9.4     -26.3    12      229   06 37 40
06 39 00  ---          00 36 09  32.2  18.0 -9.4     -26.5    80      240   06 37 41

06 39 00  M82          00 36 09  36.0  16.0 -9.4     -28.3   -28      240   No stop
06 46 15  ---          00 43 25  36.3  16.7 -9.2     -29.6   407      296   06 39 01

06 46 55  J0958+65     00 44 05  32.6  18.8 -9.3     -27.8    12      296   06 46 55
06 48 15  ---          00 45 25  32.7  19.0 -9.3     -28.1    80      306   06 46 56

06 48 15  M82          00 45 25  36.4  16.8 -9.2     -29.9   -28      306   No stop
06 55 45  ---          00 52 56  36.7  17.5 -9.1     -31.3   422      364   06 48 16

06 56 25  J0958+65     00 53 36  33.1  19.9 -9.1     -29.4    12      364   06 56 25
06 57 45  ---          00 54 57  33.2  20.0 -9.1     -29.7    80      374   06 56 26

06 57 45  M82          00 54 57  36.8  17.7 -9.0     -31.6   -28      374   No stop
07 05 15  ---          01 02 28  37.2  18.4 -8.9     -33.0   422      432   06 57 46

07 05 55  J0958+65     01 03 08  33.6  20.9 -9.0     -31.0    13      432   07 05 55
07 07 15  ---          01 04 28  33.7  21.0 -8.9     -31.3    80      442   07 05 56
```

Schedule for TORUN (Code Tr) Page 3

Monitoring the old, discovering the new; mas-scale radio emission in M82

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Thu 2 Jun 2022 Day 153 ---										
07 07 15	M82	01 04 28	37.3	18.6	-8.9		-33.3	-28	442	No stop
07 14 30	---	01 11 44	37.6	19.3	-8.8		-34.6	407	499	07 07 16
07 15 10	J0958+65	01 12 24	34.1	21.9	-8.8		-32.6	13	499	07 15 10
07 16 30	---	01 13 45	34.2	22.0	-8.8		-32.8	80	509	07 15 11
07 16 30	M82	01 13 45	37.7	19.5	-8.7		-35.0	-27	509	No stop
07 24 00	---	01 21 16	38.1	20.1	-8.6		-36.3	423	567	07 16 31
07 24 40	J0958+65	01 21 56	34.6	22.9	-8.6		-34.2	13	567	07 24 40
07 26 00	---	01 23 16	34.7	23.0	-8.6		-34.4	80	577	07 24 41
07 26 00	M82	01 23 16	38.2	20.3	-8.6		-36.7	-27	577	No stop
07 33 30	---	01 30 48	38.6	21.0	-8.4		-38.0	423	635	07 26 01
07 34 10	J0958+65	01 31 28	35.2	23.9	-8.5		-35.8	13	635	07 34 10
07 35 30	---	01 32 48	35.3	24.0	-8.5		-36.0	80	645	07 34 11
07 35 30	M82	01 32 48	38.7	21.2	-8.4		-38.4	-27	645	No stop
07 42 45	---	01 40 04	39.1	21.8	-8.3		-39.7	408	701	07 35 31
07 43 25	J0958+65	01 40 44	35.8	24.8	-8.3		-37.4	13	701	07 43 25
07 44 45	---	01 42 04	35.9	24.9	-8.3		-37.6	80	712	07 43 26
07 44 45	M82	01 42 04	39.2	22.0	-8.3		-40.1	-27	712	No stop
07 52 15	---	01 49 36	39.7	22.6	-8.1		-41.4	423	770	07 44 46
07 52 55	J0958+65	01 50 16	36.4	25.8	-8.2		-39.0	14	770	07 52 55
07 54 15	---	01 51 36	36.5	25.9	-8.1		-39.2	80	780	07 52 56
07 54 15	M82	01 51 36	39.8	22.8	-8.1		-41.8	-26	780	No stop
08 01 45	---	01 59 07	40.2	23.4	-8.0		-43.1	424	838	07 54 16
08 02 25	J0958+65	01 59 47	37.0	26.7	-8.0		-40.6	14	838	08 02 25
08 03 45	---	02 01 07	37.1	26.9	-8.0		-40.8	80	848	08 02 26
08 03 45	M82	02 01 07	40.3	23.6	-7.9		-43.5	-26	848	No stop
08 11 00	---	02 08 24	40.8	24.2	-7.8		-44.8	409	904	08 03 46
08 11 40	J0958+65	02 09 04	37.7	27.6	-7.9		-42.1	14	904	08 11 40
08 13 00	---	02 10 24	37.8	27.8	-7.8		-42.3	80	915	08 11 41
08 13 00	M82	02 10 24	40.9	24.3	-7.8		-45.2	-26	915	No stop
08 20 30	---	02 17 55	41.4	24.9	-7.7		-46.5	424	973	08 13 01
08 21 10	J0958+65	02 18 35	38.3	28.6	-7.7		-43.7	15	973	08 21 10
08 22 30	---	02 19 56	38.4	28.7	-7.7		-43.9	80	983	08 21 11

Schedule for TORUN (Code Tr) Page 4

Monitoring the old, discovering the new; mas-scale radio emission in M82

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT	Source	Start / Stop						Early	Disk	TPStart
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC
--- Thu 2 Jun 2022 Day 153 ---										
08 22 30	M82	02 19 56	41.5	25.1	-7.6		-46.9	-26	983	No stop
08 30 00	---	02 27 27	42.0	25.7	-7.5		-48.3	424	1041	08 22 31
08 30 40	J0958+65	02 28 07	39.0	29.5	-7.5		-45.3	15	1041	08 30 40
08 32 00	---	02 29 27	39.1	29.6	-7.5		-45.5	80	1051	08 30 41
08 32 00	M82	02 29 27	42.1	25.8	-7.5		-48.6	-25	1051	No stop
08 39 15	---	02 36 43	42.6	26.4	-7.3		-49.9	410	1107	08 32 01
08 39 55	J0958+65	02 37 23	39.7	30.3	-7.4		-46.9	15	1107	08 39 55
08 41 15	---	02 38 44	39.8	30.4	-7.4		-47.1	80	1118	08 39 56
08 41 15	M82	02 38 44	42.7	26.6	-7.3		-50.3	-25	1118	No stop
08 48 45	---	02 46 15	43.2	27.1	-7.2		-51.7	425	1175	08 41 16
08 49 25	J0958+65	02 46 55	40.4	31.2	-7.2		-48.5	16	1175	08 49 25
08 50 45	---	02 48 15	40.6	31.3	-7.2		-48.7	80	1186	08 49 26
08 50 45	M82	02 48 15	43.4	27.3	-7.2		-52.1	-25	1186	No stop
08 58 15	---	02 55 46	43.9	27.8	-7.0		-53.4	425	1244	08 50 46
08 58 55	J0958+65	02 56 27	41.2	32.0	-7.1		-50.1	16	1244	08 58 55
09 00 15	---	02 57 47	41.3	32.2	-7.0		-50.3	80	1254	08 58 56
09 00 15	M82	02 57 47	44.0	28.0	-7.0		-53.8	-24	1254	No stop
09 07 30	---	03 05 03	44.6	28.5	-6.9		-55.2	411	1310	09 00 16
09 08 10	J0958+65	03 05 43	41.9	32.9	-6.9		-51.7	16	1310	09 08 10
09 09 30	---	03 07 03	42.1	33.0	-6.9		-51.9	80	1320	09 08 11
09 09 30	M82	03 07 03	44.7	28.6	-6.8		-55.5	-24	1320	No stop
09 17 00	---	03 14 35	45.3	29.1	-6.7		-56.9	426	1378	09 09 31
09 17 40	J0958+65	03 15 15	42.7	33.7	-6.8		-53.3	16	1378	09 17 40
09 19 00	---	03 16 35	42.8	33.8	-6.7		-53.5	80	1389	09 17 41
09 19 00	M82	03 16 35	45.4	29.3	-6.7		-57.3	-24	1389	No stop
09 26 30	---	03 24 06	46.0	29.8	-6.6		-58.7	426	1447	09 19 01
09 27 10	J0958+65	03 24 46	43.5	34.5	-6.6		-54.9	16	1447	09 27 10
09 28 30	---	03 26 06	43.6	34.6	-6.6		-55.1	80	1457	09 27 11
09 28 30	M82	03 26 06	46.1	29.9	-6.5		-59.1	-24	1457	No stop
09 35 45	---	03 33 23	46.7	30.4	-6.4		-60.4	411	1513	09 28 31

Schedule for TORUN (Code Tr) Page 5

Monitoring the old, discovering the new; mas-scale radio emission in M82

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	LST	Start / Stop EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Thu 2 Jun 2022 Day 153 ---										
09 36 25	J0958+65	03 34 03	44.3	35.2	-6.4		-56.5	15	1513	09 36 25
09 37 45	---	03 35 23	44.4	35.3	-6.4		-56.7	80	1523	09 36 26
09 37 45	M82	03 35 23	46.8	30.5	-6.4		-60.8	-25	1523	No stop
09 45 15	---	03 42 54	47.4	30.9	-6.2		-62.3	425	1581	09 37 46
09 45 55	J0958+65	03 43 34	45.2	36.0	-6.3		-58.1	15	1581	09 45 55
09 47 15	---	03 44 54	45.3	36.1	-6.3		-58.4	80	1592	09 45 56
09 47 15	M82	03 44 54	47.5	31.1	-6.2		-62.6	-25	1592	No stop
09 54 45	---	03 52 26	48.1	31.5	-6.1		-64.1	425	1650	09 47 16
09 55 25	J0958+65	03 53 06	46.0	36.7	-6.1		-59.8	15	1650	09 55 25
09 56 45	---	03 54 26	46.1	36.8	-6.1		-60.0	80	1660	09 55 26
09 56 45	M82	03 54 26	48.3	31.6	-6.1		-64.5	-25	1660	No stop
10 04 00	---	04 01 42	48.9	32.0	-5.9		-65.9	410	1716	09 56 46
10 04 40	J0958+65	04 02 22	46.8	37.4	-6.0		-61.4	14	1716	10 04 40
10 06 00	---	04 03 43	47.0	37.5	-5.9		-61.6	80	1726	10 04 41
10 06 00	M82	04 03 43	49.0	32.1	-5.9		-66.2	-26	1726	No stop
10 13 30	---	04 11 14	49.6	32.5	-5.8		-67.7	424	1784	10 06 01
10 14 10	J0958+65	04 11 54	47.7	38.1	-5.8		-63.1	14	1784	10 14 10
10 15 30	---	04 13 14	47.8	38.2	-5.8		-63.3	80	1794	10 14 11
10 15 30	M82	04 13 14	49.8	32.6	-5.7		-68.1	-26	1794	No stop
10 23 00	---	04 20 45	50.4	33.0	-5.6		-69.6	424	1852	10 15 31
10 23 40	J0958+65	04 21 25	48.6	38.7	-5.7		-64.7	14	1852	10 23 40
10 25 00	---	04 22 46	48.7	38.8	-5.6		-65.0	80	1863	10 23 41
10 25 00	M82	04 22 46	50.6	33.1	-5.6		-70.0	-26	1863	No stop
10 32 15	---	04 30 02	51.2	33.4	-5.5		-71.4	409	1919	10 25 01
10 32 55	J0958+65	04 30 42	49.5	39.3	-5.5		-66.4	13	1919	10 32 55
10 34 15	---	04 32 02	49.6	39.4	-5.5		-66.6	80	1929	10 32 56
10 34 15	M82	04 32 02	51.3	33.5	-5.4		-71.8	-27	1929	No stop
10 41 45	---	04 39 33	51.9	33.8	-5.3		-73.3	423	1987	10 34 16
10 42 25	J0958+65	04 40 14	50.4	39.9	-5.3		-68.1	13	1987	10 42 25
10 43 45	---	04 41 34	50.5	40.0	-5.3		-68.3	80	1997	10 42 26

Schedule for TORUN (Code Tr) Page 6

Monitoring the old, discovering the new; mas-scale radio emission in M82

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Thu 2 Jun 2022 Day 153 ---										
10 43 45	M82	04 41 34	52.1	33.9	-5.3		-73.7	-27	1997	No stop
10 51 15	---	04 49 05	52.7	34.2	-5.1		-75.3	423	2055	10 43 46
10 51 55	J0958+65	04 49 45	51.3	40.5	-5.2		-69.8	12	2055	10 51 55
10 53 15	---	04 51 05	51.4	40.6	-5.2		-70.1	80	2066	10 51 56
10 53 15	M82	04 51 05	52.9	34.3	-5.1		-75.7	-28	2066	No stop
11 00 30	---	04 58 22	53.5	34.5	-5.0		-77.2	407	2122	10 53 16
11 01 10	J0958+65	04 59 02	52.2	41.0	-5.0		-71.5	12	2122	11 01 10
11 02 30	---	05 00 22	52.4	41.1	-5.0		-71.8	80	2132	11 01 11
11 02 30	M82	05 00 22	53.7	34.6	-5.0		-77.6	-28	2132	No stop
11 10 00	---	05 07 53	54.3	34.8	-4.8		-79.2	422	2190	11 02 31
11 10 40	J0958+65	05 08 33	53.2	41.5	-4.9		-73.3	12	2190	11 10 40
11 12 00	---	05 09 53	53.3	41.6	-4.8		-73.6	80	2200	11 10 41
11 12 00	M82	05 09 53	54.5	34.9	-4.8		-79.6	-28	2200	No stop
11 19 30	---	05 17 25	55.2	35.0	-4.7		-81.2	422	2258	11 12 01
11 20 10	J0958+65	05 18 05	54.1	41.9	-4.7		-75.1	11	2258	11 20 10
11 21 30	---	05 19 25	54.3	42.0	-4.7		-75.4	80	2269	11 20 11
11 21 30	M82	05 19 25	55.3	35.1	-4.6		-81.7	-29	2269	No stop
11 28 45	---	05 26 41	56.0	35.2	-4.5		-83.2	406	2325	11 21 31
11 29 25	J0958+65	05 27 21	55.1	42.3	-4.6		-76.9	11	2325	11 29 25
11 30 45	---	05 28 41	55.2	42.4	-4.5		-77.2	80	2335	11 29 26
11 30 45	M82	05 28 41	56.1	35.3	-4.5		-83.7	-29	2335	No stop
11 38 15	---	05 36 13	56.8	35.4	-4.4		-85.3	421	2393	11 30 46
11 38 55	J0958+65	05 36 53	56.0	42.7	-4.4		-78.8	10	2393	11 38 55
11 40 15	---	05 38 13	56.2	42.8	-4.4		-79.0	80	2403	11 38 56
11 40 15	M82	05 38 13	57.0	35.4	-4.3		-85.8	-30	2403	No stop
11 47 45	---	05 45 44	57.6	35.5	-4.2		-87.5	420	2461	11 40 16
11 48 25	J0958+65	05 46 24	57.0	43.0	-4.2		-80.7	10	2461	11 48 25
11 49 45	---	05 47 45	57.1	43.1	-4.2		-80.9	80	2471	11 48 26
11 49 45	M82	05 47 45	57.8	35.5	-4.2		-88.0	-30	2471	No stop
11 57 00	---	05 55 01	58.4	35.5	-4.0		-89.6	405	2527	11 49 46

Schedule for TORUN (Code Tr) Page 7

Monitoring the old, discovering the new; mas-scale radio emission in M82

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Thu 2 Jun 2022 Day 153 ---										
11 57 40	J0958+65	05 55 41	57.9	43.3	-4.1		-82.5	9	2527	11 57 40
11 59 00	---	05 57 01	58.1	43.3	-4.1		-82.8	80	2538	11 57 41
11 59 00	M82	05 57 01	58.6	35.5	-4.0		-90.1	-31	2538	No stop
12 06 30	---	06 04 32	59.3	35.5	-3.9		-91.9	419	2596	11 59 01
12 07 10	J0958+65	06 05 12	58.9	43.5	-3.9		-84.5	9	2596	12 07 10
12 08 30	---	06 06 33	59.1	43.5	-3.9		-84.8	80	2606	12 07 11
12 08 30	M82	06 06 33	59.4	35.5	-3.9		-92.4	-31	2606	No stop
12 16 00	---	06 14 04	60.1	35.4	-3.7		-94.2	419	2664	12 08 31
12 16 40	J0958+65	06 14 44	59.9	43.7	-3.8		-86.6	9	2664	12 16 40
12 18 00	---	06 16 04	60.1	43.7	-3.7		-86.9	80	2674	12 16 41
12 18 00	M82	06 16 04	60.3	35.4	-3.7		-94.7	-32	2674	No stop
12 25 15	---	06 23 20	60.9	35.3	-3.6		-96.5	403	2730	12 18 01
12 25 55	J0958+65	06 24 01	60.9	43.7	-3.6		-88.6	8	2730	12 25 55
12 27 15	---	06 25 21	61.0	43.7	-3.6		-88.9	80	2741	12 25 56
12 27 15	M82	06 25 21	61.1	35.2	-3.5		-97.0	-32	2741	No stop
12 34 45	---	06 32 52	61.7	35.0	-3.4		-98.9	418	2799	12 27 16
12 35 25	J0958+65	06 33 32	61.9	43.7	-3.4		-90.8	8	2799	12 35 25
12 36 45	---	06 34 52	62.0	43.7	-3.4		-91.1	80	2809	12 35 26
12 36 45	M82	06 34 52	61.9	35.0	-3.4		-99.5	-33	2809	No stop
12 44 15	---	06 42 24	62.5	34.7	-3.3		-101.5	417	2867	12 36 46
12 44 55	J0958+65	06 43 04	62.9	43.7	-3.3		-93.0	7	2867	12 44 55
12 46 15	---	06 44 24	63.0	43.7	-3.3		-93.3	80	2877	12 44 56
12 46 15	M82	06 44 24	62.7	34.6	-3.2		-102.0	-33	2877	No stop
12 53 30	---	06 51 40	63.3	34.3	-3.1		-104.0	402	2933	12 46 16
12 54 10	J0958+65	06 52 20	63.8	43.5	-3.1		-95.2	7	2933	12 54 10
12 55 30	---	06 53 40	64.0	43.5	-3.1		-95.6	80	2944	12 54 11
12 55 30	M82	06 53 40	63.5	34.2	-3.1		-104.5	-34	2944	No stop
13 03 00	---	07 01 12	64.1	33.8	-2.9		-106.6	416	3001	12 55 31
13 03 40	J0958+65	07 01 52	64.8	43.3	-3.0		-97.6	6	3001	13 03 40
13 05 00	---	07 03 12	64.9	43.2	-3.0		-98.0	80	3012	13 03 41

Schedule for TORUN (Code Tr) Page 8

Monitoring the old, discovering the new; mas-scale radio emission in M82

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

--- Thu 2 Jun 2022 Day 153 ---

Start UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
13 05 00	M82	07 03 12	64.3	33.7	-2.9		-107.2	-34	3012	No stop
13 12 30	---	07 10 43	64.9	33.2	-2.8		-109.4	416	3070	13 05 01
13 13 10	J0958+65	07 11 23	65.8	42.9	-2.8		-100.1	6	3070	13 13 10
13 14 30	---	07 12 44	65.9	42.8	-2.8		-100.5	80	3080	13 13 11
13 14 30	M82	07 12 44	65.1	33.1	-2.7		-110.0	-35	3080	No stop
13 21 45	---	07 20 00	65.7	32.5	-2.6		-112.2	400	3136	13 14 31
13 21 45	J0958+65	07 20 00	66.7	42.5	-2.7		-102.5	-35	3136	No stop
13 24 45	---	07 23 00	67.0	42.3	-2.6		-103.3	145	3159	13 21 46
13 26 45	J0927+39	07 25 01	64.6	111.4	-2.1		-46.0	-34	3159	13 26 45
13 31 45	---	07 30 01	65.3	113.0	-2.0		-45.3	266	3198	13 26 46
13 33 45	J0958+65	07 32 02	67.9	41.7	-2.5		-106.0	-38	3198	13 33 45
13 35 45	---	07 34 02	68.1	41.5	-2.4		-106.6	82	3213	13 33 46
13 35 45	M82	07 34 02	66.8	31.3	-2.4		-116.7	-36	3213	No stop
13 43 15	---	07 41 33	67.4	30.5	-2.3		-119.1	414	3271	13 35 46
13 44 05	J0958+65	07 42 23	68.9	40.8	-2.3		-109.1	14	3271	13 44 05
13 45 15	---	07 43 34	69.0	40.7	-2.3		-109.5	70	3280	13 44 06
13 45 15	M82	07 43 34	67.5	30.3	-2.2		-119.8	-36	3280	No stop
13 52 45	---	07 51 05	68.1	29.4	-2.1		-122.4	414	3338	13 45 16
13 53 35	J0958+65	07 51 55	69.8	39.8	-2.1		-112.2	14	3338	13 53 35
13 54 45	---	07 53 05	69.9	39.7	-2.1		-112.6	70	3347	13 53 36
13 54 45	M82	07 53 05	68.2	29.1	-2.1		-123.1	-36	3347	No stop
14 02 00	---	08 00 21	68.8	28.1	-2.0		-125.7	399	3403	13 54 46
14 02 50	J0958+65	08 01 11	70.7	38.7	-2.0		-115.4	14	3403	14 02 50
14 04 00	---	08 02 22	70.8	38.5	-2.0		-115.8	70	3412	14 02 51
14 04 00	M82	08 02 22	68.9	27.9	-1.9		-126.5	-36	3412	No stop
14 11 30	---	08 09 53	69.4	26.7	-1.8		-129.3	414	3470	14 04 01
14 12 20	J0958+65	08 10 43	71.6	37.3	-1.8		-118.9	14	3470	14 12 20
14 13 30	---	08 11 53	71.7	37.1	-1.8		-119.3	70	3479	14 12 21
14 13 30	M82	08 11 53	69.6	26.4	-1.8		-130.1	-36	3479	No stop
14 21 00	---	08 19 24	70.0	25.1	-1.6		-133.0	414	3537	14 13 31

Schedule for TORUN (Code Tr) Page 9

Monitoring the old, discovering the new; mas-scale radio emission in M82

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Thu 2 Jun 2022 Day 153 ---										
14 21 50	J0958+65	08 20 15	72.4	35.6	-1.7		-122.6	14	3537	14 21 50
14 23 00	---	08 21 25	72.5	35.4	-1.7		-123.1	70	3546	14 21 51
14 23 00	M82	08 21 25	70.2	24.8	-1.6		-133.8	-36	3546	No stop
14 30 15	---	08 28 41	70.6	23.5	-1.5		-136.8	399	3602	14 23 01
14 31 05	J0958+65	08 29 31	73.2	33.8	-1.5		-126.5	14	3602	14 31 05
14 32 15	---	08 30 41	73.3	33.5	-1.5		-127.0	70	3611	14 31 06
14 32 15	M82	08 30 41	70.7	23.1	-1.4		-137.6	-36	3611	No stop
14 39 45	---	08 38 13	71.2	21.5	-1.3		-140.8	414	3669	14 32 16
14 40 35	J0958+65	08 39 03	74.0	31.6	-1.4		-130.8	15	3669	14 40 35
14 41 45	---	08 40 13	74.1	31.3	-1.3		-131.3	70	3678	14 40 36
14 41 45	M82	08 40 13	71.3	21.1	-1.3		-141.7	-36	3678	No stop
14 49 15	---	08 47 44	71.7	19.5	-1.2		-145.0	414	3736	14 41 46
14 50 05	J0958+65	08 48 34	74.7	29.1	-1.2		-135.3	16	3736	14 50 05
14 51 15	---	08 49 44	74.8	28.8	-1.2		-135.9	70	3745	14 50 06
14 51 15	M82	08 49 44	71.8	19.0	-1.1		-145.9	-35	3745	No stop
14 58 30	---	08 57 01	72.1	17.3	-1.0		-149.3	400	3801	14 51 16
14 59 20	J0958+65	08 57 51	75.4	26.3	-1.0		-140.1	17	3801	14 59 20
15 00 30	---	08 59 01	75.4	25.9	-1.0		-140.7	70	3810	14 59 21
15 00 30	M82	08 59 01	72.2	16.8	-1.0		-150.2	-34	3810	No stop
15 08 00	---	09 06 32	72.5	14.9	-0.9		-153.8	416	3868	15 00 31
15 08 50	J0958+65	09 07 22	76.0	23.1	-0.9		-145.4	18	3868	15 08 50
15 10 00	---	09 08 32	76.0	22.7	-0.9		-146.0	70	3877	15 08 51
15 10 00	M82	09 08 32	72.6	14.3	-0.8		-154.8	-32	3877	No stop
15 17 30	---	09 16 04	72.8	12.3	-0.7		-158.5	418	3935	15 10 01
15 18 20	J0958+65	09 16 54	76.5	19.6	-0.7		-151.0	20	3935	15 18 20
15 19 30	---	09 18 04	76.5	19.2	-0.7		-151.7	70	3944	15 18 21
15 19 30	M82	09 18 04	72.9	11.8	-0.7		-159.5	-30	3944	No stop
15 26 45	---	09 25 20	73.1	9.7	-0.5		-163.1	405	4000	15 19 31
15 27 35	J0958+65	09 26 10	76.9	15.9	-0.6		-156.7	22	4000	15 27 35
15 28 45	---	09 27 21	77.0	15.4	-0.6		-157.5	70	4009	15 27 36

Schedule for TORUN (Code Tr) Page 10

Monitoring the old, discovering the new; mas-scale radio emission in M82

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT	Source	Start / Stop						Early	Disk	TPStart
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC
--- Thu 2 Jun 2022 Day 153 ---										
15 28 45	M82	09 27 21	73.2	9.1	-0.5		-164.1	-28	4009	No stop
15 36 15	---	09 34 52	73.3	6.9	-0.4		-168.0	422	4067	15 28 46
15 37 05	J0958+65	09 35 42	77.2	11.7	-0.4		-162.9	21	4067	15 37 05
15 38 15	---	09 36 52	77.3	11.2	-0.4		-163.7	70	4076	15 37 06
15 38 15	M82	09 36 52	73.3	6.3	-0.3		-169.1	-29	4076	No stop
15 45 45	---	09 44 23	73.4	4.1	-0.2		-173.0	421	4134	15 38 16
15 46 35	J0958+65	09 45 14	77.5	7.3	-0.3		-169.4	21	4134	15 46 35
15 47 45	---	09 46 24	77.5	6.8	-0.2		-170.2	70	4143	15 46 36
15 47 45	M82	09 46 24	73.5	3.5	-0.2		-174.1	-29	4143	No stop
15 55 00	---	09 53 40	73.5	1.2	-0.1		-177.9	406	4200	15 47 46
15 55 50	J0958+65	09 54 30	77.6	2.9	-0.1		-175.8	21	4200	15 55 50
15 57 00	---	09 55 40	77.6	2.3	-0.1		-176.6	70	4209	15 55 51
15 57 00	M82	09 55 40	73.5	0.6	-0.0		-178.9	-29	4209	No stop
16 04 30	---	10 03 11	73.5	-1.7	0.1		177.1	421	4266	15 57 01
16 05 20	J0958+65	10 04 02	77.6	-1.7	0.1		177.5	21	4266	16 05 20
16 06 30	---	10 05 12	77.6	-2.3	0.1		176.7	70	4276	16 05 21
16 06 30	M82	10 05 12	73.5	-2.3	0.1		176.0	-29	4276	No stop
16 14 00	---	10 12 43	73.4	-4.6	0.3		172.1	421	4333	16 06 31
16 14 50	J0958+65	10 13 33	77.5	-6.3	0.2		170.9	21	4333	16 14 50
16 16 00	---	10 14 43	77.5	-6.9	0.2		170.1	70	4342	16 14 51
16 16 00	M82	10 14 43	73.4	-5.2	0.3		171.0	-29	4342	No stop
16 23 15	---	10 22 00	73.3	-7.4	0.4		167.2	406	4399	16 16 01
16 24 05	J0958+65	10 22 50	77.3	-10.6	0.4		164.5	21	4399	16 24 05
16 25 15	---	10 24 00	77.3	-11.2	0.4		163.8	70	4408	16 24 06
16 25 15	M82	10 24 00	73.2	-8.0	0.4		166.2	-29	4408	No stop
16 32 45	---	10 31 31	73.1	-10.2	0.6		162.3	421	4466	16 25 16
16 33 35	J0958+65	10 32 21	77.0	-14.8	0.5		158.3	21	4466	16 33 35
16 34 45	---	10 33 31	77.0	-15.3	0.6		157.5	70	4475	16 33 36
16 34 45	M82	10 33 31	73.0	-10.7	0.6		161.3	-29	4475	No stop
16 42 15	---	10 41 03	72.8	-12.8	0.7		157.6	421	4533	16 34 46

Schedule for TORUN (Code Tr) Page 11

Monitoring the old, discovering the new; mas-scale radio emission in M82

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

--- Thu 2 Jun 2022 Day 153 ---

Start UT Stop UT	Source	LST	Start / Stop EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
16 43 05	J0958+65	10 41 53	76.6	-18.8	0.7		152.3	22	4533	16 43 05
16 44 15	---	10 43 03	76.5	-19.2	0.7		151.6	70	4542	16 43 06
16 44 15	M82	10 43 03	72.7	-13.4	0.8		156.6	-28	4542	No stop
16 51 30	---	10 50 19	72.4	-15.3	0.9		153.0	407	4598	16 44 16
16 52 20	J0958+65	10 51 09	76.1	-22.3	0.8		146.7	21	4598	16 52 20
16 53 30	---	10 52 19	76.0	-22.7	0.9		146.1	70	4607	16 52 21
16 53 30	M82	10 52 19	72.4	-15.8	0.9		152.1	-29	4607	No stop
17 01 00	---	10 59 51	72.0	-17.6	1.0		148.5	421	4665	16 53 31
17 01 50	J0958+65	11 00 41	75.5	-25.6	1.0		141.4	19	4665	17 01 50
17 03 00	---	11 01 51	75.4	-25.9	1.0		140.8	70	4674	17 01 51
17 03 00	M82	11 01 51	71.9	-18.1	1.1		147.6	-30	4674	No stop
17 10 30	---	11 09 22	71.6	-19.9	1.2		144.2	420	4732	17 03 01
17 11 20	J0958+65	11 10 12	74.9	-28.5	1.2		136.4	18	4732	17 11 20
17 12 30	---	11 11 23	74.8	-28.8	1.2		135.8	70	4741	17 11 21
17 12 30	M82	11 11 23	71.5	-20.3	1.2		143.3	-32	4741	No stop
17 19 45	---	11 18 39	71.1	-21.9	1.3		140.1	403	4797	17 12 31
17 20 35	J0958+65	11 19 29	74.2	-31.0	1.3		131.9	17	4797	17 20 35
17 21 45	---	11 20 39	74.1	-31.3	1.3		131.3	70	4806	17 20 36
17 21 45	M82	11 20 39	71.0	-22.3	1.4		139.3	-33	4806	No stop
17 29 15	---	11 28 10	70.5	-23.7	1.5		136.1	417	4864	17 21 46
17 30 05	J0958+65	11 29 01	73.4	-33.2	1.5		127.5	16	4864	17 30 05
17 31 15	---	11 30 11	73.3	-33.5	1.5		127.0	70	4873	17 30 06
17 31 15	M82	11 30 11	70.4	-24.1	1.5		135.3	-34	4873	No stop
17 38 45	---	11 37 42	69.9	-25.5	1.7		132.3	416	4931	17 31 16
17 39 35	J0958+65	11 38 32	72.6	-35.2	1.6		123.5	16	4931	17 39 35
17 40 45	---	11 39 42	72.5	-35.4	1.7		123.0	70	4940	17 39 36
17 40 45	M82	11 39 42	69.8	-25.8	1.7		131.5	-34	4940	No stop
17 48 00	---	11 46 58	69.3	-27.0	1.8		128.7	401	4996	17 40 46
17 48 50	J0958+65	11 47 49	71.8	-36.9	1.8		119.8	15	4996	17 48 50
17 50 00	---	11 48 59	71.7	-37.1	1.8		119.4	70	5005	17 48 51

```
Schedule for TORUN     (Code Tr )                                  Page  12
               Monitoring the old, discovering the new; mas-scale radio emission in M82
  UP:  D => Below limits;  H => Below horizon mask;  W => still slewing at end;  blank => Up.
  Early: Seconds between end of slew and start.   Dwell: On source seconds.
  Disk: GBytes recorded to this point.
  TPStart:  Recording start time.  Frequencies are LO sum (band edge).
  SYNC: Time correlator is expected to sync up.
-----------------------------------------------------------------------------------------
Start UT  Source               Start / Stop                 Early    Disk   TPStart
Stop UT                  LST      EL    AZ   HA  UP   ParA  Dwell   GBytes    SYNC
-----------------------------------------------------------------------------------------

 --- Thu   2 Jun 2022   Day 153 ---

17 53 30  DA193        11 52 29  31.4 -64.1  5.9      44.7    46     5005   17 53 30
18 00 00  ---          11 59 00  30.5 -63.1  6.0      44.2   390     5055   17 53 31




SETUP FILE INFORMATION:
   NOTE: If DOPPLER, FREQ, or BW were used, see the individual scans for the final BBC settings.


 ======== Setup file: sess222.L1024

   Setup group:    7         Station: TORUN            Total bit rate:  1024
   Format: VDIF              Bits per sample: 2        Sample rate: 64.000
   Number of channels:  8    DBE type: DBBC_DDC        Speedup factor:   1.00

   Disk used to record data.
```

```
  1st LO=   2300.00   2300.00   2300.00   2300.00   2300.00   2300.00   2300.00   2300.00
  Net SB=         L         L         U         U         L         L         U         U
  IF SB =         L         L         L         L         L         L         L         L
  Pol.  =       RCP       LCP       RCP       LCP       RCP       LCP       RCP       LCP
  BBC   =         1         9         1         9         2        10         2        10
  BBC SB=         U         U         L         L         U         U         L         L
  IF    =        A1        B1        A1        B1        A1        B1        A1        B1

 The following frequency sets based on these setups were used.

  Frequency Set:   9  Setup file default.  Used with PCAL = off
  LO sum=   1626.49  1626.49  1626.49  1626.49  1690.49  1690.49  1690.49  1690.49
  BBC fr=    673.51   673.51   673.51   673.51   609.51   609.51   609.51   609.51
  Bandwd=     32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00
   Matching frequency sets:   9

  Track assignments are:
   track1=   1,  2,  3,  4,  5,  6,  7,  8
   barrel=roll_off



POSITIONS OF SOURCES USED IN RECORDING SCANS

  Source                          Source position (RA/Dec)                        Error
                       (B1950)             (J2000)             (Date)             (mas)

* M82                09 51 41.952886   * 09 55 50.690000     09 57 39.492340       0.00
                     69 54 57.45661    * 69 40 43.76000      69 34 42.69895        0.00

* 3C84               03 16 29.567265   * 03 19 48.160096     03 21 14.512784       1.50
  J0319+4130         41 19 51.91692    * 41 30 42.10404      41 35 23.52853        2.86
  0316+413           /home/guest/rmc/SCHED/sched11.6/catalogs/sources.gsfc
  J0319+41           GSFC 2016a X/S astro solution,  10291 observations.

  0552+398           05 52 01.407168   * 05 55 30.805611     05 57 01.870351       0.00
  J0555+3948         39 48 21.94581    * 39 48 49.16496      39 49 03.23459        0.00
* DA193              /home/guest/rmc/SCHED/sched11.6/catalogs/sources.gsfc
  J0555+39           GSFC 2016a X/S astro solution, 415688 observations.

  4C39.25            09 23 55.319216   * 09 27 03.013937     09 28 25.475398       0.31
  J0927+3902         39 15 23.56644    * 39 02 20.85185      38 56 44.47980        0.16
  0923+392           /home/guest/rmc/SCHED/sched11.6/catalogs/sources.gsfc
* J0927+39           GSFC 2016a X/S astro solution, 250526 observations.

  0954+658           09 54 57.847924   * 09 58 47.245105     10 00 27.848280       0.02
  J0958+6533         65 48 15.53888    * 65 33 54.81807      65 27 50.22397        0.01
* J0958+65           /home/guest/rmc/SCHED/sched11.6/catalogs/sources.gsfc
                     GSFC 2016a X/S astro solution,  15018 observations.
```

eb096dtr

Environments of localized FRBs: FRB210320

PI: *Shivani Bhandari*

```
Address:  JIVE

Observing mode: VLBI
Schedule for TORUN     (Code Tr )                                  Page   2
               Environments of localized FRBs: FRB210320
  UP:  D => Below limits;  H => Below horizon mask;  W => still slewing at end;  blank => Up.
  Early: Seconds between end of slew and start.   Dwell: On source seconds.
  Disk: GBytes recorded to this point.
  TPStart:  Recording start time.  Frequencies are LO sum (band edge).
  SYNC: Time correlator is expected to sync up.
-----------------------------------------------------------------------------------------
Start UT  Source               Start / Stop                 Early    Disk   TPStart
Stop UT                  LST      EL    AZ   HA  UP   ParA  Dwell   GBytes    SYNC
-----------------------------------------------------------------------------------------
 --- Thu   2 Jun 2022   Day 153 ---
 Next scan frequencies:  1626.49  1626.49  1626.49  1626.49  1690.49  1690.49  1690.49  1690.49
 Next BBC frequencies:    673.51   673.51   673.51   673.51   609.51   609.51   609.51   609.51
 Next scan bandwidths:     32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00

19 00 00  1334-127     12 59 10  23.3 169.5 -0.7      -6.5     0        0   19 00 00
19 03 20  ---          13 02 31  23.4 170.4 -0.6      -5.9   200       26   19 00 01

19 04 10  J1336-1852   13 03 21  17.5 171.5 -0.6      -5.4    14       26   19 04 10
19 05 10  =1333-186    13 04 21  17.5 171.7 -0.6      -5.3    60       33   19 04 11

19 05 10  FRB210320    13 04 21  20.3 171.1 -0.6      -5.5   -24       33   No stop
19 08 40  ---          13 07 52  20.3 172.0 -0.5      -5.0   186       61   19 05 11

19 08 40  J1336-1852   13 07 52  17.6 172.6 -0.5      -4.7   -24       61   No stop
19 10 10  =1333-186    13 09 22  17.6 172.9 -0.5      -4.5    66       72   19 08 41

19 10 10  FRB210320    13 09 22  20.4 172.4 -0.5      -4.7   -24       72   No stop
19 13 40  ---          13 12 53  20.4 173.3 -0.4      -4.2   186       99   19 10 11

19 14 20  J1336-1852   13 13 33  17.7 174.0 -0.4      -3.8    16       99   19 14 20
19 15 10  =1333-186    13 14 23  17.7 174.2 -0.4      -3.7    50      106   19 14 21

19 15 10  FRB210320    13 14 23  20.5 173.7 -0.4      -3.9   -24      106   No stop
19 18 40  ---          13 17 53  20.5 174.6 -0.4      -3.4   186      133   19 15 11

19 18 40  J1336-1852   13 17 53  17.8 175.1 -0.3      -3.1   -24      133   No stop
19 20 10  =1333-186    13 19 24  17.8 175.4 -0.3      -2.9    66      144   19 18 41

19 20 10  FRB210320    13 19 24  20.5 175.0 -0.3      -3.1   -24      144   No stop
19 23 40  ---          13 22 54  20.6 175.9 -0.3      -2.6   186      171   19 20 11

19 24 20  J1336-1852   13 23 34  17.8 176.5 -0.2      -2.2    16      171   19 24 20
19 25 10  =1333-186    13 24 24  17.9 176.7 -0.2      -2.1    50      178   19 24 21

19 25 10  FRB210320    13 24 24  20.6 176.2 -0.2      -2.3   -24      178   No stop
19 28 40  ---          13 27 55  20.6 177.1 -0.2      -1.8   186      205   19 25 11

19 28 40  J1336-1852   13 27 55  17.9 177.5 -0.2      -1.6   -24      205   No stop
19 30 10  =1333-186    13 29 25  17.9 177.9 -0.1      -1.3    66      216   19 28 41

19 30 10  FRB210320    13 29 25  20.6 177.5 -0.2      -1.5   -24      216   No stop
19 33 40  ---          13 32 56  20.7 178.4 -0.1      -1.0   186      243   19 30 11
```

Schedule for TORUN (Code Tr) Page 3

Environments of localized FRBs: FRB210320

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Thu 2 Jun 2022 Day 153 ---										
19 34 20	J1336-1852	13 33 36	17.9	179.0	-0.1		-0.7	16	243	19 34 20
19 35 10	=1333-186	13 34 26	17.9	179.2	-0.1		-0.5	50	250	19 34 21
19 35 10	J1339-1819	13 34 26	18.5	178.5	-0.1		-1.0	-14	250	No stop
19 38 40	=1336-180	13 37 57	18.5	179.4	-0.0		-0.4	196	277	19 35 11
19 39 10	J1336-1852	13 38 27	17.9	180.2	0.0		0.1	16	277	19 39 10
19 40 10	=1333-186	13 39 27	17.9	180.4	0.0		0.3	60	285	19 39 11
19 40 10	FRB210320	13 39 27	20.7	180.1	0.0		0.1	-24	285	No stop
19 43 40	---	13 42 57	20.7	181.0	0.1		0.6	186	312	19 40 11
19 43 40	J1336-1852	13 42 57	17.9	181.3	0.1		0.8	-24	312	No stop
19 45 10	=1333-186	13 44 28	17.9	181.7	0.1		1.1	66	323	19 43 41
19 45 10	FRB210320	13 44 28	20.7	181.4	0.1		0.9	-24	323	No stop
19 48 40	---	13 47 58	20.6	182.3	0.1		1.4	186	350	19 45 11
19 49 20	J1336-1852	13 48 38	17.9	182.7	0.2		1.7	16	350	19 49 20
19 50 10	=1333-186	13 49 29	17.9	182.9	0.2		1.8	50	357	19 49 21
19 50 10	FRB210320	13 49 29	20.6	182.7	0.2		1.7	-24	357	No stop
19 53 40	---	13 52 59	20.6	183.6	0.2		2.2	186	384	19 50 11
19 53 40	J1336-1852	13 52 59	17.8	183.8	0.3		2.4	-24	384	No stop
19 55 10	=1333-186	13 54 29	17.8	184.1	0.3		2.6	66	395	19 53 41
19 55 10	FRB210320	13 54 29	20.6	184.0	0.3		2.5	-24	395	No stop
19 58 40	---	13 58 00	20.5	184.9	0.3		3.0	186	423	19 55 11
19 59 20	J1336-1852	13 58 40	17.8	185.2	0.3		3.3	16	423	19 59 20
20 00 10	=1333-186	13 59 30	17.8	185.4	0.4		3.4	50	429	19 59 21
20 00 10	FRB210320	13 59 30	20.5	185.2	0.3		3.3	-24	429	No stop
20 03 40	---	14 03 01	20.5	186.1	0.4		3.8	186	456	20 00 11
20 03 40	J1336-1852	14 03 01	17.7	186.3	0.4		4.0	-24	456	No stop
20 05 10	=1333-186	14 04 31	17.7	186.6	0.4		4.2	66	468	20 03 41
20 05 10	FRB210320	14 04 31	20.4	186.5	0.4		4.1	-24	468	No stop
20 08 40	---	14 08 02	20.4	187.4	0.5		4.6	186	495	20 05 11
20 09 20	J1336-1852	14 08 42	17.6	187.7	0.5		4.9	16	495	20 09 20
20 10 10	=1333-186	14 09 32	17.6	187.9	0.5		5.0	50	501	20 09 21
20 10 10	FRB210320	14 09 32	20.4	187.8	0.5		4.9	-24	501	No stop
20 13 40	---	14 13 02	20.3	188.7	0.6		5.4	186	528	20 10 11

Schedule for TORUN (Code Tr) Page 4

Environments of localized FRBs: FRB210320

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Thu 2 Jun 2022 Day 153 ---										
20 13 40	J1336-1852	14 13 02	17.5	188.7	0.6		5.5	-24	528	No stop
20 15 10	=1333-186	14 14 33	17.5	189.1	0.6		5.8	66	540	20 13 41
20 15 10	FRB210320	14 14 33	20.2	189.1	0.6		5.7	-24	540	No stop
20 18 40	---	14 18 03	20.2	190.0	0.7		6.2	186	567	20 15 11
20 19 20	J1336-1852	14 18 43	17.4	190.1	0.7		6.4	16	567	20 19 20
20 20 10	=1333-186	14 19 33	17.3	190.3	0.7		6.5	50	573	20 19 21
20 20 10	FRB210320	14 19 33	20.1	190.4	0.7		6.5	-24	573	No stop
20 23 40	---	14 23 04	20.0	191.2	0.7		7.0	186	600	20 20 11
20 23 40	J1336-1852	14 23 04	17.2	191.2	0.8		7.1	-24	600	No stop
20 25 10	=1333-186	14 24 34	17.2	191.6	0.8		7.3	66	612	20 23 41
20 25 10	FRB210320	14 24 34	20.0	191.6	0.8		7.2	-24	612	No stop
20 28 40	---	14 28 05	19.9	192.5	0.8		7.8	186	639	20 25 11
20 29 20	J1336-1852	14 28 45	17.1	192.6	0.8		8.0	16	639	20 29 20
20 30 10	=1333-186	14 29 35	17.0	192.8	0.9		8.1	50	645	20 29 21
20 30 10	J1339-1819	14 29 35	17.7	192.2	0.8		7.7	-14	645	No stop
20 33 40	=1336-180	14 33 06	17.6	193.1	0.9		8.2	196	672	20 30 11
20 34 10	J1336-1852	14 33 36	16.9	193.8	0.9		8.7	16	672	20 34 10
20 35 10	=1333-186	14 34 36	16.9	194.0	0.9		8.9	60	680	20 34 11
20 35 10	FRB210320	14 34 36	19.6	194.2	0.9		8.8	-24	680	No stop
20 38 40	---	14 38 06	19.5	195.0	1.0		9.3	186	707	20 35 11
20 38 40	J1336-1852	14 38 06	16.7	194.9	1.0		9.4	-24	707	No stop
20 40 10	=1333-186	14 39 37	16.7	195.3	1.0		9.6	66	719	20 38 41
20 40 10	FRB210320	14 39 37	19.4	195.4	1.0		9.6	-24	719	No stop
20 43 40	---	14 43 07	19.3	196.3	1.1		10.1	186	746	20 40 11
20 44 20	J1336-1852	14 43 47	16.5	196.3	1.1		10.2	16	746	20 44 20
20 45 10	=1333-186	14 44 38	16.5	196.5	1.1		10.4	50	752	20 44 21
20 45 10	FRB210320	14 44 38	19.2	196.7	1.1		10.3	-24	752	No stop
20 48 40	---	14 48 08	19.1	197.6	1.2		10.9	186	779	20 45 11
20 48 40	J1336-1852	14 48 08	16.3	197.3	1.2		10.9	-24	779	No stop
20 50 10	=1333-186	14 49 38	16.3	197.7	1.2		11.1	66	791	20 48 41

Schedule for TORUN (Code Tr) Page 5

Environments of localized FRBs: FRB210320

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Thu 2 Jun 2022 Day 153 ---										
20 50 10	FRB210320	14 49 38	19.0	197.9	1.2		11.1	-24	791	No stop
20 53 40	---	14 53 09	18.8	198.8	1.2		11.6	186	818	20 50 11
20 54 20	J1336-1852	14 53 49	16.1	198.7	1.3		11.7	16	818	20 54 20
20 55 10	=1333-186	14 54 39	16.0	198.9	1.3		11.9	50	824	20 54 21
20 55 10	FRB210320	14 54 39	18.8	199.2	1.3		11.9	-24	824	No stop
20 58 40	---	14 58 10	18.6	200.0	1.3		12.4	186	851	20 55 11
20 58 40	J1336-1852	14 58 10	15.8	199.7	1.3		12.4	-24	851	No stop
21 00 10	=1333-186	14 59 40	15.8	200.1	1.4		12.6	66	863	20 58 41
21 00 10	FRB210320	14 59 40	18.5	200.4	1.3		12.6	-24	863	No stop
21 03 40	---	15 03 11	18.3	201.3	1.4		13.1	186	890	21 00 11
21 04 20	J1336-1852	15 03 51	15.5	201.1	1.4		13.2	16	890	21 04 20
21 05 10	=1333-186	15 04 41	15.5	201.3	1.4		13.3	50	897	21 04 21
21 05 10	FRB210320	15 04 41	18.2	201.7	1.4		13.3	-24	897	No stop
21 08 40	---	15 08 11	18.1	202.5	1.5		13.9	186	924	21 05 11
21 08 40	J1336-1852	15 08 11	15.3	202.1	1.5		13.8	-24	924	No stop
21 10 10	=1333-186	15 09 42	15.2	202.5	1.5		14.1	66	935	21 08 41
21 10 10	FRB210320	15 09 42	18.0	202.9	1.5		14.1	-24	935	No stop
21 13 40	---	15 13 12	17.8	203.7	1.6		14.6	186	962	21 10 11
21 14 20	J1336-1852	15 13 52	15.0	203.5	1.6		14.7	16	962	21 14 20
21 15 10	=1333-186	15 14 42	14.9	203.7	1.6		14.8	50	969	21 14 21
21 15 10	FRB210320	15 14 42	17.7	204.1	1.6		14.8	-24	969	No stop
21 18 40	---	15 18 13	17.4	205.0	1.7		15.3	186	996	21 15 11
21 18 40	J1336-1852	15 18 13	14.7	204.5	1.7		15.3	-24	996	No stop
21 20 10	=1333-186	15 19 43	14.6	204.9	1.7		15.5	66	1007	21 18 41
21 20 10	FRB210320	15 19 43	17.3	205.3	1.7		15.5	-24	1007	No stop
21 23 40	---	15 23 14	17.1	206.2	1.7		16.0	186	1034	21 20 11
21 24 20	J1336-1852	15 23 54	14.3	205.8	1.8		16.1	16	1034	21 24 20
21 25 10	=1333-186	15 24 44	14.3	206.0	1.8		16.2	50	1041	21 24 21
21 25 10	J1339-1819	15 24 44	15.0	205.6	1.7		15.8	-15	1041	No stop
21 28 40	=1336-180	15 28 15	14.8	206.4	1.8		16.3	195	1068	21 25 11

Schedule for TORUN (Code Tr) Page 6

Environments of localized FRBs: FRB210320

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	LST	Start / Stop EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Thu 2 Jun 2022 Day 153 ---										
21 29 10	J1336-1852	15 28 45	14.0	207.0	1.8		16.7	15	1068	21 29 10
21 30 10	=1333-186	15 29 45	14.0	207.2	1.9		16.9	60	1076	21 29 11
21 30 10	FRB210320	15 29 45	16.7	207.7	1.8		16.9	-24	1076	No stop
21 33 40	---	15 33 16	16.4	208.6	1.9		17.4	186	1103	21 30 11
21 33 40	J1336-1852	15 33 16	13.7	208.0	1.9		17.4	-24	1103	No stop
21 35 10	=1333-186	15 34 46	13.6	208.4	1.9		17.6	66	1114	21 33 41
21 35 10	FRB210320	15 34 46	16.3	208.9	1.9		17.6	-24	1114	No stop
21 38 40	---	15 38 16	16.1	209.8	2.0		18.1	186	1141	21 35 11
21 39 20	J1336-1852	15 38 56	13.3	209.3	2.0		18.1	16	1141	21 39 20
21 40 10	=1333-186	15 39 47	13.2	209.5	2.0		18.2	50	1148	21 39 21
21 40 10	FRB210320	15 39 47	15.9	210.1	2.0		18.3	-24	1148	No stop
21 43 40	---	15 43 17	15.7	211.0	2.1		18.8	186	1175	21 40 11
21 43 40	J1336-1852	15 43 17	13.0	210.3	2.1		18.7	-24	1175	No stop
21 45 10	=1333-186	15 44 47	12.9	210.7	2.1		18.9	66	1186	21 43 41
21 45 10	FRB210320	15 44 47	15.6	211.3	2.1		19.0	-24	1186	No stop
21 48 40	---	15 48 18	15.3	212.1	2.2		19.4	186	1213	21 45 11
21 49 20	J1336-1852	15 48 58	12.5	211.6	2.2		19.5	16	1213	21 49 20
21 50 10	=1333-186	15 49 48	12.5	211.8	2.2		19.6	50	1220	21 49 21
21 50 10	FRB210320	15 49 48	15.2	212.5	2.2		19.6	-24	1220	No stop
21 53 40	---	15 53 19	14.9	213.3	2.2		20.1	186	1247	21 50 11
21 53 40	J1336-1852	15 53 19	12.2	212.6	2.3		20.0	-24	1247	No stop
21 55 10	=1333-186	15 54 49	12.1	213.0	2.3		20.2	66	1259	21 53 41
21 55 10	FRB210320	15 54 49	14.8	213.7	2.3		20.3	-24	1259	No stop
21 58 40	---	15 58 20	14.5	214.5	2.3		20.7	186	1286	21 55 11
21 59 20	J1336-1852	15 59 00	11.7	213.9	2.4		20.8	16	1286	21 59 20
22 00 10	=1333-186	15 59 50	11.7	214.1	2.4		20.9	50	1292	21 59 21
22 00 10	FRB210320	15 59 50	14.3	214.8	2.3		20.9	-24	1292	No stop
22 03 40	---	16 03 20	14.0	215.6	2.4		21.4	186	1319	22 00 11
22 03 40	J1336-1852	16 03 20	11.4	214.9	2.4		21.3	-24	1319	No stop
22 05 10	=1333-186	16 04 51	11.2	215.2	2.5		21.5	66	1331	22 03 41

Schedule for TORUN (Code Tr) Page 7

Environments of localized FRBs: FRB210320

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Thu 2 Jun 2022 Day 153 ---										
22 05 10	FRB210320	16 04 51	13.9	216.0	2.4		21.6	-24	1331	No stop
22 08 40	---	16 08 21	13.6	216.8	2.5		22.0	186	1358	22 05 11
22 09 20	J1336-1852	16 09 01	10.9	216.2	2.5		22.0	16	1358	22 09 20
22 10 10	=1333-186	16 09 52	10.8	216.4	2.5		22.1	50	1364	22 09 21
22 10 10	J1339-1819	16 09 52	11.5	216.0	2.5		21.8	-15	1364	No stop
22 13 40	=1336-180	16 13 22	11.2	216.8	2.5		22.3	195	1391	22 10 11
22 14 10	J1336-1852	16 13 52	10.4	217.3	2.6		22.6	15	1391	22 14 10
22 15 10	=1333-186	16 14 52	10.3	217.5	2.6		22.7	60	1399	22 14 11
22 15 10	FRB210320	16 14 52	13.0	218.3	2.6		22.8	-24	1399	No stop
22 18 40	---	16 18 23	12.7	219.1	2.7		23.2	186	1426	22 15 11
22 18 40	J1336-1852	16 18 23	10.0	218.2	2.7		23.2	-24	1426	No stop
22 20 10	=1333-186	16 19 53	9.9	218.6	2.7		23.3	66	1438	22 18 41
22 20 10	FRB210320	16 19 53	12.5	219.4	2.7		23.4	-24	1438	No stop
22 23 40	---	16 23 24	12.2	220.2	2.7		23.8	186	1465	22 20 11
22 24 20	J1336-1852	16 24 04	9.5	219.5	2.8		23.8	16	1465	22 24 20
22 25 10	=1333-186	16 24 54	9.4	219.7	2.8		23.9	50	1471	22 24 21
22 25 10	FRB210320	16 24 54	12.0	220.5	2.8		24.0	-24	1471	No stop
22 28 40	---	16 28 25	11.7	221.3	2.8		24.4	186	1498	22 25 11
22 28 40	J1336-1852	16 28 25	9.1	220.4	2.8		24.3	-24	1498	No stop
22 30 10	=1333-186	16 29 55	8.9	220.8	2.9		24.5	66	1510	22 28 41
22 30 10	FRB210320	16 29 55	11.5	221.7	2.8		24.6	-24	1510	No stop
22 33 40	---	16 33 25	11.2	222.4	2.9		25.0	186	1537	22 30 11
22 34 20	J1336-1852	16 34 05	8.5	221.7	2.9		25.0	16	1537	22 34 20
22 35 10	=1333-186	16 34 56	8.4	221.9	3.0		25.1	50	1543	22 34 21
22 35 10	FRB210320	16 34 56	11.0	222.8	2.9		25.1	-24	1543	No stop
22 38 40	---	16 38 26	10.7	223.6	3.0		25.5	186	1570	22 35 11
22 38 40	J1336-1852	16 38 26	8.1	222.6	3.0		25.5	-24	1570	No stop
22 40 10	=1333-186	16 39 56	7.9	222.9	3.0		25.6	66	1582	22 38 41
22 40 10	FRB210320	16 39 56	10.5	223.9	3.0		25.7	-24	1582	No stop
22 43 40	---	16 43 27	10.1	224.7	3.1		26.1	186	1609	22 40 11

```
Schedule for TORUN     (Code Tr )                                Page   8
              Environments of localized FRBs: FRB210320
  UP:  D => Below limits;  H => Below horizon mask;  W => still slewing at end;  blank => Up.
  Early: Seconds between end of slew and start.   Dwell: On source seconds.
  Disk: GBytes recorded to this point.
  TPStart:  Recording start time.  Frequencies are LO sum (band edge).
  SYNC: Time correlator is expected to sync up.
-------------------------------------------------------------------------------------------
Start UT  Source               Start / Stop                 Early    Disk   TPStart
Stop UT                  LST      EL    AZ   HA  UP   ParA  Dwell   GBytes    SYNC
-------------------------------------------------------------------------------------------

 --- Thu   2 Jun 2022   Day 153 ---

22 44 20  J1336-1852   16 44 07   7.5 223.8  3.1      26.1    16     1609   22 44 20
22 45 10  =1333-186    16 44 57   7.4 224.0  3.1      26.2    50     1615   22 44 21

22 45 10  FRB210320    16 44 57  10.0 225.0  3.1      26.2   -24     1615   No stop
22 48 40  ---          16 48 28   9.6 225.7  3.2      26.6   186     1642   22 45 11

22 48 40  J1336-1852   16 48 28   7.0 224.8  3.2      26.6   -24     1642   No stop
22 50 10  =1333-186    16 49 58   6.9 225.1  3.2      26.7    66     1654   22 48 41

22 50 10  FRB210320    16 49 58   9.5 226.1  3.2      26.8   -23     1654   No stop
22 53 40  ---          16 53 29   9.1 226.8  3.2      27.1   187     1681   22 50 11

22 54 20  J1336-1852   16 54 09   6.4 226.0  3.3      27.2    16     1681   22 54 20
22 55 10  =1333-186    16 54 59   6.3 226.2  3.3      27.3    50     1688   22 54 21

22 56 40  1510-089     16 56 29  24.0 207.8  1.7      16.5    10     1688   22 56 40
23 00 00  ---          16 59 50  23.8 208.7  1.8      17.0   200     1713   22 56 41



SETUP FILE INFORMATION:
   NOTE: If DOPPLER, FREQ, or BW were used, see the individual scans for the final BBC settings.


 ======== Setup file: sess222.L1024

   Setup group:    8         Station: TORUN            Total bit rate:  1024
   Format: VDIF              Bits per sample: 2        Sample rate: 64.000
   Number of channels:  8    DBE type: DBBC_DDC        Speedup factor:   1.00

   Disk used to record data.
```

```
  1st LO=   2300.00   2300.00   2300.00   2300.00   2300.00   2300.00   2300.00   2300.00
  Net SB=         L         L         U         U         L         L         U         U
  IF SB =         L         L         L         L         L         L         L         L
  Pol.  =       RCP       LCP       RCP       LCP       RCP       LCP       RCP       LCP
  BBC   =         1         9         1         9         2        10         2        10
  BBC SB=         U         U         L         L         U         U         L         L
  IF    =        A1        B1        A1        B1        A1        B1        A1        B1

 The following frequency sets based on these setups were used.

  Frequency Set:   8  Setup file default.  Used with PCAL = off
  LO sum=   1626.49  1626.49  1626.49  1626.49  1690.49  1690.49  1690.49  1690.49
  BBC fr=    673.51   673.51   673.51   673.51   609.51   609.51   609.51   609.51
  Bandwd=     32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00
   Matching frequency sets:   8

  Track assignments are:
   track1=   1,  2,  3,  4,  5,  6,  7,  8
   barrel=roll_off



POSITIONS OF SOURCES USED IN RECORDING SCANS

  Source                          Source position (RA/Dec)                        Error
                       (B1950)             (J2000)             (Date)             (mas)

* FRB210320          13 35 08.488642   * 13 37 50.086000     13 39 02.581015       0.00
                    -15 52 06.97404    *-16 07 21.66000     -16 14 13.91194        0.00

  1333-186           13 33 51.469260   * 13 36 34.393339     13 37 47.481206       0.11
* J1336-1852        -18 37 24.71221    *-18 52 41.67406     -18 59 35.58124        0.15
                     rfc_2022a Petrov and Kovalev, in preparation  657 observations

  1336-180           13 36 34.675071   * 13 39 17.544431     13 40 30.619035       0.15
* J1339-1819        -18 03 52.80592    *-18 19 04.90021     -18 25 56.48722        0.22
                     rfc_2022a Petrov and Kovalev, in preparation  277 observations

* 1334-127           13 34 59.803874   * 13 37 39.782779     13 38 51.550356       0.00
  J1337-1257        -12 42 09.74309    *-12 57 24.69336     -13 04 16.32129        0.00
  J1337-12           /home/guest/rmc/SCHED/sched11.6/catalogs/sources.gsfc
                     GSFC 2016a X/S astro solution, 113586 observations.

* 1510-089           15 10 08.900182   * 15 12 50.532930     15 14 03.372015       0.01
  J1512-0905        -08 54 47.61965    *-09 05 59.82980     -09 11 02.40588        0.01
  J1512-09           /home/guest/rmc/SCHED/sched11.6/catalogs/sources.gsfc
                     GSFC 2016a X/S astro solution,  14633 observations.
```

eb096etr

Environments of localized FRBs: FRB210117

PI: *Shivani Bhandari*

```
Address:  JIVE

Observing mode: VLBI
Schedule for TORUN     (Code Tr )                                  Page   2
               Environments of localized FRBs: FRB210117
  UP:  D => Below limits;  H => Below horizon mask;  W => still slewing at end;  blank => Up.
  Early: Seconds between end of slew and start.   Dwell: On source seconds.
  Disk: GBytes recorded to this point.
  TPStart:  Recording start time.  Frequencies are LO sum (band edge).
  SYNC: Time correlator is expected to sync up.
-----------------------------------------------------------------------------------------
Start UT  Source               Start / Stop                 Early    Disk   TPStart
Stop UT                  LST      EL    AZ   HA  UP   ParA  Dwell   GBytes    SYNC
-----------------------------------------------------------------------------------------
 --- Fri   3 Jun 2022   Day 154 ---
 Next scan frequencies:  1626.49  1626.49  1626.49  1626.49  1690.49  1690.49  1690.49  1690.49
 Next BBC frequencies:    673.51   673.51   673.51   673.51   609.51   609.51   609.51   609.51
 Next scan bandwidths:     32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00

03 30 00  2216-038     21 30 34  32.5 165.3 -0.8      -8.8     0        0   03 30 00
03 33 30  ---          21 34 05  32.6 166.4 -0.8      -8.2   210       27   03 30 01

03 35 00  J2236-1706   21 35 35  18.7 164.4 -1.0      -9.7    24       27   03 35 00
03 36 00  =2233-173    21 36 35  18.7 164.7 -1.0      -9.6    60       35   03 35 01

03 36 00  FRB210117    21 36 35  19.5 163.5 -1.1     -10.2   -15       35   No stop
03 39 30  ---          21 40 06  19.6 164.4 -1.0      -9.7   195       62   03 36 01

03 39 30  J2236-1706   21 40 06  18.8 165.5 -1.0      -9.0   -15       62   No stop
03 41 00  =2233-173    21 41 36  18.9 165.9 -0.9      -8.8    75       73   03 39 31

03 41 00  FRB210117    21 41 36  19.7 164.8 -1.0      -9.4   -15       73   No stop
03 44 30  ---          21 45 06  19.8 165.7 -0.9      -8.9   195      100   03 41 01

03 45 00  J2236-1706   21 45 37  19.0 166.9 -0.9      -8.2    15      100   03 45 00
03 46 00  =2233-173    21 46 37  19.1 167.2 -0.8      -8.0    60      108   03 45 01

03 46 00  FRB210117    21 46 37  19.9 166.1 -0.9      -8.6   -15      108   No stop
03 49 30  ---          21 50 07  20.0 167.0 -0.8      -8.1   195      135   03 46 01

03 49 30  J2236-1706   21 50 07  19.2 168.0 -0.8      -7.5   -15      135   No stop
03 51 00  =2233-173    21 51 38  19.2 168.4 -0.8      -7.2    75      147   03 49 31

03 51 00  FRB210117    21 51 38  20.1 167.3 -0.8      -7.9   -16      147   No stop
03 54 30  ---          21 55 08  20.2 168.2 -0.8      -7.3   194      174   03 51 01

03 55 00  J2236-1706   21 55 38  19.3 169.4 -0.7      -6.6    14      174   03 55 00
03 56 00  =2233-173    21 56 38  19.4 169.7 -0.7      -6.5    60      182   03 55 01

03 56 00  FRB210117    21 56 38  20.2 168.6 -0.7      -7.1   -16      182   No stop
03 59 30  ---          22 00 09  20.3 169.5 -0.7      -6.5   194      209   03 56 01

03 59 30  J2236-1706   22 00 09  19.5 170.6 -0.6      -5.9   -16      209   No stop
04 01 00  =2233-173    22 01 39  19.5 170.9 -0.6      -5.7    74      220   03 59 31

04 01 00  FRB210117    22 01 39  20.3 169.9 -0.7      -6.3   -16      220   No stop
04 04 30  ---          22 05 10  20.4 170.8 -0.6      -5.7   194      247   04 01 01
```

Schedule for TORUN (Code Tr) Page 3

Environments of localized FRBs: FRB210117

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Fri 3 Jun 2022 Day 154 ---										
04 05 00	J2236-1706	22 05 40	19.6	172.0	-0.5		-5.0	14	247	04 05 00
04 06 00	=2233-173	22 06 40	19.6	172.2	-0.5		-4.9	60	255	04 05 01
04 06 00	FRB210117	22 06 40	20.5	171.2	-0.6		-5.5	-16	255	No stop
04 09 30	---	22 10 11	20.5	172.1	-0.5		-4.9	194	282	04 06 01
04 09 30	J2236-1706	22 10 11	19.7	173.1	-0.5		-4.3	-16	282	No stop
04 11 00	=2233-173	22 11 41	19.7	173.5	-0.4		-4.1	74	294	04 09 31
04 11 00	FRB210117	22 11 41	20.6	172.4	-0.5		-4.7	-16	294	No stop
04 14 30	---	22 15 11	20.6	173.3	-0.4		-4.2	194	321	04 11 01
04 15 00	J2236-1706	22 15 41	19.8	174.5	-0.4		-3.5	14	321	04 15 00
04 16 00	=2233-173	22 16 42	19.8	174.8	-0.3		-3.3	60	328	04 15 01
04 16 00	J2232-1659	22 16 42	19.9	175.7	-0.3		-2.7	-14	328	No stop
04 19 00	=2229-172	22 19 42	20.0	176.5	-0.2		-2.2	166	352	04 16 01
04 19 30	J2236-1706	22 20 12	19.8	175.6	-0.3		-2.7	16	352	04 19 30
04 20 30	=2233-173	22 21 12	19.8	175.9	-0.3		-2.6	60	359	04 19 31
04 20 30	FRB210117	22 21 12	20.7	174.9	-0.3		-3.2	-16	359	No stop
04 24 00	---	22 24 43	20.8	175.8	-0.3		-2.6	194	386	04 20 31
04 24 00	J2236-1706	22 24 43	19.9	176.8	-0.2		-2.0	-16	386	No stop
04 25 30	=2233-173	22 26 13	19.9	177.2	-0.2		-1.8	74	398	04 24 01
04 25 30	FRB210117	22 26 13	20.8	176.2	-0.2		-2.4	-16	398	No stop
04 29 00	---	22 29 44	20.8	177.1	-0.2		-1.8	194	425	04 25 31
04 29 30	J2236-1706	22 30 14	19.9	178.2	-0.1		-1.1	14	425	04 29 30
04 30 30	=2233-173	22 31 14	19.9	178.4	-0.1		-1.0	60	433	04 29 31
04 30 30	FRB210117	22 31 14	20.8	177.5	-0.2		-1.6	-16	433	No stop
04 34 00	---	22 34 45	20.9	178.4	-0.1		-1.0	194	460	04 30 31
04 34 00	J2236-1706	22 34 45	19.9	179.3	-0.0		-0.4	-16	460	No stop
04 35 30	=2233-173	22 36 15	19.9	179.7	-0.0		-0.2	74	471	04 34 01
04 35 30	FRB210117	22 36 15	20.9	178.8	-0.1		-0.8	-16	471	No stop
04 39 00	---	22 39 45	20.9	179.7	-0.0		-0.2	194	499	04 35 31
04 39 30	J2236-1706	22 40 15	19.9	180.7	0.0		0.5	14	499	04 39 30
04 40 30	=2233-173	22 41 16	19.9	181.0	0.1		0.6	60	506	04 39 31
04 40 30	FRB210117	22 41 16	20.9	180.0	0.0		0.0	-16	506	No stop
04 44 00	---	22 44 46	20.9	180.9	0.1		0.6	194	533	04 40 31

Schedule for TORUN (Code Tr) Page 4

Environments of localized FRBs: FRB210117

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Fri 3 Jun 2022 Day 154 ---										
04 44 00	J2236-1706	22 44 46	19.9	181.9	0.1		1.2	-16	533	No stop
04 45 30	=2233-173	22 46 16	19.9	182.3	0.1		1.4	74	545	04 44 01
04 45 30	FRB210117	22 46 16	20.9	181.3	0.1		0.8	-16	545	No stop
04 49 00	---	22 49 47	20.8	182.2	0.1		1.4	194	572	04 45 31
04 49 30	J2236-1706	22 50 17	19.9	183.3	0.2		2.1	14	572	04 49 30
04 50 30	=2233-173	22 51 17	19.8	183.5	0.2		2.2	60	580	04 49 31
04 50 30	FRB210117	22 51 17	20.8	182.6	0.2		1.6	-16	580	No stop
04 54 00	---	22 54 48	20.8	183.5	0.2		2.2	194	607	04 50 31
04 54 00	J2236-1706	22 54 48	19.8	184.4	0.3		2.8	-17	607	No stop
04 55 30	=2233-173	22 56 18	19.8	184.8	0.3		3.0	73	618	04 54 01
04 55 30	FRB210117	22 56 18	20.8	183.9	0.3		2.4	-17	618	No stop
04 59 00	---	22 59 49	20.8	184.8	0.3		3.0	193	645	04 55 31
04 59 30	J2236-1706	23 00 19	19.7	185.8	0.4		3.7	13	645	04 59 30
05 00 30	=2233-173	23 01 19	19.7	186.1	0.4		3.8	60	653	04 59 31
05 00 30	J2232-1659	23 01 19	19.8	187.1	0.5		4.4	-14	653	No stop
05 03 30	=2229-172	23 04 19	19.7	187.8	0.5		4.9	166	676	05 00 31
05 04 00	J2236-1706	23 04 49	19.7	187.0	0.5		4.4	16	676	05 04 00
05 05 00	=2233-173	23 05 50	19.6	187.2	0.5		4.5	60	684	05 04 01
05 05 00	FRB210117	23 05 50	20.7	186.3	0.4		4.0	-17	684	No stop
05 08 30	---	23 09 20	20.6	187.2	0.5		4.5	193	711	05 05 01
05 08 30	J2236-1706	23 09 20	19.6	188.1	0.5		5.1	-17	711	No stop
05 10 00	=2233-173	23 10 50	19.5	188.5	0.6		5.3	73	723	05 08 31
05 10 00	FRB210117	23 10 50	20.6	187.6	0.5		4.8	-17	723	No stop
05 13 30	---	23 14 21	20.5	188.5	0.6		5.3	193	750	05 10 01
05 14 00	J2236-1706	23 14 51	19.4	189.5	0.6		6.0	13	750	05 14 00
05 15 00	=2233-173	23 15 51	19.4	189.8	0.6		6.1	60	757	05 14 01
05 15 00	FRB210117	23 15 51	20.5	188.9	0.6		5.6	-17	757	No stop
05 18 30	---	23 19 22	20.4	189.8	0.6		6.1	193	785	05 15 01
05 18 30	J2236-1706	23 19 22	19.3	190.6	0.7		6.7	-17	785	No stop
05 20 00	=2233-173	23 20 52	19.3	191.0	0.7		6.9	73	796	05 18 31

Schedule for TORUN (Code Tr) Page 5

Environments of localized FRBs: FRB210117

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	LST	Start / Stop EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Fri 3 Jun 2022 Day 154 ---										
05 20 00	FRB210117	23 20 52	20.3	190.2	0.7		6.3	-17	796	No stop
05 23 30	---	23 24 23	20.2	191.1	0.7		6.9	193	823	05 20 01
05 24 00	J2236-1706	23 24 53	19.2	192.0	0.8		7.5	13	823	05 24 00
05 25 00	=2233-173	23 25 53	19.1	192.3	0.8		7.7	60	831	05 24 01
05 25 00	FRB210117	23 25 53	20.2	191.5	0.7		7.1	-17	831	No stop
05 28 30	---	23 29 24	20.1	192.4	0.8		7.7	193	858	05 25 01
05 28 30	J2236-1706	23 29 24	19.0	193.2	0.9		8.2	-17	858	No stop
05 30 00	=2233-173	23 30 54	19.0	193.5	0.9		8.5	73	870	05 28 31
05 30 00	FRB210117	23 30 54	20.0	192.7	0.8		7.9	-17	870	No stop
05 33 30	---	23 34 24	19.9	193.6	0.9		8.5	193	897	05 30 01
05 34 00	J2236-1706	23 34 54	18.8	194.5	1.0		9.1	13	897	05 34 00
05 35 00	=2233-173	23 35 55	18.8	194.8	1.0		9.2	60	904	05 34 01
05 35 00	FRB210117	23 35 55	19.9	194.0	0.9		8.7	-17	904	No stop
05 38 30	---	23 39 25	19.7	194.9	1.0		9.2	193	931	05 35 01
05 38 30	J2236-1706	23 39 25	18.6	195.7	1.0		9.8	-17	931	No stop
05 40 00	=2233-173	23 40 55	18.6	196.0	1.1		10.0	73	943	05 38 31
05 40 00	FRB210117	23 40 55	19.7	195.3	1.0		9.5	-17	943	No stop
05 43 30	---	23 44 26	19.5	196.2	1.1		10.0	193	970	05 40 01
05 44 00	J2236-1706	23 44 56	18.4	197.0	1.1		10.6	13	970	05 44 00
05 45 00	=2233-173	23 45 56	18.4	197.3	1.1		10.8	60	978	05 44 01
05 45 00	FRB210117	23 45 56	19.5	196.5	1.1		10.2	-17	978	No stop
05 48 30	---	23 49 27	19.3	197.4	1.1		10.8	193	1005	05 45 01
05 48 30	J2236-1706	23 49 27	18.2	198.1	1.2		11.3	-17	1005	No stop
05 50 00	=2233-173	23 50 57	18.1	198.5	1.2		11.5	73	1016	05 48 31
05 50 00	FRB210117	23 50 57	19.2	197.8	1.2		11.0	-17	1016	No stop
05 53 30	---	23 54 28	19.1	198.7	1.2		11.5	193	1043	05 50 01
05 54 00	J2236-1706	23 54 58	17.9	199.5	1.3		12.1	13	1043	05 54 00
05 55 00	=2233-173	23 55 58	17.9	199.8	1.3		12.3	60	1051	05 54 01
05 55 00	J2232-1659	23 55 58	17.8	200.7	1.4		12.8	-14	1051	No stop
05 58 00	=2229-172	23 58 58	17.6	201.4	1.4		13.3	166	1074	05 55 01

Schedule for TORUN (Code Tr) Page 6

Environments of localized FRBs: FRB210117

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	LST	Start / Stop EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Fri 3 Jun 2022 Day 154 ---										
05 58 30	J2236-1706	23 59 28	17.7	200.6	1.4		12.8	16	1074	05 58 30
05 59 30	=2233-173	00 00 29	17.7	200.9	1.4		12.9	60	1082	05 58 31
05 59 30	FRB210117	00 00 29	18.8	200.2	1.3		12.4	-17	1082	No stop
06 03 00	---	00 03 59	18.6	201.0	1.4		13.0	193	1109	05 59 31
06 03 00	J2236-1706	00 03 59	17.5	201.7	1.4		13.4	-17	1109	No stop
06 04 30	=2233-173	00 05 29	17.4	202.1	1.5		13.7	73	1121	06 03 01
06 04 30	FRB210117	00 05 29	18.5	201.4	1.4		13.2	-17	1121	No stop
06 08 00	---	00 09 00	18.3	202.3	1.5		13.7	193	1148	06 04 31
06 08 30	J2236-1706	00 09 30	17.1	203.1	1.5		14.2	13	1148	06 08 30
06 09 30	=2233-173	00 10 30	17.1	203.3	1.6		14.4	60	1156	06 08 31
06 09 30	FRB210117	00 10 30	18.2	202.6	1.5		13.9	-17	1156	No stop
06 13 00	---	00 14 01	18.0	203.5	1.5		14.4	193	1183	06 09 31
06 13 00	J2236-1706	00 14 01	16.9	204.2	1.6		14.9	-17	1183	No stop
06 14 30	=2233-173	00 15 31	16.8	204.5	1.6		15.1	73	1194	06 13 01
06 14 30	FRB210117	00 15 31	17.9	203.9	1.6		14.6	-17	1194	No stop
06 18 00	---	00 19 02	17.7	204.7	1.6		15.1	193	1221	06 14 31
06 18 30	J2236-1706	00 19 32	16.5	205.5	1.7		15.7	12	1221	06 18 30
06 19 30	=2233-173	00 20 32	16.5	205.7	1.7		15.8	60	1229	06 18 31
06 19 30	FRB210117	00 20 32	17.6	205.1	1.7		15.4	-17	1229	No stop
06 23 00	---	00 24 02	17.4	205.9	1.7		15.9	193	1256	06 19 31
06 23 00	J2236-1706	00 24 02	16.2	206.6	1.8		16.3	-18	1256	No stop
06 24 30	=2233-173	00 25 33	16.1	206.9	1.8		16.5	72	1268	06 23 01
06 24 30	FRB210117	00 25 33	17.3	206.3	1.7		16.1	-17	1268	No stop
06 28 00	---	00 29 03	17.1	207.1	1.8		16.6	193	1295	06 24 31
06 28 30	J2236-1706	00 29 33	15.9	207.9	1.9		17.1	12	1295	06 28 30
06 29 30	=2233-173	00 30 34	15.8	208.1	1.9		17.2	60	1302	06 28 31
06 29 30	FRB210117	00 30 34	17.0	207.5	1.8		16.8	-17	1302	No stop
06 33 00	---	00 34 04	16.7	208.3	1.9		17.3	193	1329	06 29 31
06 33 00	J2236-1706	00 34 04	15.5	208.9	1.9		17.7	-18	1329	No stop
06 34 30	=2233-173	00 35 34	15.4	209.3	2.0		17.9	72	1341	06 33 01

Schedule for TORUN (Code Tr) Page 7

Environments of localized FRBs: FRB210117

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Fri 3 Jun 2022 Day 154 ---										
06 34 30	FRB210117	00 35 34	16.6	208.7	1.9		17.5	-17	1341	No stop
06 38 00	---	00 39 05	16.3	209.5	2.0		17.9	193	1368	06 34 31
06 38 30	J2236-1706	00 39 35	15.1	210.2	2.0		18.4	12	1368	06 38 30
06 39 30	=2233-173	00 40 35	15.0	210.5	2.1		18.6	60	1376	06 38 31
06 39 30	J2232-1659	00 40 35	14.9	211.4	2.1		19.1	-14	1376	No stop
06 42 30	=2229-172	00 43 36	14.6	212.1	2.2		19.5	166	1399	06 39 31
06 43 00	J2236-1706	00 44 06	14.8	211.3	2.1		19.0	17	1399	06 43 00
06 44 00	=2233-173	00 45 06	14.7	211.5	2.1		19.2	60	1407	06 43 01
06 44 00	FRB210117	00 45 06	15.9	211.0	2.1		18.8	-18	1407	No stop
06 47 30	---	00 48 36	15.6	211.8	2.1		19.2	192	1434	06 44 01
06 47 30	J2236-1706	00 48 36	14.4	212.4	2.2		19.6	-18	1434	No stop
06 49 00	=2233-173	00 50 07	14.3	212.7	2.2		19.8	72	1445	06 47 31
06 49 00	FRB210117	00 50 07	15.5	212.2	2.2		19.4	-18	1445	No stop
06 52 30	---	00 53 37	15.2	213.0	2.2		19.9	192	1472	06 49 01
06 53 00	J2236-1706	00 54 07	14.0	213.6	2.3		20.3	12	1472	06 53 00
06 54 00	=2233-173	00 55 08	13.9	213.9	2.3		20.5	60	1480	06 53 01
06 54 00	FRB210117	00 55 08	15.1	213.3	2.2		20.1	-18	1480	No stop
06 57 30	---	00 58 38	14.8	214.2	2.3		20.5	192	1507	06 54 01
06 57 30	J2236-1706	00 58 38	13.6	214.7	2.4		20.9	-18	1507	No stop
06 59 00	=2233-173	01 00 08	13.5	215.0	2.4		21.1	72	1519	06 57 31
06 59 00	FRB210117	01 00 08	14.7	214.5	2.3		20.7	-18	1519	No stop
07 02 30	---	01 03 39	14.4	215.3	2.4		21.2	192	1546	06 59 01
07 03 00	J2236-1706	01 04 09	13.1	215.9	2.4		21.6	12	1546	07 03 00
07 04 00	=2233-173	01 05 09	13.0	216.2	2.5		21.7	60	1554	07 03 01
07 04 00	FRB210117	01 05 09	14.2	215.7	2.4		21.4	-18	1554	No stop
07 07 30	---	01 08 40	13.9	216.5	2.5		21.8	192	1581	07 04 01
07 07 30	J2236-1706	01 08 40	12.7	217.0	2.5		22.2	-18	1581	No stop
07 09 00	=2233-173	01 10 10	12.6	217.3	2.5		22.4	72	1592	07 07 31
07 09 00	FRB210117	01 10 10	13.8	216.8	2.5		22.0	-18	1592	No stop
07 12 30	---	01 13 41	13.5	217.6	2.5		22.4	192	1619	07 09 01

```
Schedule for TORUN     (Code Tr )                                  Page   8
               Environments of localized FRBs: FRB210117
  UP:  D => Below limits;  H => Below horizon mask;  W => still slewing at end;  blank => Up.
  Early: Seconds between end of slew and start.   Dwell: On source seconds.
  Disk: GBytes recorded to this point.
  TPStart:  Recording start time.  Frequencies are LO sum (band edge).
  SYNC: Time correlator is expected to sync up.
-------------------------------------------------------------------------------------------
Start UT  Source               Start / Stop                 Early    Disk   TPStart
Stop UT                  LST      EL    AZ   HA  UP   ParA  Dwell   GBytes    SYNC
-------------------------------------------------------------------------------------------

 --- Fri   3 Jun 2022   Day 154 ---

07 13 00  J2236-1706   01 14 11  12.2 218.2  2.6      22.9    12     1619   07 13 00
07 14 00  =2233-173    01 15 11  12.1 218.4  2.6      23.0    60     1627   07 13 01

07 14 00  FRB210117    01 15 11  13.3 218.0  2.6      22.6   -18     1627   No stop
07 17 30  ---          01 18 41  13.0 218.8  2.6      23.0   192     1654   07 14 01

07 17 30  J2236-1706   01 18 41  11.8 219.2  2.7      23.4   -18     1654   No stop
07 19 00  =2233-173    01 20 12  11.6 219.6  2.7      23.6    72     1666   07 17 31

07 19 00  FRB210117    01 20 12  12.9 219.1  2.7      23.2   -18     1666   No stop
07 22 30  ---          01 23 42  12.5 219.9  2.7      23.6   192     1693   07 19 01

07 23 00  J2236-1706   01 24 12  11.2 220.5  2.8      24.0    12     1693   07 23 00
07 24 00  =2233-173    01 25 12  11.1 220.7  2.8      24.2    60     1700   07 23 01

07 26 30  0119+115     01 27 43  48.8 181.8  0.1       1.1    -5     1700   07 26 30
07 30 00  ---          01 31 13  48.8 183.1  0.1       1.9   205     1727   07 26 31



SETUP FILE INFORMATION:
   NOTE: If DOPPLER, FREQ, or BW were used, see the individual scans for the final BBC settings.


 ======== Setup file: sess222.L1024

   Setup group:    8         Station: TORUN            Total bit rate:  1024
   Format: VDIF              Bits per sample: 2        Sample rate: 64.000
   Number of channels:  8    DBE type: DBBC_DDC        Speedup factor:   1.00

   Disk used to record data.
```

```
  1st LO=   2300.00   2300.00   2300.00   2300.00   2300.00   2300.00   2300.00   2300.00
  Net SB=         L         L         U         U         L         L         U         U
  IF SB =         L         L         L         L         L         L         L         L
  Pol.  =       RCP       LCP       RCP       LCP       RCP       LCP       RCP       LCP
  BBC   =         1         9         1         9         2        10         2        10
  BBC SB=         U         U         L         L         U         U         L         L
  IF    =        A1        B1        A1        B1        A1        B1        A1        B1

 The following frequency sets based on these setups were used.

  Frequency Set:   8  Setup file default.  Used with PCAL = off
  LO sum=   1626.49  1626.49  1626.49  1626.49  1690.49  1690.49  1690.49  1690.49
  BBC fr=    673.51   673.51   673.51   673.51   609.51   609.51   609.51   609.51
  Bandwd=     32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00
   Matching frequency sets:   8

  Track assignments are:
   track1=   1,  2,  3,  4,  5,  6,  7,  8
   barrel=roll_off



POSITIONS OF SOURCES USED IN RECORDING SCANS

  Source                          Source position (RA/Dec)                        Error
                       (B1950)             (J2000)             (Date)             (mas)

* FRB210117          22 37 14.464652   * 22 39 55.030000     22 41 06.195274       0.00
                    -16 24 44.67151    *-16 09 05.01000     -16 02 06.24134        0.00

  2233-173           22 33 28.216831   * 22 36 09.522777     22 37 21.038515       0.12
* J2236-1706        -17 21 55.78600    *-17 06 21.97327     -16 59 25.48691        0.15
                     rfc_2022a Petrov and Kovalev, in preparation  482 observations

  2229-172           22 29 40.999953   * 22 32 22.564567     22 33 34.215834       0.13
* J2232-1659        -17 14 29.56539    *-16 59 01.89181     -16 52 08.19346        0.16
                     rfc_2022a Petrov and Kovalev, in preparation  496 observations

* 0119+115           01 19 03.080126   * 01 21 41.595043     01 22 50.979635       0.00
  J0121+1149         11 34 09.31522    * 11 49 50.41321      11 56 42.03002        0.01
  J0121+11           /home/guest/rmc/SCHED/sched11.6/catalogs/sources.gsfc
                     GSFC 2016a X/S astro solution,  62476 observations.

* 2216-038           22 16 16.381734   * 22 18 52.037723     22 20 01.123416       0.01
  J2218-0335        -03 50 40.62449    *-03 35 36.87957     -03 28 58.58254        0.02
  J2218-03           /home/guest/rmc/SCHED/sched11.6/catalogs/sources.gsfc
                     GSFC 2016a X/S astro solution,  11059 observations.
```

eg119atr

EG119A

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```
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```


```
Observing mode:

Schedule for TORUN     (Code Tr )                                  Page   2
               EG119A
  UP:  D => Below limits;  H => Below horizon mask;  W => still slewing at end;  blank => Up.
  Early: Seconds between end of slew and start.   Dwell: On source seconds.
  Disk: GBytes recorded to this point.
  TPStart:  Recording start time.  Frequencies are LO sum (band edge).
  SYNC: Time correlator is expected to sync up.
-------------------------------------------------------------------------------------------
Start UT  Source               Start / Stop                 Early    Disk   TPStart
Stop UT                  LST      EL    AZ   HA  UP   ParA  Dwell   GBytes    SYNC
-------------------------------------------------------------------------------------------

 --- Fri   3 Jun 2022   Day 154 ---

 Next scan frequencies:  1626.49  1626.49  1626.49  1626.49  1690.49  1690.49  1690.49  1690.49
 Next BBC frequencies:    673.51   673.51   673.51   673.51   609.51   609.51   609.51   609.51
 Next scan bandwidths:     32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00

11 00 00  J0646+4451   05 01 48  70.8 104.8 -1.8     -55.0     0        0   11 00 00
11 05 00  =0642+449    05 06 49  71.6 106.4 -1.7     -54.3   300       39   11 00 01

11 08 00  J0618-1418   05 09 49  21.0 162.0 -1.2     -11.0   -24       39   11 08 00
11 09 00  =0615-142    05 10 49  21.0 162.3 -1.1     -10.9    36       46   11 08 01

11 09 00  J0616-1338   05 10 49  21.7 162.6 -1.1     -10.7   -15       46   No stop
11 15 30  ---          05 17 21  22.0 164.2 -1.0      -9.7   375       97   11 09 01

11 16 00  J0618-1418   05 17 51  21.3 164.0 -1.0      -9.8    15       97   11 16 00
11 17 30  =0615-142    05 19 21  21.4 164.4 -1.0      -9.6    90      108   11 16 01

11 17 30  J0616-1338   05 19 21  22.1 164.8 -1.0      -9.3   -15      108   No stop
11 24 00  ---          05 25 52  22.3 166.5 -0.9      -8.3   375      158   11 17 31

11 24 30  J0618-1418   05 26 22  21.6 166.2 -0.9      -8.5    15      158   11 24 30
11 26 00  =0615-142    05 27 52  21.7 166.6 -0.9      -8.2    90      170   11 24 31

11 26 00  J0616-1338   05 27 52  22.4 167.0 -0.8      -8.0   -15      170   No stop
11 32 30  ---          05 34 23  22.6 168.7 -0.7      -7.0   375      220   11 26 01

11 33 00  J0618-1418   05 34 53  21.9 168.4 -0.7      -7.1    15      220   11 33 00
11 34 30  =0615-142    05 36 24  22.0 168.8 -0.7      -6.9    90      232   11 33 01

11 34 30  J0616-1338   05 36 24  22.7 169.2 -0.7      -6.7   -15      232   No stop
11 41 00  ---          05 42 55  22.9 170.9 -0.6      -5.6   375      282   11 34 31

11 41 30  J0618-1418   05 43 25  22.1 170.7 -0.6      -5.8    15      282   11 41 30
11 43 00  =0615-142    05 44 55  22.2 171.0 -0.6      -5.5    90      294   11 41 31
```

11 43 00	J0616-1338	05 44 55	22.9	171.4	-0.5	-5.3	-15	294	No stop
11 49 30	---	05 51 26	23.0	173.1	-0.4	-4.2	375	344	11 43 01
11 50 00	J0618-1418	05 51 56	22.3	172.9	-0.5	-4.4	15	344	11 50 00
11 51 30	=0615-142	05 53 26	22.4	173.3	-0.4	-4.2	90	356	11 50 01
11 53 30	J0746+2549	05 55 27	55.6	131.5	-1.9	-30.0	-18	356	11 53 30
11 54 30	=0743+259	05 56 27	55.7	131.8	-1.9	-29.8	42	363	11 53 31
11 54 30	J0741+2520	05 56 27	55.8	133.8	-1.8	-28.7	-18	363	No stop
12 01 00	---	06 02 58	56.4	136.1	-1.7	-27.4	372	414	11 54 31

Schedule for TORUN (Code Tr) Page 3
EG119A

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Fri 3 Jun 2022 Day 154 ---										
12 01 30	J0746+2549	06 03 28	56.4	134.3	-1.7		-28.5	12	414	12 01 30
12 03 00	=0743+259	06 04 58	56.6	134.8	-1.7		-28.2	90	425	12 01 31
12 03 00	J0741+2520	06 04 58	56.7	136.8	-1.6		-27.0	-18	425	No stop
12 09 30	---	06 11 29	57.3	139.3	-1.5		-25.7	372	475	12 03 01
12 10 00	J0746+2549	06 11 59	57.3	137.4	-1.6		-26.8	12	475	12 10 00
12 11 30	=0743+259	06 13 30	57.5	137.9	-1.6		-26.5	90	487	12 10 01
12 11 30	J0741+2520	06 13 30	57.5	140.0	-1.5		-25.3	-18	487	No stop
12 18 00	---	06 20 01	58.1	142.5	-1.4		-23.8	372	537	12 11 31
12 18 30	J0746+2549	06 20 31	58.2	140.6	-1.5		-25.0	12	537	12 18 30
12 20 00	=0743+259	06 22 01	58.3	141.2	-1.4		-24.7	90	549	12 18 31
12 20 00	J0741+2520	06 22 01	58.3	143.3	-1.4		-23.4	-18	549	No stop
12 26 30	---	06 28 32	58.9	145.9	-1.2		-21.8	372	599	12 20 01
12 27 00	J0746+2549	06 29 02	59.0	144.0	-1.3		-23.1	12	599	12 27 00
12 28 30	=0743+259	06 30 33	59.1	144.6	-1.3		-22.7	90	611	12 27 01
12 28 30	J0741+2520	06 30 33	59.0	146.8	-1.2		-21.3	-18	611	No stop
12 35 00	---	06 37 04	59.5	149.5	-1.1		-19.7	372	661	12 28 31
12 35 30	J0746+2549	06 37 34	59.7	147.5	-1.2		-21.0	12	661	12 35 30
12 37 00	=0743+259	06 39 04	59.8	148.1	-1.1		-20.6	90	672	12 35 31
12 38 00	J0749+1057	06 40 04	45.5	154.9	-1.2		-15.1	-8	672	12 38 00
12 39 00	=0746+110	06 41 04	45.6	155.2	-1.2		-14.9	52	680	12 38 01
12 39 00	J0747+1153	06 41 04	46.6	155.4	-1.1		-14.8	-17	680	No stop
12 45 30	---	06 47 35	47.0	157.7	-1.0		-13.5	373	730	12 39 01
12 46 00	J0749+1057	06 48 05	46.0	157.6	-1.0		-13.5	13	730	12 46 00
12 47 30	=0746+110	06 49 36	46.1	158.1	-1.0		-13.2	90	742	12 46 01
12 47 30	J0747+1153	06 49 36	47.1	158.4	-1.0		-13.1	-17	742	No stop
12 54 00	---	06 56 07	47.4	160.7	-0.9		-11.7	373	792	12 47 31
12 54 30	J0749+1057	06 56 37	46.4	160.6	-0.9		-11.7	14	792	12 54 30
12 56 00	=0746+110	06 58 07	46.5	161.1	-0.9		-11.4	90	804	12 54 31
12 56 00	J0747+1153	06 58 07	47.5	161.4	-0.8		-11.3	-17	804	No stop
13 02 30	---	07 04 38	47.8	163.7	-0.7		-9.9	373	854	12 56 01

Schedule for TORUN (Code Tr) Page 4
EG119A

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Fri 3 Jun 2022 Day 154 ---										
13 03 00	J0749+1057	07 05 08	46.8	163.5	-0.8		-10.0	14	854	13 03 00
13 04 30	=0746+110	07 06 38	46.9	164.1	-0.7		-9.7	90	866	13 03 01
13 04 30	J0747+1153	07 06 38	47.9	164.4	-0.7		-9.5	-17	866	No stop
13 11 00	---	07 13 09	48.1	166.8	-0.6		-8.1	373	916	13 04 31
13 11 30	J0749+1057	07 13 40	47.2	166.6	-0.6		-8.2	14	916	13 11 30
13 13 00	=0746+110	07 15 10	47.2	167.1	-0.6		-7.8	90	927	13 11 31
13 13 00	J0747+1153	07 15 10	48.2	167.5	-0.6		-7.6	-16	927	No stop
13 19 30	---	07 21 41	48.4	169.9	-0.5		-6.2	374	978	13 13 01
13 20 00	J0749+1057	07 22 11	47.4	169.6	-0.5		-6.3	14	978	13 20 00
13 21 30	=0746+110	07 23 41	47.5	170.2	-0.4		-6.0	90	989	13 20 01
13 22 30	J0905+1541	07 24 41	47.5	142.1	-1.7		-22.5	-11	989	13 22 30
13 23 30	=0902+158	07 25 42	47.6	142.5	-1.7		-22.3	49	997	13 22 31
13 23 30	J0901+1615	07 25 42	48.5	143.5	-1.6		-21.8	-16	997	No stop
13 30 00	---	07 32 13	49.0	145.7	-1.5		-20.6	374	1047	13 23 31
13 30 30	J0905+1541	07 32 43	48.2	144.8	-1.6		-21.1	14	1047	13 30 30
13 32 00	=0902+158	07 34 13	48.3	145.3	-1.5		-20.8	90	1059	13 30 31
13 32 00	J0901+1615	07 34 13	49.2	146.4	-1.5		-20.3	-16	1059	No stop
13 38 30	---	07 40 44	49.7	148.6	-1.4		-19.0	374	1109	13 32 01
13 39 00	J0905+1541	07 41 14	48.9	147.7	-1.4		-19.4	15	1109	13 39 00
13 40 30	=0902+158	07 42 44	49.0	148.2	-1.4		-19.2	90	1121	13 39 01
13 40 30	J0901+1615	07 42 44	49.9	149.3	-1.3		-18.6	-16	1121	No stop
13 47 00	---	07 49 15	50.3	151.7	-1.2		-17.3	374	1171	13 40 31
13 47 30	J0905+1541	07 49 45	49.6	150.7	-1.3		-17.8	15	1171	13 47 30
13 49 00	=0902+158	07 51 16	49.7	151.2	-1.3		-17.5	90	1183	13 47 31
13 49 00	J0901+1615	07 51 16	50.5	152.4	-1.2		-16.8	-15	1183	No stop
13 55 30	---	07 57 47	50.9	154.8	-1.1		-15.5	375	1233	13 49 01
13 56 00	J0905+1541	07 58 17	50.2	153.8	-1.1		-16.0	15	1233	13 56 00
13 57 30	=0902+158	07 59 47	50.3	154.3	-1.1		-15.7	90	1244	13 56 01
13 57 30	J0901+1615	07 59 47	51.1	155.5	-1.0		-15.0	-15	1244	No stop
14 04 00	---	08 06 18	51.4	157.9	-0.9		-13.6	375	1295	13 57 31

Schedule for TORUN (Code Tr) Page 5

EG119A

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Fri 3 Jun 2022 Day 154 ---										
14 04 30	J0905+1541	08 06 48	50.7	156.9	-1.0		-14.2	15	1295	14 04 30
14 06 00	=0902+158	08 08 19	50.8	157.4	-1.0		-13.9	90	1306	14 04 31
14 08 00	J1036+2203	08 10 19	48.1	123.6	-2.5		-32.6	37	1306	14 08 00
14 09 00	=1033+223	08 11 19	48.2	123.9	-2.4		-32.5	60	1314	14 08 01
14 09 00	J1034+2033	08 11 19	47.2	125.7	-2.4		-31.4	-17	1314	No stop
14 15 30	---	08 17 50	48.0	127.6	-2.3		-30.5	373	1364	14 09 01
14 16 00	J1036+2203	08 18 20	49.1	125.9	-2.3		-31.6	13	1364	14 16 00
14 17 30	=1033+223	08 19 50	49.3	126.4	-2.3		-31.4	90	1376	14 16 01
14 17 30	J1034+2033	08 19 50	48.3	128.2	-2.3		-30.2	-17	1376	No stop
14 24 00	---	08 26 21	49.0	130.2	-2.2		-29.3	373	1426	14 17 31
14 24 30	J1036+2203	08 26 52	50.1	128.6	-2.2		-30.4	13	1426	14 24 30
14 26 00	=1033+223	08 28 22	50.3	129.0	-2.2		-30.2	90	1438	14 24 31
14 26 00	J1034+2033	08 28 22	49.2	130.9	-2.1		-29.0	-17	1438	No stop
14 32 30	---	08 34 53	50.0	132.9	-2.0		-28.0	373	1488	14 26 01
14 33 00	J1036+2203	08 35 23	51.1	131.3	-2.0		-29.1	13	1488	14 33 00
14 34 30	=1033+223	08 36 53	51.3	131.7	-2.0		-28.9	90	1499	14 33 01
14 34 30	J1034+2033	08 36 53	50.2	133.6	-2.0		-27.7	-17	1499	No stop
14 41 00	---	08 43 24	50.9	135.7	-1.9		-26.6	373	1550	14 34 31
14 41 30	J1036+2203	08 43 54	52.0	134.1	-1.9		-27.7	13	1550	14 41 30
14 43 00	=1033+223	08 45 25	52.2	134.6	-1.9		-27.5	90	1561	14 41 31
14 46 00	J0618-1418	08 48 25	15.4	217.5	2.5		22.2	-1	1561	14 46 00
14 47 00	=0615-142	08 49 25	15.3	217.8	2.5		22.3	59	1569	14 46 01
14 47 00	J0616-1338	08 49 25	15.7	218.4	2.5		22.6	-13	1569	No stop
14 53 30	---	08 55 56	15.1	220.0	2.6		23.4	377	1619	14 47 01
14 54 00	J0618-1418	08 56 26	14.6	219.4	2.6		23.2	17	1619	14 54 00
14 55 30	=0615-142	08 57 57	14.5	219.7	2.6		23.3	90	1631	14 54 01
14 55 30	J0616-1338	08 57 57	14.9	220.4	2.7		23.6	-13	1631	No stop
15 02 00	---	09 04 28	14.3	221.9	2.8		24.4	377	1681	14 55 31
15 02 30	J0618-1418	09 04 58	13.8	221.3	2.8		24.2	17	1681	15 02 30
15 04 00	=0615-142	09 06 28	13.6	221.7	2.8		24.3	90	1693	15 02 31

Schedule for TORUN (Code Tr) Page 6

EG119A

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Fri 3 Jun 2022 Day 154 ---										
15 04 00	J0616-1338	09 06 28	14.1	222.4	2.8		24.6	-13	1693	No stop
15 10 30	---	09 12 59	13.4	223.8	2.9		25.3	377	1743	15 04 01
15 11 00	J0618-1418	09 13 29	12.9	223.3	2.9		25.1	17	1743	15 11 00
15 12 30	=0615-142	09 14 59	12.8	223.6	2.9		25.3	90	1755	15 11 01
15 12 30	J0616-1338	09 14 59	13.2	224.3	3.0		25.6	-13	1755	No stop
15 19 00	---	09 21 31	12.5	225.8	3.1		26.3	377	1805	15 12 31
15 19 30	J0618-1418	09 22 01	12.0	225.2	3.0		26.1	17	1805	15 19 30
15 21 00	=0615-142	09 23 31	11.9	225.5	3.1		26.2	90	1816	15 19 31
15 24 00	J0741+2520	09 26 31	56.1	225.0	1.7		28.0	0	1816	15 24 00
15 30 30	---	09 33 02	55.4	227.3	1.8		29.2	390	1867	15 24 01
15 31 00	J0746+2549	09 33 32	56.3	226.3	1.8		28.8	14	1867	15 31 00
15 32 30	=0743+259	09 35 03	56.1	226.8	1.8		29.1	90	1878	15 31 01
15 32 30	J0741+2520	09 35 03	55.2	228.0	1.9		29.6	-16	1878	No stop
15 39 00	---	09 41 34	54.5	230.2	2.0		30.7	374	1928	15 32 31
15 39 30	J0746+2549	09 42 04	55.3	229.2	1.9		30.3	14	1928	15 39 30
15 41 00	=0743+259	09 43 34	55.2	229.7	1.9		30.6	90	1940	15 39 31
15 41 00	J0741+2520	09 43 34	54.2	230.8	2.0		31.0	-16	1940	No stop
15 47 30	---	09 50 05	53.5	233.0	2.1		32.0	374	1990	15 41 01
15 48 00	J0746+2549	09 50 35	54.3	232.1	2.0		31.7	14	1990	15 48 00
15 49 30	=0743+259	09 52 06	54.2	232.6	2.1		32.0	90	2002	15 48 01
15 49 30	J0741+2520	09 52 06	53.2	233.6	2.1		32.3	-16	2002	No stop
15 56 00	---	09 58 37	52.4	235.7	2.3		33.3	374	2052	15 49 31
15 56 30	J0746+2549	09 59 07	53.3	234.8	2.2		33.0	14	2052	15 56 30
15 58 00	=0743+259	10 00 37	53.1	235.3	2.2		33.2	90	2064	15 56 31
15 59 00	J0749+1057	10 01 37	40.3	224.2	2.2		25.2	-2	2064	15 59 00
16 00 00	=0746+110	10 02 37	40.2	224.5	2.2		25.4	58	2071	15 59 01
16 00 00	J0747+1153	10 02 37	40.9	225.5	2.2		25.9	-14	2071	No stop
16 06 30	---	10 09 08	40.2	227.3	2.3		26.8	376	2122	16 00 01
16 07 00	J0749+1057	10 09 38	39.5	226.5	2.3		26.3	15	2122	16 07 00
16 08 30	=0746+110	10 11 09	39.3	226.9	2.3		26.5	90	2133	16 07 01

Schedule for TORUN (Code Tr) Page 7

EG119A

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Fri 3 Jun 2022 Day 154 ---										
16 08 30	J0747+1153	10 11 09	40.0	227.9	2.4		27.1	-14	2133	No stop
16 15 00	---	10 17 40	39.2	229.7	2.5		27.9	376	2183	16 08 31
16 15 30	J0749+1057	10 18 10	38.5	228.9	2.5		27.4	16	2183	16 15 30
16 17 00	=0746+110	10 19 40	38.4	229.3	2.5		27.6	90	2195	16 15 31
16 17 00	J0747+1153	10 19 40	39.0	230.3	2.5		28.2	-14	2195	No stop
16 23 30	---	10 26 11	38.2	232.1	2.6		29.0	376	2245	16 17 01
16 24 00	J0749+1057	10 26 41	37.5	231.2	2.6		28.5	16	2245	16 24 00
16 25 30	=0746+110	10 28 11	37.4	231.6	2.6		28.6	90	2257	16 24 01
16 25 30	J0747+1153	10 28 11	38.0	232.6	2.7		29.2	-14	2257	No stop
16 32 00	---	10 34 43	37.2	234.4	2.8		29.9	376	2307	16 25 31
16 32 30	J0749+1057	10 35 13	36.5	233.5	2.7		29.4	16	2307	16 32 30
16 34 00	=0746+110	10 36 43	36.4	233.9	2.8		29.6	90	2319	16 32 31
16 35 00	J0905+1541	10 37 43	48.5	214.2	1.5		20.5	1	2319	16 35 00
16 36 00	=0902+158	10 38 43	48.4	214.5	1.5		20.7	60	2326	16 35 01
16 36 00	J0901+1615	10 38 43	48.6	216.1	1.6		21.6	-17	2326	No stop
16 42 30	---	10 45 14	48.0	218.3	1.7		22.8	373	2377	16 36 01
16 43 00	J0905+1541	10 45 44	47.8	216.9	1.7		22.0	14	2377	16 43 00
16 44 30	=0902+158	10 47 15	47.6	217.4	1.7		22.2	90	2388	16 43 01
16 44 30	J0901+1615	10 47 15	47.8	219.0	1.7		23.2	-17	2388	No stop
16 51 00	---	10 53 46	47.1	221.1	1.8		24.3	373	2439	16 44 31
16 51 30	J0905+1541	10 54 16	47.0	219.7	1.8		23.5	14	2439	16 51 30
16 53 00	=0902+158	10 55 46	46.8	220.2	1.8		23.7	90	2450	16 51 31
16 53 00	J0901+1615	10 55 46	46.9	221.7	1.9		24.6	-17	2450	No stop
16 59 30	---	11 02 17	46.3	223.8	2.0		25.6	373	2500	16 53 01
17 00 00	J0905+1541	11 02 47	46.1	222.4	1.9		24.9	14	2500	17 00 00
17 01 30	=0902+158	11 04 17	46.0	222.9	2.0		25.1	90	2512	17 00 01
17 01 30	J0901+1615	11 04 17	46.1	224.4	2.0		26.0	-16	2512	No stop
17 08 00	---	11 10 48	45.4	226.4	2.1		26.9	374	2562	17 01 31
17 08 30	J0905+1541	11 11 19	45.2	225.0	2.1		26.2	14	2562	17 08 30
17 10 00	=0902+158	11 12 49	45.1	225.5	2.1		26.4	90	2574	17 08 31

Schedule for TORUN (Code Tr) Page 8

EG119A

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	LST	Start / Stop EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Fri 3 Jun 2022 Day 154 ---										
17 12 00	J1036+2203	11 14 49	58.0	196.4	0.6		10.5	46	2574	17 12 00
17 13 00	=1033+223	11 15 49	58.0	196.8	0.6		10.8	60	2582	17 12 01
17 13 00	J1034+2033	11 15 49	56.4	197.2	0.7		11.0	-20	2582	No stop
17 19 30	---	11 22 20	56.1	199.9	0.8		12.6	370	2632	17 13 01
17 20 00	J1036+2203	11 22 50	57.7	199.8	0.8		12.7	11	2632	17 20 00
17 21 30	=1033+223	11 24 21	57.6	200.5	0.8		13.1	90	2643	17 20 01
17 21 30	J1034+2033	11 24 21	56.0	200.8	0.8		13.1	-20	2643	No stop
17 28 00	---	11 30 52	55.6	203.4	0.9		14.7	370	2694	17 21 31
17 28 30	J1036+2203	11 31 22	57.2	203.4	0.9		14.9	11	2694	17 28 30
17 30 00	=1033+223	11 32 52	57.1	204.0	0.9		15.3	90	2705	17 28 31
17 30 00	J1034+2033	11 32 52	55.5	204.2	1.0		15.2	-20	2705	No stop
17 36 30	---	11 39 23	55.1	206.8	1.1		16.8	370	2755	17 30 01
17 37 00	J1036+2203	11 39 53	56.7	206.9	1.0		17.0	11	2755	17 37 00
17 38 30	=1033+223	11 41 23	56.6	207.5	1.1		17.4	90	2767	17 37 01
17 38 30	J1034+2033	11 41 23	55.0	207.6	1.1		17.2	-20	2767	No stop
17 45 00	---	11 47 55	54.5	210.1	1.2		18.7	370	2817	17 38 31
17 45 30	J1036+2203	11 48 25	56.0	210.3	1.2		19.0	11	2817	17 45 30
17 47 00	=1033+223	11 49 55	55.9	210.9	1.2		19.4	90	2829	17 45 31
17 54 00	J1616+4632	11 56 56	49.0	72.0	-4.3		-56.1	127	2829	17 54 00
17 55 00	=1614+466	11 57 56	49.2	72.2	-4.3		-56.1	60	2837	17 54 01
17 55 00	J1614+4640	11 57 56	49.5	72.2	-4.3		-56.4	-12	2837	No stop
18 01 30	---	12 04 27	50.4	73.2	-4.2		-56.8	378	2887	17 55 01
18 02 00	J1616+4632	12 04 57	50.2	73.2	-4.2		-56.6	19	2887	18 02 00
18 03 30	=1614+466	12 06 28	50.4	73.4	-4.2		-56.7	90	2898	18 02 01
18 03 30	J1614+4640	12 06 28	50.7	73.5	-4.1		-57.0	-12	2898	No stop
18 10 00	---	12 12 59	51.6	74.5	-4.0		-57.4	378	2949	18 03 31
18 10 30	J1616+4632	12 13 29	51.4	74.5	-4.1		-57.2	19	2949	18 10 30
18 12 00	=1614+466	12 14 59	51.6	74.7	-4.0		-57.3	90	2960	18 10 31
18 12 00	J1614+4640	12 14 59	51.9	74.8	-4.0		-57.5	-12	2960	No stop
18 18 30	---	12 21 30	52.9	75.7	-3.9		-57.9	378	3011	18 12 01

Schedule for TORUN (Code Tr) Page 9

EG119A

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	LST	Start / Stop EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Fri 3 Jun 2022 Day 154 ---										
18 19 00	J1616+4632	12 22 00	52.6	75.8	-3.9		-57.7	19	3011	18 19 00
18 20 30	=1614+466	12 23 30	52.9	76.0	-3.9		-57.8	90	3022	18 19 01
18 20 30	J1614+4640	12 23 30	53.2	76.0	-3.9		-58.0	-12	3022	No stop
18 27 00	---	12 30 01	54.1	77.0	-3.8		-58.4	378	3072	18 20 31
18 27 30	J1616+4632	12 30 31	53.9	77.1	-3.8		-58.2	19	3072	18 27 30
18 29 00	=1614+466	12 32 02	54.1	77.3	-3.7		-58.3	90	3084	18 27 31
18 29 00	J1614+4640	12 32 02	54.4	77.3	-3.7		-58.5	-12	3084	No stop
18 35 30	---	12 38 33	55.4	78.4	-3.6		-58.9	378	3134	18 29 01
18 36 00	J1616+4632	12 39 03	55.1	78.4	-3.6		-58.7	19	3134	18 36 00
18 37 30	=1614+466	12 40 33	55.3	78.6	-3.6		-58.8	90	3146	18 36 01
18 37 30	J1614+4640	12 40 33	55.7	78.7	-3.6		-59.0	-12	3146	No stop
18 44 00	---	12 47 04	56.6	79.7	-3.5		-59.3	378	3196	18 37 31
18 44 30	J1616+4632	12 47 34	56.4	79.7	-3.5		-59.1	19	3196	18 44 30
18 46 00	=1614+466	12 49 05	56.6	80.0	-3.5		-59.2	90	3208	18 44 31
18 49 00	J1642+3948	12 52 05	49.2	84.9	-3.9		-51.1	137	3208	18 49 00
18 54 00	=3C345	12 57 06	49.9	85.9	-3.8		-51.2	300	3246	18 49 01
19 03 00	J0746+2549	13 06 07	26.4	278.4	5.3		41.3	141	3246	19 03 00
19 04 00	=0743+259	13 07 07	26.3	278.6	5.3		41.2	60	3254	19 03 01
19 04 00	J0741+2520	13 07 07	25.3	279.1	5.4		41.0	-17	3254	No stop
19 10 30	---	13 13 39	24.3	280.3	5.5		40.8	373	3304	19 04 01
19 11 00	J0746+2549	13 14 09	25.3	279.9	5.4		41.1	13	3304	19 11 00
19 12 30	=0743+259	13 15 39	25.0	280.2	5.5		41.0	90	3316	19 11 01
19 12 30	J0741+2520	13 15 39	24.0	280.7	5.5		40.7	-17	3316	No stop
19 19 00	---	13 22 10	23.0	281.9	5.6		40.5	373	3366	19 12 31
19 19 30	J0746+2549	13 22 40	24.0	281.5	5.6		40.8	13	3366	19 19 30
19 21 00	=0743+259	13 24 10	23.8	281.8	5.6		40.7	90	3378	19 19 31
19 21 00	J0741+2520	13 24 10	22.8	282.3	5.7		40.5	-17	3378	No stop
19 27 30	---	13 30 41	21.8	283.5	5.8		40.2	373	3428	19 21 01
19 28 00	J0746+2549	13 31 11	22.7	283.1	5.7		40.5	13	3428	19 28 00
19 29 30	=0743+259	13 32 42	22.5	283.4	5.7		40.4	90	3439	19 28 01

Schedule for TORUN (Code Tr) Page 10

EG119A

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Fri 3 Jun 2022 Day 154 ---										
19 29 30	J0741+2520	13 32 42	21.5	283.9	5.8		40.1	-17	3439	No stop
19 36 00	---	13 39 13	20.6	285.1	5.9		39.9	373	3490	19 29 31
19 36 30	J0746+2549	13 39 43	21.5	284.7	5.9		40.2	14	3490	19 36 30
19 38 00	=0743+259	13 41 13	21.3	285.0	5.9		40.1	90	3501	19 36 31
19 39 00	J0749+1057	13 42 13	10.0	274.9	5.9		37.5	4	3501	19 39 00
19 40 00	=0746+110	13 43 13	9.8	275.1	5.9		37.5	60	3509	19 39 01
19 40 00	J0747+1153	13 43 13	10.3	276.0	5.9		37.6	-14	3509	No stop
19 46 30	---	13 49 44	9.3	277.3	6.0		37.5	376	3559	19 40 01
19 47 00	J0749+1057	13 50 15	8.8	276.5	6.0		37.4	17	3559	19 47 00
19 48 30	=0746+110	13 51 45	8.5	276.8	6.0		37.4	90	3571	19 47 01
19 48 30	J0747+1153	13 51 45	9.0	277.7	6.0		37.4	-14	3571	No stop
19 55 00	---	13 58 16	8.1	279.0	6.2		37.3	376	3621	19 48 31
19 55 30	J0749+1057	13 58 46	7.5	278.2	6.1		37.2	17	3621	19 55 30
19 57 00	=0746+110	14 00 16	7.3	278.5	6.2		37.2	90	3633	19 55 31
19 57 00	J0747+1153	14 00 16	7.8	279.4	6.2		37.3	-14	3633	No stop
20 03 30	---	14 06 47	6.8	280.7	6.3		37.1	376	3683	19 57 01
20 04 00	J0749+1057	14 07 17	6.2	279.9	6.3		37.0	17	3683	20 04 00
20 05 30	=0746+110	14 08 48	6.0	280.2	6.3		37.0	90	3695	20 04 01
20 05 30	J0747+1153	14 08 48	6.5	281.1	6.3		37.0	-14	3695	No stop
20 12 00	---	14 15 19	5.6	282.3	6.4		36.8	376	3745	20 05 31
20 12 30	J0749+1057	14 15 49	5.0	281.6	6.4		36.8	17	3745	20 12 30
20 14 00	=0746+110	14 17 19	4.8	281.9	6.4		36.8	90	3756	20 12 31
20 15 00	J0905+1541	14 18 19	19.7	270.0	5.2		38.6	-10	3756	20 15 00
20 16 00	=0902+158	14 19 19	19.5	270.2	5.2		38.6	50	3764	20 15 01
20 16 00	J0901+1615	14 19 19	19.3	271.4	5.3		38.7	-15	3764	No stop
20 22 30	---	14 25 50	18.4	272.7	5.4		38.6	375	3814	20 16 01
20 23 00	J0905+1541	14 26 20	18.5	271.6	5.3		38.6	16	3814	20 23 00
20 24 30	=0902+158	14 27 51	18.2	271.9	5.4		38.5	90	3826	20 23 01
20 24 30	J0901+1615	14 27 51	18.1	273.0	5.4		38.6	-15	3826	No stop
20 31 00	---	14 34 22	17.1	274.3	5.5		38.6	375	3876	20 24 31

Schedule for TORUN (Code Tr) Page 11
EG119A

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Fri 3 Jun 2022 Day 154 ---										
20 31 30	J0905+1541	14 34 52	17.2	273.3	5.5		38.5	16	3876	20 31 30
20 33 00	=0902+158	14 36 22	16.9	273.6	5.5		38.5	90	3888	20 31 31
20 33 00	J0901+1615	14 36 22	16.8	274.7	5.6		38.5	-15	3888	No stop
20 39 30	---	14 42 53	15.8	276.0	5.7		38.4	375	3938	20 33 01
20 40 00	J0905+1541	14 43 23	15.9	275.0	5.6		38.4	16	3938	20 40 00
20 41 30	=0902+158	14 44 54	15.7	275.3	5.6		38.4	90	3950	20 40 01
20 41 30	J0901+1615	14 44 54	15.5	276.4	5.7		38.4	-15	3950	No stop
20 48 00	---	14 51 25	14.5	277.7	5.8		38.3	375	4000	20 41 31
20 48 30	J0905+1541	14 51 55	14.6	276.6	5.8		38.3	16	4000	20 48 30
20 50 00	=0902+158	14 53 25	14.4	276.9	5.8		38.2	90	4011	20 48 31
20 52 00	J1036+2203	14 55 25	32.6	263.5	4.3		40.0	37	4011	20 52 00
20 53 00	=1033+223	14 56 25	32.5	263.7	4.3		40.0	60	4019	20 52 01
20 53 00	J1034+2033	14 56 25	31.0	263.0	4.3		39.5	-19	4019	No stop
20 59 30	---	15 02 56	30.0	264.4	4.5		39.6	371	4069	20 53 01
21 00 00	J1036+2203	15 03 27	31.4	265.1	4.4		40.2	11	4069	21 00 00
21 01 30	=1033+223	15 04 57	31.2	265.4	4.5		40.2	90	4081	21 00 01
21 01 30	J1034+2033	15 04 57	29.7	264.8	4.5		39.7	-19	4081	No stop
21 08 00	---	15 11 28	28.7	266.1	4.6		39.7	371	4131	21 01 31
21 08 30	J1036+2203	15 11 58	30.2	266.9	4.6		40.3	11	4131	21 08 30
21 10 00	=1033+223	15 13 28	29.9	267.2	4.6		40.3	90	4143	21 08 31
21 10 00	J1034+2033	15 13 28	28.4	266.6	4.6		39.8	-19	4143	No stop
21 16 30	---	15 19 59	27.5	267.9	4.7		39.8	371	4193	21 10 01
21 17 00	J1036+2203	15 20 29	28.9	268.6	4.7		40.3	11	4193	21 17 00
21 18 30	=1033+223	15 22 00	28.7	268.9	4.7		40.3	90	4205	21 17 01
21 18 30	J1034+2033	15 22 00	27.2	268.3	4.8		39.8	-19	4205	No stop
21 25 00	---	15 28 31	26.2	269.6	4.9		39.9	371	4255	21 18 31
21 25 30	J1036+2203	15 29 01	27.6	270.3	4.9		40.3	11	4255	21 25 30
21 27 00	=1033+223	15 30 31	27.4	270.6	4.9		40.3	90	4266	21 25 31
21 34 00	J1616+4632	15 37 32	80.9	132.4	-0.7		-40.1	125	4266	21 34 00
21 35 00	=1614+466	15 38 32	81.0	133.2	-0.6		-39.4	60	4274	21 34 01

Schedule for TORUN (Code Tr) Page 12

EG119A

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	LST	Start / Stop EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Fri 3 Jun 2022 Day 154 ---										
21 35 00	J1614+4640	15 38 32	81.3	134.1	-0.6		-38.9	-14	4274	No stop
21 41 30	---	15 45 03	81.9	140.3	-0.5		-34.0	376	4324	21 35 01
21 42 00	J1616+4632	15 45 33	81.7	139.6	-0.5		-34.4	16	4324	21 42 00
21 43 30	=1614+466	15 47 04	81.8	141.2	-0.5		-33.2	90	4336	21 42 01
21 43 30	J1614+4640	15 47 04	82.1	142.3	-0.5		-32.3	-15	4336	No stop
21 50 00	---	15 53 35	82.7	149.7	-0.4		-26.2	375	4386	21 43 31
21 50 30	J1616+4632	15 54 05	82.4	148.8	-0.4		-26.8	15	4386	21 50 30
21 52 00	=1614+466	15 55 35	82.6	150.6	-0.4		-25.3	90	4398	21 50 31
21 52 00	J1614+4640	15 55 35	82.8	152.2	-0.3		-24.1	-17	4398	No stop
21 58 30	---	16 02 06	83.2	160.8	-0.2		-16.7	373	4448	21 52 01
21 59 00	J1616+4632	16 02 36	83.0	159.6	-0.2		-17.7	13	4448	21 59 00
22 00 30	=1614+466	16 04 06	83.1	161.6	-0.2		-16.0	90	4460	21 59 01
22 00 30	J1614+4640	16 04 06	83.3	163.6	-0.2		-14.3	-19	4460	No stop
22 07 00	---	16 10 38	83.5	173.2	-0.1		-6.0	371	4510	22 00 31
22 07 30	J1616+4632	16 11 08	83.3	171.6	-0.1		-7.3	12	4510	22 07 30
22 09 00	=1614+466	16 12 38	83.4	173.8	-0.1		-5.4	90	4522	22 07 31
22 13 00	J1036+2203	16 16 39	20.5	279.6	5.6		39.7	-10	4522	22 13 00
22 14 00	=1033+223	16 17 39	20.3	279.8	5.7		39.6	50	4529	22 13 01
22 14 00	J1034+2033	16 17 39	18.8	279.2	5.7		39.2	-19	4529	No stop
22 20 30	---	16 24 10	17.9	280.4	5.8		39.1	371	4580	22 14 01
22 21 00	J1036+2203	16 24 40	19.3	281.1	5.8		39.4	11	4580	22 21 00
22 22 30	=1033+223	16 26 10	19.1	281.4	5.8		39.4	90	4591	22 21 01
22 22 30	J1034+2033	16 26 10	17.6	280.8	5.8		39.0	-19	4591	No stop
22 29 00	---	16 32 41	16.6	282.1	6.0		38.8	371	4641	22 22 31
22 29 30	J1036+2203	16 33 11	18.1	282.7	5.9		39.2	11	4641	22 29 30
22 31 00	=1033+223	16 34 41	17.8	283.0	5.9		39.1	90	4653	22 29 31
22 31 00	J1034+2033	16 34 41	16.3	282.5	6.0		38.7	-19	4653	No stop
22 37 30	---	16 41 13	15.4	283.7	6.1		38.5	371	4703	22 31 01
22 38 00	J1036+2203	16 41 43	16.8	284.3	6.1		38.8	11	4703	22 38 00
22 39 30	=1033+223	16 43 13	16.6	284.6	6.1		38.8	90	4715	22 38 01

Schedule for TORUN (Code Tr) Page 13

EG119A

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	LST	Start / Stop EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Fri 3 Jun 2022 Day 154 ---										
22 39 30	J1034+2033	16 43 13	15.1	284.1	6.1		38.4	-19	4715	No stop
22 46 00	---	16 49 44	14.1	285.3	6.2		38.2	371	4765	22 39 31
22 46 30	J1036+2203	16 50 14	15.6	286.0	6.2		38.5	11	4765	22 46 30
22 48 00	=1033+223	16 51 44	15.4	286.2	6.2		38.4	90	4777	22 46 31
22 55 00	J1616+4632	16 58 45	80.6	229.8	0.7		41.8	160	4777	22 55 00
22 56 00	=1614+466	16 59 46	80.4	230.6	0.7		42.4	60	4784	22 55 01
22 56 00	J1614+4640	16 59 46	80.3	232.4	0.7		43.8	-17	4784	No stop
23 02 30	---	17 06 17	79.5	236.9	0.9		47.1	373	4835	22 56 01
23 03 00	J1616+4632	17 06 47	79.6	235.6	0.8		46.0	14	4835	23 03 00
23 04 30	=1614+466	17 08 17	79.4	236.6	0.9		46.7	90	4846	23 03 01
23 04 30	J1614+4640	17 08 17	79.3	238.2	0.9		48.0	-17	4846	No stop
23 11 00	---	17 14 48	78.4	241.9	1.0		50.5	373	4896	23 04 31
23 11 30	J1616+4632	17 15 18	78.5	240.8	1.0		49.6	15	4896	23 11 30
23 13 00	=1614+466	17 16 48	78.3	241.6	1.0		50.1	90	4908	23 11 31
23 13 00	J1614+4640	17 16 48	78.2	243.0	1.0		51.2	-16	4908	No stop
23 19 30	---	17 23 19	77.3	246.2	1.1		53.1	374	4958	23 13 01
23 20 00	J1616+4632	17 23 50	77.4	245.2	1.1		52.4	15	4958	23 20 00
23 21 30	=1614+466	17 25 20	77.2	245.9	1.1		52.8	90	4970	23 20 01
23 21 30	J1614+4640	17 25 20	77.0	247.2	1.2		53.7	-15	4970	No stop
23 28 00	---	17 31 51	76.1	250.0	1.3		55.2	375	5020	23 21 31
23 28 30	J1616+4632	17 32 21	76.2	249.0	1.3		54.5	16	5020	23 28 30
23 30 00	=1614+466	17 33 51	76.0	249.7	1.3		54.9	90	5032	23 28 31
23 30 00	J1614+4640	17 33 51	75.8	250.8	1.3		55.6	-15	5032	No stop
23 36 30	---	17 40 22	74.9	253.2	1.4		56.8	375	5082	23 30 01
23 37 00	J1616+4632	17 40 52	75.0	252.4	1.4		56.2	16	5082	23 37 00
23 38 30	=1614+466	17 42 23	74.8	252.9	1.4		56.5	90	5094	23 37 01
23 38 30	J1614+4640	17 42 23	74.6	253.9	1.5		57.2	-14	5094	No stop
23 45 00	---	17 48 54	73.7	256.1	1.6		58.1	376	5144	23 38 31
23 45 30	J1616+4632	17 49 24	73.7	255.4	1.5		57.5	17	5144	23 45 30
23 47 00	=1614+466	17 50 54	73.5	255.8	1.6		57.7	90	5155	23 45 31

Schedule for TORUN (Code Tr) Page 14
EG119A

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Fri 3 Jun 2022 Day 154 ---										
23 47 00	J1614+4640	17 50 54	73.4	256.8	1.6		58.3	-14	5155	No stop
23 53 30	---	17 57 25	72.4	258.7	1.7		59.0	376	5206	23 47 01
23 54 00	J1616+4632	17 57 55	72.5	258.0	1.7		58.6	17	5206	23 54 00
23 55 30	=1614+466	17 59 25	72.3	258.5	1.7		58.7	90	5217	23 54 01
--- Start: Fri 3 Jun 2022 Day 154 -- Stop: Sat 4 Jun 2022 Day 155 ---										
23 55 30	J1614+4640	17 59 25	72.1	259.3	1.7		59.2	-13	5217	No stop
00 02 00	---	18 05 56	71.1	261.1	1.8		59.7	377	5267	23 55 31
00 02 30	J1616+4632	18 06 27	71.2	260.5	1.8		59.3	17	5267	00 02 30
00 04 00	=1614+466	18 07 57	71.0	260.9	1.9		59.4	90	5279	00 02 31
00 04 00	J1614+4640	18 07 57	70.8	261.7	1.9		59.9	-13	5279	No stop
00 10 30	---	18 14 28	69.9	263.3	2.0		60.3	377	5329	00 04 01
00 11 00	J1616+4632	18 14 58	70.0	262.7	2.0		59.9	17	5329	00 11 00
00 12 30	=1614+466	18 16 28	69.8	263.1	2.0		60.0	90	5341	00 11 01
00 12 30	J1614+4640	18 16 28	69.6	263.8	2.0		60.4	-13	5341	No stop
00 19 00	---	18 22 59	68.6	265.4	2.1		60.6	377	5391	00 12 31
00 19 30	J1616+4632	18 23 29	68.7	264.8	2.1		60.3	18	5391	00 19 30
00 21 00	=1614+466	18 25 00	68.5	265.1	2.1		60.3	90	5403	00 19 31
00 21 00	J1614+4640	18 25 00	68.3	265.8	2.2		60.7	-13	5403	No stop
00 27 30	---	18 31 31	67.3	267.3	2.3		60.8	377	5453	00 21 01
00 28 00	J1616+4632	18 32 01	67.4	266.7	2.3		60.5	18	5453	00 28 00
00 29 30	=1614+466	18 33 31	67.2	267.0	2.3		60.6	90	5465	00 28 01
00 29 30	J1614+4640	18 33 31	67.0	267.7	2.3		60.9	-12	5465	No stop
00 36 00	---	18 40 02	66.0	269.1	2.4		60.9	378	5515	00 29 31
00 36 30	J1616+4632	18 40 32	66.2	268.5	2.4		60.7	18	5515	00 36 30
00 38 00	=1614+466	18 42 02	65.9	268.9	2.4		60.7	90	5526	00 36 31
00 43 00	J2253+1608	18 47 03	29.6	102.8	-4.1		-37.6	-47	5526	00 43 00
00 48 00	=3C454.3	18 52 04	30.4	103.9	-4.0		-37.4	253	5565	00 43 01
00 49 00	J2347+1709	18 53 04	23.3	92.0	-4.9		-38.9	19	5565	00 49 00
00 50 00	=2345+168	18 54 04	23.5	92.2	-4.9		-38.9	60	5573	00 49 01

Schedule for TORUN (Code Tr) Page 15
EG119A

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Sat 4 Jun 2022 Day 155 ---										
00 50 00	J2344+1653	18 54 04	23.7	93.1	-4.9		-38.8	-13	5573	No stop
00 56 30	---	19 00 35	24.7	94.4	-4.8		-38.8	377	5623	00 50 01
00 57 00	J2347+1709	19 01 05	24.5	93.6	-4.8		-38.9	17	5623	00 57 00
00 58 30	=2345+168	19 02 36	24.7	93.9	-4.8		-38.9	90	5635	00 57 01
00 58 30	J2344+1653	19 02 36	25.0	94.8	-4.7		-38.7	-14	5635	No stop
01 05 00	---	19 09 07	26.0	96.2	-4.6		-38.6	376	5685	00 58 31
01 05 30	J2347+1709	19 09 37	25.8	95.4	-4.7		-38.8	17	5685	01 05 30
01 07 00	=2345+168	19 11 07	26.0	95.7	-4.6		-38.7	90	5696	01 05 31
01 07 00	J2344+1653	19 11 07	26.3	96.6	-4.6		-38.6	-14	5696	No stop
01 13 30	---	19 17 38	27.3	98.0	-4.5		-38.5	376	5747	01 07 01
01 14 00	J2347+1709	19 18 08	27.1	97.2	-4.5		-38.6	17	5747	01 14 00
01 15 30	=2345+168	19 19 39	27.3	97.5	-4.5		-38.6	90	5758	01 14 01
01 15 30	J2344+1653	19 19 39	27.6	98.4	-4.4		-38.4	-14	5758	No stop
01 22 00	---	19 26 10	28.5	99.8	-4.3		-38.2	376	5808	01 15 31
01 22 30	J2347+1709	19 26 40	28.3	99.0	-4.4		-38.4	17	5808	01 22 30
01 24 00	=2345+168	19 28 10	28.5	99.3	-4.3		-38.4	90	5820	01 22 31
01 25 00	J2239+0128	19 29 10	25.1	125.0	-3.2		-29.5	-6	5820	01 25 00
01 26 00	=2237+012	19 30 10	25.2	125.2	-3.2		-29.4	54	5828	01 25 01
01 26 00	J2239+0030	19 30 10	24.5	125.9	-3.2		-29.1	-15	5828	No stop
01 32 30	---	19 36 41	25.2	127.5	-3.1		-28.5	375	5878	01 26 01
01 33 00	J2239+0128	19 37 11	26.1	126.9	-3.1		-28.7	15	5878	01 33 00
01 34 30	=2237+012	19 38 42	26.3	127.3	-3.0		-28.5	90	5890	01 33 01
01 34 30	J2239+0030	19 38 42	25.5	127.9	-3.0		-28.3	-15	5890	No stop
01 41 00	---	19 45 13	26.3	129.5	-2.9		-27.6	375	5940	01 34 31
01 41 30	J2239+0128	19 45 43	27.1	129.0	-2.9		-27.8	15	5940	01 41 30
01 43 00	=2237+012	19 47 13	27.3	129.4	-2.9		-27.7	90	5951	01 41 31
01 43 00	J2239+0030	19 47 13	26.5	130.0	-2.9		-27.4	-15	5951	No stop
01 49 30	---	19 53 44	27.2	131.7	-2.8		-26.7	375	6002	01 43 01
01 50 00	J2239+0128	19 54 14	28.1	131.2	-2.8		-26.9	14	6002	01 50 00
01 51 30	=2237+012	19 55 44	28.3	131.5	-2.8		-26.7	90	6013	01 50 01

Schedule for TORUN (Code Tr) Page 16

EG119A

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	LST	Start / Stop EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Sat 4 Jun 2022 Day 155 ---										
01 51 30	J2239+0030	19 55 44	27.4	132.2	-2.7		-26.4	-15	6013	No stop
01 58 00	---	20 02 15	28.2	133.8	-2.6		-25.7	375	6064	01 51 31
01 58 30	J2239+0128	20 02 46	29.0	133.3	-2.6		-25.9	14	6064	01 58 30
02 00 00	=2237+012	20 04 16	29.2	133.7	-2.6		-25.7	90	6075	01 58 31
02 01 00	J2247+0000	20 05 16	27.1	132.7	-2.7		-26.2	38	6075	02 01 00
02 02 00	=2244-002	20 06 16	27.2	133.0	-2.7		-26.1	60	6083	02 01 01
02 02 00	J2245+0024	20 06 16	27.8	133.3	-2.7		-25.9	-14	6083	No stop
02 08 30	---	20 12 47	28.5	135.0	-2.6		-25.1	376	6133	02 02 01
02 09 00	J2247+0000	20 13 17	28.0	134.7	-2.6		-25.2	16	6133	02 09 00
02 10 30	=2244-002	20 14 48	28.2	135.1	-2.6		-25.1	90	6145	02 09 01
02 10 30	J2245+0024	20 14 48	28.7	135.5	-2.5		-24.9	-14	6145	No stop
02 17 00	---	20 21 19	29.4	137.2	-2.4		-24.1	376	6195	02 10 31
02 17 30	J2247+0000	20 21 49	28.9	136.9	-2.4		-24.2	16	6195	02 17 30
02 19 00	=2244-002	20 23 19	29.0	137.3	-2.4		-24.0	90	6207	02 17 31
02 19 00	J2245+0024	20 23 19	29.6	137.7	-2.4		-23.8	-14	6207	No stop
02 25 30	---	20 29 50	30.3	139.4	-2.3		-23.0	376	6257	02 19 01
02 26 00	J2247+0000	20 30 20	29.7	139.2	-2.3		-23.1	16	6257	02 26 00
02 27 30	=2244-002	20 31 50	29.9	139.6	-2.3		-22.9	90	6268	02 26 01
02 27 30	J2245+0024	20 31 50	30.5	140.0	-2.2		-22.7	-14	6268	No stop
02 34 00	---	20 38 21	31.1	141.7	-2.1		-21.8	376	6319	02 27 31
02 34 30	J2247+0000	20 38 51	30.6	141.5	-2.2		-22.0	16	6319	02 34 30
02 36 00	=2244-002	20 40 22	30.7	141.9	-2.1		-21.8	90	6330	02 34 31
02 37 00	J2239+0128	20 41 22	32.9	143.7	-2.0		-20.9	38	6330	02 37 00
02 38 00	=2237+012	20 42 22	33.0	143.9	-2.0		-20.7	60	6338	02 37 01
02 38 00	J2239+0030	20 42 22	32.1	144.5	-2.0		-20.4	-16	6338	No stop
02 44 30	---	20 48 53	32.7	146.3	-1.9		-19.5	374	6388	02 38 01
02 45 00	J2239+0128	20 49 23	33.6	145.9	-1.9		-19.7	14	6388	02 45 00
02 46 30	=2237+012	20 50 53	33.7	146.3	-1.8		-19.5	90	6400	02 45 01
02 46 30	J2239+0030	20 50 53	32.8	146.9	-1.8		-19.2	-16	6400	No stop
02 53 00	---	20 57 25	33.3	148.7	-1.7		-18.2	374	6450	02 46 31

Schedule for TORUN (Code Tr) Page 17

EG119A

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Sat 4 Jun 2022 Day 155 ---										
02 53 30	J2239+0128	20 57 55	34.3	148.3	-1.7		-18.4	14	6450	02 53 30
02 55 00	=2237+012	20 59 25	34.4	148.8	-1.7		-18.2	90	6462	02 53 31
02 55 00	J2239+0030	20 59 25	33.5	149.3	-1.7		-17.9	-16	6462	No stop
03 01 30	---	21 05 56	34.0	151.2	-1.6		-16.8	374	6512	02 55 01
03 02 00	J2239+0128	21 06 26	34.9	150.8	-1.6		-17.0	14	6512	03 02 00
03 03 30	=2237+012	21 07 56	35.0	151.2	-1.5		-16.8	90	6523	03 02 01
03 03 30	J2239+0030	21 07 56	34.1	151.7	-1.5		-16.5	-16	6523	No stop
03 10 00	---	21 14 27	34.6	153.6	-1.4		-15.5	374	6574	03 03 31
03 10 30	J2239+0128	21 14 57	35.5	153.3	-1.4		-15.7	14	6574	03 10 30
03 12 00	=2237+012	21 16 28	35.6	153.7	-1.4		-15.4	90	6585	03 10 31
03 13 00	J2247+0000	21 17 28	33.7	152.2	-1.5		-16.2	39	6585	03 13 00
03 14 00	=2244-002	21 18 28	33.8	152.5	-1.5		-16.1	60	6593	03 13 01
03 14 00	J2245+0024	21 18 28	34.3	153.0	-1.5		-15.8	-13	6593	No stop
03 20 30	---	21 24 59	34.8	154.9	-1.4		-14.8	377	6643	03 14 01
03 21 00	J2247+0000	21 25 29	34.3	154.6	-1.4		-14.9	17	6643	03 21 00
03 22 30	=2244-002	21 26 59	34.4	155.0	-1.4		-14.7	90	6655	03 21 01
03 22 30	J2245+0024	21 26 59	34.9	155.5	-1.3		-14.4	-13	6655	No stop
03 29 00	---	21 33 30	35.3	157.4	-1.2		-13.3	377	6705	03 22 31
03 29 30	J2247+0000	21 34 01	34.8	157.1	-1.2		-13.5	17	6705	03 29 30
03 31 00	=2244-002	21 35 31	34.9	157.5	-1.2		-13.3	90	6717	03 29 31
03 31 00	J2245+0024	21 35 31	35.4	158.0	-1.2		-13.0	-13	6717	No stop
03 37 30	---	21 42 02	35.7	160.0	-1.1		-11.9	377	6767	03 31 01
03 38 00	J2247+0000	21 42 32	35.3	159.6	-1.1		-12.1	17	6767	03 38 00
03 39 30	=2244-002	21 44 02	35.3	160.1	-1.1		-11.8	90	6778	03 38 01
03 39 30	J2245+0024	21 44 02	35.8	160.6	-1.0		-11.5	-13	6778	No stop
03 46 00	---	21 50 33	36.1	162.6	-0.9		-10.4	377	6829	03 39 31
03 46 30	J2247+0000	21 51 03	35.7	162.2	-1.0		-10.6	17	6829	03 46 30
03 48 00	=2244-002	21 52 34	35.7	162.6	-0.9		-10.3	90	6840	03 46 31
03 49 00	J2347+1709	21 53 34	47.7	136.8	-1.9		-25.5	-7	6840	03 49 00
03 50 00	=2345+168	21 54 34	47.8	137.1	-1.9		-25.4	53	6848	03 49 01

Schedule for TORUN (Code Tr) Page 18
EG119A

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Sat 4 Jun 2022 Day 155 ---										
03 50 00	J2344+1653	21 54 34	47.9	138.3	-1.9		-24.7	-15	6848	No stop
03 56 30	---	22 01 05	48.5	140.5	-1.7		-23.6	375	6898	03 50 01
03 57 00	J2347+1709	22 01 35	48.5	139.4	-1.8		-24.2	15	6898	03 57 00
03 58 30	=2345+168	22 03 05	48.7	139.9	-1.8		-23.9	90	6910	03 57 01
03 58 30	J2344+1653	22 03 05	48.7	141.1	-1.7		-23.2	-15	6910	No stop
04 05 00	---	22 09 36	49.3	143.3	-1.6		-22.0	375	6960	03 58 31
04 05 30	J2347+1709	22 10 06	49.3	142.2	-1.6		-22.7	15	6960	04 05 30
04 07 00	=2345+168	22 11 37	49.5	142.7	-1.6		-22.4	90	6972	04 05 31
04 07 00	J2344+1653	22 11 37	49.5	144.0	-1.6		-21.7	-15	6972	No stop
04 13 30	---	22 18 08	50.1	146.3	-1.5		-20.4	375	7022	04 07 01
04 14 00	J2347+1709	22 18 38	50.1	145.1	-1.5		-21.1	15	7022	04 14 00
04 15 30	=2345+168	22 20 08	50.2	145.6	-1.5		-20.8	90	7034	04 14 01
04 15 30	J2344+1653	22 20 08	50.2	147.0	-1.4		-20.0	-16	7034	No stop
04 22 00	---	22 26 39	50.7	149.3	-1.3		-18.7	374	7084	04 15 31
04 22 30	J2347+1709	22 27 09	50.8	148.1	-1.4		-19.4	15	7084	04 22 30
04 24 00	=2345+168	22 28 39	50.9	148.7	-1.3		-19.1	90	7095	04 22 31
04 25 00	J2253+1608	22 29 40	52.8	169.9	-0.4		-6.3	3	7095	04 25 00
04 30 00	=3C454.3	22 34 40	53.0	171.9	-0.3		-5.1	300	7134	04 25 01
04 31 00	J2239+0128	22 35 41	38.5	178.4	-0.1		-1.0	-8	7134	04 31 00
04 32 00	=2237+012	22 36 41	38.5	178.7	-0.1		-0.8	52	7142	04 31 01
04 32 00	J2239+0030	22 36 41	37.5	178.9	-0.1		-0.7	-16	7142	No stop
04 38 30	---	22 43 12	37.5	180.9	0.0		0.6	374	7192	04 32 01
04 39 00	J2239+0128	22 43 42	38.5	180.9	0.0		0.6	14	7192	04 39 00
04 40 30	=2237+012	22 45 12	38.5	181.4	0.1		0.8	90	7204	04 39 01
04 40 30	J2239+0030	22 45 12	37.5	181.6	0.1		0.9	-16	7204	No stop
04 47 00	---	22 51 43	37.5	183.6	0.2		2.2	374	7254	04 40 31
04 47 30	J2239+0128	22 52 13	38.4	183.6	0.2		2.2	14	7254	04 47 30
04 49 00	=2237+012	22 53 44	38.4	184.1	0.2		2.5	90	7265	04 47 31
04 49 00	J2239+0030	22 53 44	37.5	184.2	0.2		2.5	-16	7265	No stop
04 55 30	---	23 00 15	37.4	186.3	0.3		3.8	374	7316	04 49 01

Schedule for TORUN (Code Tr) Page 19

EG119A

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Sat 4 Jun 2022 Day 155 ---										
04 56 00	J2239+0128	23 00 45	38.3	186.4	0.3		3.8	14	7316	04 56 00
04 57 30	=2237+012	23 02 15	38.3	186.8	0.4		4.1	90	7327	04 56 01
04 57 30	J2239+0030	23 02 15	37.3	186.9	0.4		4.1	-16	7327	No stop
05 04 00	---	23 08 46	37.2	189.0	0.5		5.4	374	7377	04 57 31
05 04 30	J2239+0128	23 09 16	38.2	189.1	0.5		5.4	14	7377	05 04 30
05 06 00	=2237+012	23 10 46	38.1	189.5	0.5		5.7	90	7389	05 04 31
05 06 00	J2239+0030	23 10 46	37.1	189.6	0.5		5.7	-16	7389	No stop
05 12 30	---	23 17 17	37.0	191.6	0.6		6.9	374	7439	05 06 01
05 13 00	J2239+0128	23 17 48	37.9	191.7	0.6		7.0	14	7439	05 13 00
05 14 30	=2237+012	23 19 18	37.9	192.2	0.6		7.3	90	7451	05 13 01
05 14 30	J2239+0030	23 19 18	36.9	192.2	0.7		7.3	-16	7451	No stop
05 21 00	---	23 25 49	36.7	194.2	0.8		8.5	374	7501	05 14 31
05 21 30	J2239+0128	23 26 19	37.6	194.4	0.8		8.6	14	7501	05 21 30
05 23 00	=2237+012	23 27 49	37.6	194.9	0.8		8.9	90	7513	05 21 31
05 23 00	J2239+0030	23 27 49	36.6	194.9	0.8		8.9	-16	7513	No stop
05 29 30	---	23 34 20	36.3	196.9	0.9		10.0	374	7563	05 23 01
05 30 00	J2239+0128	23 34 50	37.3	197.1	0.9		10.2	14	7563	05 30 00
05 31 30	=2237+012	23 36 21	37.2	197.5	0.9		10.4	90	7575	05 30 01
05 32 30	J2247+0000	23 37 21	36.1	195.1	0.8		9.0	40	7575	05 32 30
05 33 30	=2244-002	23 38 21	36.0	195.4	0.8		9.2	60	7582	05 32 31
05 33 30	J2245+0024	23 38 21	36.3	196.2	0.9		9.6	-13	7582	No stop
05 40 00	---	23 44 52	36.0	198.1	1.0		10.8	377	7633	05 33 31
05 40 30	J2247+0000	23 45 22	35.7	197.6	0.9		10.4	18	7633	05 40 30
05 42 00	=2244-002	23 46 52	35.7	198.0	1.0		10.7	90	7644	05 40 31
05 42 00	J2245+0024	23 46 52	35.9	198.8	1.0		11.1	-13	7644	No stop
05 48 30	---	23 53 23	35.6	200.7	1.1		12.3	377	7694	05 42 01
05 49 00	J2247+0000	23 53 53	35.3	200.1	1.1		11.9	18	7694	05 49 00
05 50 30	=2244-002	23 55 24	35.2	200.6	1.1		12.2	90	7706	05 49 01
05 50 30	J2245+0024	23 55 24	35.5	201.3	1.1		12.6	-13	7706	No stop
05 57 00	---	00 01 55	35.1	203.3	1.3		13.7	377	7756	05 50 31

Schedule for TORUN (Code Tr) Page 20

EG119A

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	LST	Start / Stop EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Sat 4 Jun 2022 Day 155 ---										
05 57 30	J2247+0000	00 02 25	34.8	202.7	1.2		13.4	17	7756	05 57 30
05 59 00	=2244-002	00 03 55	34.8	203.1	1.3		13.6	90	7768	05 57 31
05 59 00	J2245+0024	00 03 55	35.0	203.9	1.3		14.1	-13	7768	No stop
06 05 30	---	00 10 26	34.6	205.8	1.4		15.1	377	7818	05 59 01
06 06 00	J2247+0000	00 10 56	34.3	205.2	1.4		14.8	17	7818	06 06 00
06 07 30	=2244-002	00 12 26	34.2	205.6	1.4		15.1	90	7830	06 06 01
06 07 30	J2245+0024	00 12 26	34.5	206.4	1.4		15.5	-13	7830	No stop
06 14 00	---	00 18 58	34.0	208.3	1.5		16.5	377	7880	06 07 31
06 14 30	J2247+0000	00 19 28	33.8	207.7	1.5		16.2	17	7880	06 14 30
06 16 00	=2244-002	00 20 58	33.6	208.1	1.5		16.4	90	7891	06 14 31
06 16 00	J2245+0024	00 20 58	33.9	208.8	1.6		16.8	-13	7891	No stop
06 22 30	---	00 27 29	33.4	210.7	1.7		17.9	377	7942	06 16 01
06 23 00	J2247+0000	00 27 59	33.1	210.1	1.7		17.5	17	7942	06 23 00
06 24 30	=2244-002	00 29 29	33.0	210.5	1.7		17.8	90	7953	06 23 01
06 24 30	J2245+0024	00 29 29	33.2	211.3	1.7		18.2	-13	7953	No stop
06 31 00	---	00 36 00	32.7	213.1	1.8		19.2	377	8004	06 24 31
06 31 30	J2247+0000	00 36 30	32.5	212.5	1.8		18.8	17	8004	06 31 30
06 33 00	=2244-002	00 38 01	32.3	212.9	1.8		19.1	90	8015	06 31 31
06 34 00	J2347+1709	00 39 01	52.9	200.0	0.8		12.4	-31	8015	06 34 00
06 35 00	=2345+168	00 40 01	52.8	200.4	0.8		12.7	29	8023	06 34 01
06 35 00	J2344+1653	00 40 01	52.4	201.6	0.9		13.4	-15	8023	No stop
06 41 30	---	00 46 32	52.0	204.1	1.0		14.8	375	8073	06 35 01
06 42 00	J2347+1709	00 47 02	52.4	203.1	1.0		14.3	16	8073	06 42 00
06 43 30	=2345+168	00 48 32	52.4	203.7	1.0		14.6	90	8085	06 42 01
06 43 30	J2344+1653	00 48 32	51.9	204.8	1.0		15.3	-15	8085	No stop
06 50 00	---	00 55 03	51.4	207.2	1.2		16.7	375	8135	06 43 31
06 50 30	J2347+1709	00 55 34	51.9	206.3	1.1		16.2	16	8135	06 50 30
06 52 00	=2345+168	00 57 04	51.8	206.8	1.1		16.5	90	8147	06 50 31
06 52 00	J2344+1653	00 57 04	51.3	208.0	1.2		17.1	-15	8147	No stop
06 58 30	---	01 03 35	50.8	210.3	1.3		18.5	375	8197	06 52 01

Schedule for TORUN (Code Tr) Page 21
EG119A

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Sat 4 Jun 2022 Day 155 ---										
06 59 00	J2347+1709	01 04 05	51.3	209.4	1.3		18.0	16	8197	06 59 00
07 00 30	=2345+168	01 05 35	51.2	210.0	1.3		18.3	90	8208	06 59 01
07 00 30	J2344+1653	01 05 35	50.7	211.0	1.3		18.9	-14	8208	No stop
07 07 00	---	01 12 06	50.2	213.3	1.4		20.2	376	8259	07 00 31
07 07 30	J2347+1709	01 12 36	50.6	212.5	1.4		19.7	16	8259	07 07 30
07 09 00	=2345+168	01 14 07	50.5	213.0	1.4		20.0	90	8270	07 07 31
07 09 00	J2344+1653	01 14 07	50.0	214.0	1.5		20.6	-14	8270	No stop
07 15 30	---	01 20 38	49.4	216.3	1.6		21.8	376	8320	07 09 01
07 16 00	J2347+1709	01 21 08	49.9	215.5	1.5		21.4	16	8320	07 16 00
07 17 30	=2345+168	01 22 38	49.8	216.0	1.6		21.7	90	8332	07 16 01
07 17 30	J2344+1653	01 22 38	49.2	217.0	1.6		22.2	-14	8332	No stop
07 24 00	---	01 29 09	48.6	219.2	1.7		23.4	376	8382	07 17 31
07 24 30	J2347+1709	01 29 39	49.2	218.4	1.7		23.0	16	8382	07 24 30
07 26 00	=2345+168	01 31 09	49.0	218.9	1.7		23.2	90	8394	07 24 31
07 26 00	J2344+1653	01 31 09	48.5	219.8	1.8		23.7	-14	8394	No stop
07 32 30	---	01 37 40	47.8	221.9	1.9		24.8	376	8444	07 26 01
07 33 00	J2347+1709	01 38 11	48.3	221.2	1.8		24.5	16	8444	07 33 00
07 34 30	=2345+168	01 39 41	48.2	221.7	1.8		24.7	90	8456	07 33 01
07 35 30	J2239+0128	01 40 41	26.5	232.2	3.0		28.3	-35	8456	07 35 30
07 36 30	=2237+012	01 41 41	26.4	232.4	3.0		28.4	25	8463	07 35 31
07 36 30	J2239+0030	01 41 41	25.5	232.0	3.0		28.3	-16	8463	No stop
07 43 00	---	01 48 12	24.7	233.6	3.1		28.9	374	8514	07 36 31
07 43 30	J2239+0128	01 48 42	25.6	234.1	3.1		29.1	14	8514	07 43 30
07 45 00	=2237+012	01 50 13	25.4	234.5	3.2		29.3	90	8525	07 43 31
07 45 00	J2239+0030	01 50 13	24.5	234.1	3.2		29.1	-16	8525	No stop
07 51 30	---	01 56 44	23.7	235.6	3.3		29.7	374	8575	07 45 01
07 52 00	J2239+0128	01 57 14	24.5	236.2	3.3		29.9	14	8575	07 52 00
07 53 30	=2237+012	01 58 44	24.3	236.5	3.3		30.1	90	8587	07 52 01
07 53 30	J2239+0030	01 58 44	23.4	236.1	3.3		29.9	-16	8587	No stop
08 00 00	---	02 05 15	22.6	237.6	3.4		30.5	374	8637	07 53 31

Schedule for TORUN (Code Tr) Page 22

EG119A

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	LST	Start / Stop EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Sat 4 Jun 2022 Day 155 ---										
08 00 30	J2239+0128	02 05 45	23.5	238.2	3.4		30.7	14	8637	08 00 30
08 02 00	=2237+012	02 07 15	23.3	238.5	3.4		30.8	90	8649	08 00 31
08 02 00	J2239+0030	02 07 15	22.4	238.1	3.4		30.7	-16	8649	No stop
08 08 30	---	02 13 46	21.5	239.6	3.6		31.2	374	8699	08 02 01
08 09 00	J2239+0128	02 14 16	22.4	240.2	3.6		31.4	14	8699	08 09 00
08 10 30	=2237+012	02 15 47	22.2	240.5	3.6		31.5	90	8711	08 09 01
08 10 30	J2239+0030	02 15 47	21.3	240.1	3.6		31.4	-16	8711	No stop
08 17 00	---	02 22 18	20.4	241.6	3.7		31.9	374	8761	08 10 31
08 17 30	J2239+0128	02 22 48	21.2	242.1	3.7		32.1	14	8761	08 17 30
08 19 00	=2237+012	02 24 18	21.0	242.4	3.7		32.2	90	8773	08 17 31
08 19 00	J2239+0030	02 24 18	20.1	242.0	3.7		32.0	-16	8773	No stop
08 25 30	---	02 30 49	19.3	243.5	3.8		32.5	374	8823	08 19 01
08 26 00	J2239+0128	02 31 19	20.1	244.0	3.8		32.7	14	8823	08 26 00
08 27 30	=2237+012	02 32 49	19.9	244.4	3.9		32.8	90	8834	08 26 01
08 27 30	J2239+0030	02 32 49	19.0	243.9	3.9		32.6	-16	8834	No stop
08 34 00	---	02 39 21	18.1	245.4	4.0		33.1	374	8885	08 27 31
08 34 30	J2239+0128	02 39 51	18.9	245.9	4.0		33.3	14	8885	08 34 30
08 36 00	=2237+012	02 41 21	18.7	246.3	4.0		33.4	90	8896	08 34 31
08 37 00	J2247+0000	02 42 21	18.4	243.9	3.9		32.6	41	8896	08 37 00
08 38 00	=2244-002	02 43 21	18.3	244.1	3.9		32.7	60	8904	08 37 01
08 38 00	J2245+0024	02 43 21	18.3	244.8	3.9		32.9	-13	8904	No stop
08 44 30	---	02 49 52	17.5	246.2	4.1		33.3	377	8954	08 38 01
08 45 00	J2247+0000	02 50 22	17.3	245.7	4.0		33.2	18	8954	08 45 00
08 46 30	=2244-002	02 51 53	17.1	246.0	4.1		33.3	90	8966	08 45 01
08 46 30	J2245+0024	02 51 53	17.2	246.7	4.1		33.5	-13	8966	No stop
08 53 00	---	02 58 24	16.3	248.1	4.2		33.9	377	9016	08 46 31
08 53 30	J2247+0000	02 58 54	16.2	247.5	4.2		33.7	18	9016	08 53 30
08 55 00	=2244-002	03 00 24	16.0	247.8	4.2		33.8	90	9028	08 53 31
08 55 00	J2245+0024	03 00 24	16.0	248.5	4.2		34.0	-13	9028	No stop
09 01 30	---	03 06 55	15.1	249.9	4.3		34.3	377	9078	08 55 01

Schedule for TORUN (Code Tr) Page 23

EG119A

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Sat 4 Jun 2022 Day 155 ---										
09 02 00	J2247+0000	03 07 25	15.0	249.4	4.3		34.2	18	9078	09 02 00
09 03 30	=2244-002	03 08 55	14.8	249.7	4.3		34.3	90	9089	09 02 01
09 03 30	J2245+0024	03 08 55	14.8	250.4	4.4		34.4	-13	9089	No stop
09 10 00	---	03 15 26	13.9	251.7	4.5		34.8	377	9140	09 03 31
09 10 30	J2247+0000	03 15 57	13.8	251.2	4.5		34.6	18	9140	09 10 30
09 12 00	=2244-002	03 17 27	13.6	251.5	4.5		34.7	90	9151	09 10 31
09 12 00	J2245+0024	03 17 27	13.6	252.2	4.5		34.9	-13	9151	No stop
09 18 30	---	03 23 58	12.6	253.5	4.6		35.2	377	9202	09 12 01
09 19 00	J2247+0000	03 24 28	12.5	253.0	4.6		35.0	18	9202	09 19 00
09 20 30	=2244-002	03 25 58	12.3	253.3	4.6		35.1	90	9213	09 19 01
09 20 30	J2245+0024	03 25 58	12.4	254.0	4.7		35.2	-12	9213	No stop
09 27 00	---	03 32 29	11.4	255.3	4.8		35.5	378	9263	09 20 31
09 27 30	J2247+0000	03 32 59	11.3	254.7	4.7		35.4	18	9263	09 27 30
09 29 00	=2244-002	03 34 30	11.1	255.1	4.8		35.5	90	9275	09 27 31
09 29 00	J2245+0024	03 34 30	11.1	255.7	4.8		35.6	-12	9275	No stop
09 35 30	---	03 41 01	10.2	257.1	4.9		35.8	378	9325	09 29 01
09 36 00	J2247+0000	03 41 31	10.1	256.5	4.9		35.7	18	9325	09 36 00
09 37 30	=2244-002	03 43 01	9.9	256.8	4.9		35.8	90	9337	09 36 01
09 38 30	J2347+1709	03 44 01	32.4	255.1	3.9		37.4	-38	9337	09 38 30
09 39 30	=2345+168	03 45 01	32.2	255.3	3.9		37.5	22	9345	09 38 31
09 39 30	J2344+1653	03 45 01	31.5	255.8	4.0		37.5	-15	9345	No stop
09 46 00	---	03 51 32	30.5	257.3	4.1		37.8	375	9395	09 39 31
09 46 30	J2347+1709	03 52 02	31.2	256.8	4.0		37.8	15	9395	09 46 30
09 48 00	=2345+168	03 53 33	31.0	257.2	4.1		37.8	90	9406	09 46 31
09 48 00	J2344+1653	03 53 33	30.3	257.7	4.1		37.8	-15	9406	No stop
09 54 30	---	04 00 04	29.3	259.1	4.2		38.1	375	9457	09 48 01
09 55 00	J2347+1709	04 00 34	29.9	258.7	4.2		38.1	15	9457	09 55 00
09 56 30	=2345+168	04 02 04	29.7	259.0	4.2		38.1	90	9468	09 55 01
09 56 30	J2344+1653	04 02 04	29.0	259.6	4.3		38.1	-15	9468	No stop
10 03 00	---	04 08 35	28.0	261.0	4.4		38.3	375	9518	09 56 31

Schedule for TORUN (Code Tr) Page 24

EG119A

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Sat 4 Jun 2022 Day 155 ---										
10 03 30	J2347+1709	04 09 05	28.7	260.5	4.3		38.3	15	9518	10 03 30
10 05 00	=2345+168	04 10 35	28.5	260.9	4.4		38.4	90	9530	10 03 31
10 05 00	J2344+1653	04 10 35	27.7	261.4	4.4		38.4	-15	9530	No stop
10 11 30	---	04 17 07	26.8	262.8	4.5		38.5	375	9580	10 05 01
10 12 00	J2347+1709	04 17 37	27.4	262.4	4.5		38.6	15	9580	10 12 00
10 13 30	=2345+168	04 19 07	27.2	262.7	4.5		38.6	90	9592	10 12 01
10 13 30	J2344+1653	04 19 07	26.5	263.2	4.6		38.6	-15	9592	No stop
10 20 00	---	04 25 38	25.5	264.5	4.7		38.7	375	9642	10 13 31
10 20 30	J2347+1709	04 26 08	26.1	264.1	4.6		38.7	15	9642	10 20 30
10 22 00	=2345+168	04 27 38	25.9	264.4	4.6		38.8	90	9654	10 20 31
10 22 00	J2344+1653	04 27 38	25.2	264.9	4.7		38.7	-15	9654	No stop
10 28 30	---	04 34 09	24.2	266.3	4.8		38.8	375	9704	10 22 01
10 29 00	J2347+1709	04 34 39	24.9	265.9	4.8		38.8	15	9704	10 29 00
10 30 30	=2345+168	04 36 10	24.6	266.2	4.8		38.9	90	9716	10 29 01
10 30 30	J2344+1653	04 36 10	23.9	266.7	4.8		38.8	-15	9716	No stop
10 37 00	---	04 42 41	22.9	268.0	4.9		38.9	375	9766	10 30 31
10 37 30	J2347+1709	04 43 11	23.6	267.6	4.9		38.9	15	9766	10 37 30
10 39 00	=2345+168	04 44 41	23.4	267.9	4.9		38.9	90	9777	10 37 31
10 44 00	J0646+4451	04 49 42	69.1	101.2	-2.0		-56.1	-48	9777	10 44 00
10 49 00	=0642+449	04 54 43	69.8	102.7	-1.9		-55.7	252	9816	10 44 01
10 52 00	J0746+2549	04 57 43	48.3	113.9	-2.8		-37.6	85	9816	10 52 00
10 53 00	=0743+259	04 58 43	48.4	114.2	-2.8		-37.5	60	9824	10 52 01
10 53 00	J0741+2520	04 58 43	48.6	115.8	-2.7		-36.7	-17	9824	No stop
10 59 30	---	05 05 14	49.5	117.7	-2.6		-36.0	373	9874	10 53 01
11 00 00	J0746+2549	05 05 45	49.4	116.1	-2.7		-36.8	14	9874	11 00 00
11 01 30	=0743+259	05 07 15	49.6	116.5	-2.7		-36.6	90	9886	11 00 01
11 01 30	J0741+2520	05 07 15	49.8	118.2	-2.6		-35.8	-17	9886	No stop
11 08 00	---	05 13 46	50.6	120.1	-2.5		-35.1	373	9936	11 01 31
11 08 30	J0746+2549	05 14 16	50.5	118.5	-2.6		-35.9	13	9936	11 08 30
11 10 00	=0743+259	05 15 46	50.7	118.9	-2.5		-35.7	90	9947	11 08 31

Schedule for TORUN (Code Tr) Page 25
EG119A

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Sat 4 Jun 2022 Day 155 ---										
11 10 00	J0741+2520	05 15 46	50.9	120.7	-2.5		-34.8	-17	9947	No stop
11 16 30	---	05 22 17	51.7	122.6	-2.3		-34.0	373	9998	11 10 01
11 17 00	J0746+2549	05 22 47	51.6	121.0	-2.4		-34.9	13	9998	11 17 00
11 18 30	=0743+259	05 24 18	51.8	121.4	-2.4		-34.7	90	10009	11 17 01
11 18 30	J0741+2520	05 24 18	52.0	123.2	-2.3		-33.7	-17	10009	No stop
11 25 00	---	05 30 49	52.8	125.3	-2.2		-32.8	373	10059	11 18 31
11 25 30	J0746+2549	05 31 19	52.7	123.6	-2.3		-33.7	13	10059	11 25 30
11 27 00	=0743+259	05 32 49	52.9	124.0	-2.2		-33.5	90	10071	11 25 31
11 27 00	J0741+2520	05 32 49	53.0	125.9	-2.2		-32.6	-17	10071	No stop
11 33 30	---	05 39 20	53.8	128.0	-2.1		-31.6	373	10121	11 27 01
11 34 00	J0746+2549	05 39 50	53.7	126.3	-2.1		-32.5	13	10121	11 34 00
11 35 30	=0743+259	05 41 20	53.9	126.7	-2.1		-32.3	90	10133	11 34 01
11 35 30	J0741+2520	05 41 20	54.0	128.6	-2.0		-31.2	-18	10133	No stop
11 42 00	---	05 47 51	54.8	130.8	-1.9		-30.2	372	10183	11 35 31
11 42 30	J0746+2549	05 48 22	54.7	129.0	-2.0		-31.2	13	10183	11 42 30
11 44 00	=0743+259	05 49 52	54.9	129.5	-2.0		-30.9	90	10195	11 42 31
11 45 00	J0749+1057	05 50 52	41.5	139.1	-2.0		-23.6	-4	10195	11 45 00
11 46 00	=0746+110	05 51 52	41.6	139.4	-2.0		-23.4	56	10202	11 45 01
11 46 00	J0747+1153	05 51 52	42.6	139.4	-2.0		-23.5	-17	10202	No stop
11 52 30	---	05 58 23	43.2	141.4	-1.8		-22.5	373	10253	11 46 01
11 53 00	J0749+1057	05 58 53	42.2	141.6	-1.9		-22.3	13	10253	11 53 00
11 54 30	=0746+110	06 00 23	42.4	142.0	-1.8		-22.1	90	10264	11 53 01
11 54 30	J0747+1153	06 00 23	43.4	142.1	-1.8		-22.2	-17	10264	No stop
12 01 00	---	06 06 55	44.0	144.1	-1.7		-21.1	373	10315	11 54 31
12 01 30	J0749+1057	06 07 25	43.0	144.2	-1.7		-20.9	13	10315	12 01 30
12 03 00	=0746+110	06 08 55	43.1	144.7	-1.7		-20.7	90	10326	12 01 31
12 03 00	J0747+1153	06 08 55	44.2	144.8	-1.7		-20.7	-17	10326	No stop
12 09 30	---	06 15 26	44.7	146.8	-1.6		-19.6	373	10376	12 03 01
12 10 00	J0749+1057	06 15 56	43.7	146.9	-1.6		-19.5	13	10376	12 10 00
12 11 30	=0746+110	06 17 26	43.9	147.4	-1.6		-19.2	90	10388	12 10 01

Schedule for TORUN (Code Tr) Page 26
EG119A

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Sat 4 Jun 2022 Day 155 ---										
12 11 30	J0747+1153	06 17 26	44.9	147.5	-1.5		-19.2	-17	10388	No stop
12 18 00	---	06 23 57	45.4	149.6	-1.4		-18.1	373	10438	12 11 31
12 18 30	J0749+1057	06 24 27	44.4	149.7	-1.4		-18.0	13	10438	12 18 30
12 20 00	=0746+110	06 25 58	44.5	150.2	-1.4		-17.7	90	10450	12 18 31
12 20 00	J0747+1153	06 25 58	45.5	150.3	-1.4		-17.7	-17	10450	No stop
12 26 30	---	06 32 29	46.0	152.5	-1.3		-16.5	373	10500	12 20 01
12 27 00	J0749+1057	06 32 59	45.0	152.5	-1.3		-16.4	13	10500	12 27 00
12 28 30	=0746+110	06 34 29	45.1	153.0	-1.3		-16.1	90	10512	12 27 01
12 28 30	J0747+1153	06 34 29	46.1	153.2	-1.2		-16.1	-17	10512	No stop
12 35 00	---	06 41 00	46.6	155.4	-1.1		-14.8	373	10562	12 28 31
12 35 30	J0749+1057	06 41 30	45.6	155.4	-1.2		-14.8	13	10562	12 35 30
12 37 00	=0746+110	06 43 00	45.7	155.9	-1.1		-14.5	90	10573	12 35 31
12 40 00	J0618-1418	06 46 01	22.3	187.0	0.4		4.4	79	10573	12 40 00
12 41 00	=0615-142	06 47 01	22.3	187.3	0.5		4.5	60	10581	12 40 01
12 41 00	J0616-1338	06 47 01	23.0	187.8	0.5		4.8	-14	10581	No stop
12 47 30	---	06 53 32	22.8	189.5	0.6		5.9	376	10631	12 41 01
12 48 00	J0618-1418	06 54 02	22.2	189.1	0.6		5.6	16	10631	12 48 00
12 49 30	=0615-142	06 55 33	22.1	189.5	0.6		5.9	90	10643	12 48 01
12 49 30	J0616-1338	06 55 33	22.8	190.1	0.6		6.2	-14	10643	No stop
12 56 00	---	07 02 04	22.6	191.8	0.7		7.2	376	10693	12 49 31
12 56 30	J0618-1418	07 02 34	21.9	191.3	0.7		7.0	16	10693	12 56 30
12 58 00	=0615-142	07 04 04	21.9	191.7	0.7		7.2	90	10705	12 56 31
12 58 00	J0616-1338	07 04 04	22.5	192.3	0.8		7.6	-14	10705	No stop
13 04 30	---	07 10 35	22.3	194.0	0.9		8.6	376	10755	12 58 01
13 05 00	J0618-1418	07 11 05	21.7	193.5	0.9		8.3	16	10755	13 05 00
13 06 30	=0615-142	07 12 35	21.6	193.9	0.9		8.6	90	10767	13 05 01
13 06 30	J0616-1338	07 12 35	22.2	194.5	0.9		8.9	-14	10767	No stop
13 13 00	---	07 19 06	22.0	196.2	1.0		9.9	376	10817	13 06 31
13 13 30	J0618-1418	07 19 36	21.3	195.7	1.0		9.7	16	10817	13 13 30
13 15 00	=0615-142	07 21 07	21.3	196.1	1.0		9.9	90	10829	13 13 31

Schedule for TORUN (Code Tr) Page 27

EG119A

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Sat 4 Jun 2022 Day 155 ---										
13 15 00	J0616-1338	07 21 07	21.9	196.7	1.1		10.2	-14	10829	No stop
13 21 30	---	07 27 38	21.6	198.4	1.2		11.2	376	10879	13 15 01
13 22 00	J0618-1418	07 28 08	21.0	197.9	1.1		11.0	16	10879	13 22 00
13 23 30	=0615-142	07 29 38	20.9	198.3	1.2		11.2	90	10890	13 22 01
13 23 30	J0616-1338	07 29 38	21.5	198.9	1.2		11.5	-14	10890	No stop
13 30 00	---	07 36 09	21.1	200.6	1.3		12.5	376	10941	13 23 31
13 30 30	J0618-1418	07 36 39	20.6	200.1	1.3		12.3	16	10941	13 30 30
13 32 00	=0615-142	07 38 10	20.5	200.5	1.3		12.5	90	10952	13 30 31
13 32 00	J0616-1338	07 38 10	21.0	201.1	1.3		12.8	-14	10952	No stop
13 38 30	---	07 44 41	20.7	202.7	1.5		13.8	376	11002	13 32 01
13 39 00	J0618-1418	07 45 11	20.1	202.2	1.4		13.6	16	11002	13 39 00
13 40 30	=0615-142	07 46 41	20.0	202.6	1.5		13.8	90	11014	13 39 01
13 40 30	J0616-1338	07 46 41	20.6	203.2	1.5		14.1	-14	11014	No stop
13 47 00	---	07 53 12	20.2	204.9	1.6		15.1	376	11064	13 40 31
13 47 30	J0618-1418	07 53 42	19.6	204.4	1.6		14.8	16	11064	13 47 30
13 49 00	=0615-142	07 55 12	19.5	204.7	1.6		15.0	90	11076	13 47 31
13 52 00	J0905+1541	07 58 13	50.2	153.7	-1.1		-16.0	51	11076	13 52 00
13 53 00	=0902+158	07 59 13	50.2	154.1	-1.1		-15.8	60	11084	13 52 01
13 53 00	J0901+1615	07 59 13	51.0	155.3	-1.1		-15.1	-15	11084	No stop
13 59 30	---	08 05 44	51.4	157.7	-1.0		-13.7	375	11134	13 53 01
14 00 00	J0905+1541	08 06 14	50.7	156.7	-1.0		-14.3	15	11134	14 00 00
14 01 30	=0902+158	08 07 44	50.8	157.2	-1.0		-14.0	90	11145	14 00 01
14 01 30	J0901+1615	08 07 44	51.5	158.5	-0.9		-13.3	-15	11145	No stop
14 08 00	---	08 14 15	51.9	160.9	-0.8		-11.8	375	11196	14 01 31
14 08 30	J0905+1541	08 14 45	51.1	159.8	-0.9		-12.4	15	11196	14 08 30
14 10 00	=0902+158	08 16 16	51.2	160.4	-0.8		-12.1	90	11207	14 08 31
14 10 00	J0901+1615	08 16 16	52.0	161.7	-0.8		-11.3	-15	11207	No stop
14 16 30	---	08 22 47	52.2	164.2	-0.7		-9.8	375	11257	14 10 01
14 17 00	J0905+1541	08 23 17	51.6	163.0	-0.7		-10.5	15	11257	14 17 00
14 18 30	=0902+158	08 24 47	51.6	163.6	-0.7		-10.1	90	11269	14 17 01

Schedule for TORUN (Code Tr) Page 28
EG119A

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Sat 4 Jun 2022 Day 155 ---										
14 18 30	J0901+1615	08 24 47	52.3	165.0	-0.6		-9.3	-16	11269	No stop
14 25 00	---	08 31 18	52.6	167.5	-0.5		-7.8	374	11319	14 18 31
14 25 30	J0905+1541	08 31 48	51.9	166.3	-0.6		-8.5	15	11319	14 25 30
14 27 00	=0902+158	08 33 19	51.9	166.9	-0.6		-8.1	90	11331	14 25 31
14 29 00	J1036+2203	08 35 19	51.1	131.2	-2.0		-29.1	33	11331	14 29 00
14 30 00	=1033+223	08 36 19	51.2	131.6	-2.0		-29.0	60	11339	14 29 01
14 30 00	J1034+2033	08 36 19	50.1	133.4	-2.0		-27.7	-17	11339	No stop
14 36 30	---	08 42 50	50.8	135.5	-1.9		-26.7	373	11389	14 30 01
14 37 00	J1036+2203	08 43 20	52.0	133.9	-1.9		-27.8	13	11389	14 37 00
14 38 30	=1033+223	08 44 50	52.1	134.4	-1.9		-27.6	90	11400	14 37 01
14 38 30	J1034+2033	08 44 50	51.0	136.2	-1.8		-26.3	-17	11400	No stop
14 45 00	---	08 51 21	51.7	138.4	-1.7		-25.2	373	11451	14 38 31
14 45 30	J1036+2203	08 51 52	52.9	136.8	-1.8		-26.3	13	11451	14 45 30
14 47 00	=1033+223	08 53 22	53.0	137.3	-1.7		-26.1	90	11462	14 45 31
14 47 00	J1034+2033	08 53 22	51.9	139.1	-1.7		-24.8	-17	11462	No stop
14 53 30	---	08 59 53	52.5	141.4	-1.6		-23.6	373	11513	14 47 01
14 54 00	J1036+2203	09 00 23	53.7	139.7	-1.6		-24.7	12	11513	14 54 00
14 55 30	=1033+223	09 01 53	53.9	140.3	-1.6		-24.4	90	11524	14 54 01
14 55 30	J1034+2033	09 01 53	52.7	142.1	-1.6		-23.2	-17	11524	No stop
15 02 00	---	09 08 24	53.3	144.4	-1.5		-21.9	373	11574	14 55 31
15 02 30	J1036+2203	09 08 54	54.5	142.8	-1.5		-23.0	12	11574	15 02 30
15 04 00	=1033+223	09 10 25	54.7	143.4	-1.5		-22.7	90	11586	15 02 31
15 08 00	J0746+2549	09 14 25	58.2	219.2	1.4		24.9	74	11586	15 08 00
15 09 00	=0743+259	09 15 25	58.1	219.5	1.5		25.1	60	11594	15 08 01
15 09 00	J0741+2520	09 15 25	57.3	220.9	1.5		25.8	-16	11594	No stop
15 15 30	---	09 21 57	56.6	223.3	1.6		27.1	374	11644	15 09 01
15 16 00	J0746+2549	09 22 27	57.4	222.2	1.6		26.6	14	11644	15 16 00
15 17 30	=0743+259	09 23 57	57.3	222.8	1.6		26.9	90	11656	15 16 01
15 17 30	J0741+2520	09 23 57	56.4	224.0	1.7		27.5	-16	11656	No stop
15 24 00	---	09 30 28	55.7	226.4	1.8		28.7	374	11706	15 17 31

Schedule for TORUN (Code Tr) Page 29

EG119A

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Sat 4 Jun 2022 Day 155 ---										
15 24 30	J0746+2549	09 30 58	56.6	225.3	1.7		28.3	14	11706	15 24 30
15 26 00	=0743+259	09 32 28	56.4	225.9	1.7		28.6	90	11717	15 24 31
15 26 00	J0741+2520	09 32 28	55.5	227.1	1.8		29.1	-16	11717	No stop
15 32 30	---	09 38 59	54.8	229.3	1.9		30.2	374	11768	15 26 01
15 33 00	J0746+2549	09 39 29	55.6	228.3	1.9		29.9	14	11768	15 33 00
15 34 30	=0743+259	09 41 00	55.5	228.9	1.9		30.1	90	11779	15 33 01
15 34 30	J0741+2520	09 41 00	54.5	230.0	2.0		30.6	-16	11779	No stop
15 41 00	---	09 47 31	53.8	232.1	2.1		31.6	374	11829	15 34 31
15 41 30	J0746+2549	09 48 01	54.6	231.2	2.0		31.3	14	11829	15 41 30
15 43 00	=0743+259	09 49 31	54.5	231.7	2.0		31.6	90	11841	15 41 31
15 44 00	J0749+1057	09 50 31	41.5	220.9	2.0		23.6	-3	11841	15 44 00
15 45 00	=0746+110	09 51 31	41.4	221.2	2.0		23.7	57	11849	15 44 01
15 45 00	J0747+1153	09 51 31	42.1	222.2	2.0		24.3	-15	11849	No stop
15 51 30	---	09 58 02	41.4	224.1	2.2		25.3	375	11899	15 45 01
15 52 00	J0749+1057	09 58 33	40.7	223.3	2.1		24.8	15	11899	15 52 00
15 53 30	=0746+110	10 00 03	40.5	223.7	2.2		25.0	90	11911	15 52 01
15 53 30	J0747+1153	10 00 03	41.2	224.7	2.2		25.6	-14	11911	No stop
16 00 00	---	10 06 34	40.5	226.6	2.3		26.5	376	11961	15 53 31
16 00 30	J0749+1057	10 07 04	39.8	225.7	2.3		26.0	15	11961	16 00 30
16 02 00	=0746+110	10 08 34	39.6	226.2	2.3		26.2	90	11972	16 00 31
16 02 00	J0747+1153	10 08 34	40.3	227.2	2.3		26.7	-14	11972	No stop
16 08 30	---	10 15 05	39.5	229.0	2.4		27.6	376	12023	16 02 01
16 09 00	J0749+1057	10 15 35	38.8	228.2	2.4		27.1	16	12023	16 09 00
16 10 30	=0746+110	10 17 06	38.7	228.6	2.4		27.3	90	12034	16 09 01
16 10 30	J0747+1153	10 17 06	39.3	229.6	2.5		27.9	-14	12034	No stop
16 17 00	---	10 23 37	38.5	231.4	2.6		28.7	376	12085	16 10 31
16 17 30	J0749+1057	10 24 07	37.8	230.5	2.6		28.2	16	12085	16 17 30
16 19 00	=0746+110	10 25 37	37.7	230.9	2.6		28.3	90	12096	16 17 31
16 22 00	J0905+1541	10 28 37	49.2	211.0	1.4		18.8	122	12096	16 22 00
16 23 00	=0902+158	10 29 38	49.1	211.4	1.4		19.0	60	12104	16 22 01

```
Schedule for TORUN     (Code Tr )                                Page  30
              EG119A
  UP:  D => Below limits;  H => Below horizon mask;  W => still slewing at end;  blank => Up.
  Early: Seconds between end of slew and start.   Dwell: On source seconds.
  Disk: GBytes recorded to this point.
  TPStart:  Recording start time.  Frequencies are LO sum (band edge).
  SYNC: Time correlator is expected to sync up.
-------------------------------------------------------------------------------------------
Start UT  Source               Start / Stop                 Early    Disk   TPStart
Stop UT                  LST      EL    AZ   HA  UP   ParA  Dwell   GBytes    SYNC
-------------------------------------------------------------------------------------------

 --- Sat   4 Jun 2022   Day 155 ---

16 23 00  J0901+1615   10 29 38  49.3 213.0  1.4      19.9   -17    12104   No stop
16 29 30  ---          10 36 09  48.8 215.3  1.6      21.2   373    12154   16 23 01

16 30 00  J0905+1541   10 36 39  48.6 213.8  1.5      20.3    14    12154   16 30 00
16 31 30  =0902+158    10 38 09  48.4 214.3  1.5      20.6    90    12166   16 30 01

16 31 30  J0901+1615   10 38 09  48.6 216.0  1.6      21.5   -17    12166   No stop
16 38 00  ---          10 44 40  48.0 218.1  1.7      22.7   373    12216   16 31 31

16 38 30  J0905+1541   10 45 10  47.8 216.7  1.6      21.9    14    12216   16 38 30
16 40 00  =0902+158    10 46 40  47.7 217.2  1.7      22.1    90    12227   16 38 31

16 40 00  J0901+1615   10 46 40  47.8 218.8  1.7      23.1   -17    12227   No stop
16 46 30  ---          10 53 11  47.2 220.9  1.8      24.2   373    12278   16 40 01

16 47 00  J0905+1541   10 53 42  47.0 219.5  1.8      23.4    14    12278   16 47 00
16 48 30  =0902+158    10 55 12  46.9 220.0  1.8      23.6    90    12289   16 47 01

16 48 30  J0901+1615   10 55 12  47.0 221.6  1.9      24.5   -17    12289   No stop
16 55 00  ---          11 01 43  46.3 223.6  2.0      25.6   373    12340   16 48 31

16 55 30  J0905+1541   11 02 13  46.2 222.2  1.9      24.8    14    12340   16 55 30
16 57 00  =0902+158    11 03 43  46.0 222.7  2.0      25.0    90    12351   16 55 31

16 57 30  J0901+1615   11 04 13  46.1 224.4  2.0      25.9    14    12351   16 57 30
17 00 00  ---          11 06 44  45.8 225.2  2.1      26.3   150    12370   16 57 31



SETUP FILE INFORMATION:
   NOTE: If DOPPLER, FREQ, or BW were used, see the individual scans for the final BBC settings.


 ======== Setup file: sess222.L1024

   Setup group:    8         Station: TORUN            Total bit rate:  1024
   Format: VDIF              Bits per sample: 2        Sample rate: 64.000
   Number of channels:  8    DBE type: DBBC_DDC        Speedup factor:   1.00

   Disk used to record data.
```

```
  1st LO=   2300.00   2300.00   2300.00   2300.00   2300.00   2300.00   2300.00   2300.00
  Net SB=         L         L         U         U         L         L         U         U
  IF SB =         L         L         L         L         L         L         L         L
  Pol.  =       RCP       LCP       RCP       LCP       RCP       LCP       RCP       LCP
  BBC   =         1         9         1         9         2        10         2        10
  BBC SB=         U         U         L         L         U         U         L         L
  IF    =        A1        B1        A1        B1        A1        B1        A1        B1

 The following frequency sets based on these setups were used.

  Frequency Set:   9  Setup file default.  Used with PCAL = off
  LO sum=   1626.49  1626.49  1626.49  1626.49  1690.49  1690.49  1690.49  1690.49
  BBC fr=    673.51   673.51   673.51   673.51   609.51   609.51   609.51   609.51
  Bandwd=     32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00
   Matching frequency sets:   9

  Track assignments are:
   track1=   1,  2,  3,  4,  5,  6,  7,  8
   barrel=roll_off



POSITIONS OF SOURCES USED IN RECORDING SCANS

  Source                          Source position (RA/Dec)                        Error
                      (B1950)             (J2000)             (Date)             (mas)

* J0616-1338        06 14 06.416607   * 06 16 24.000000     06 17 23.642808       0.00
                   -13 36 59.39185    *-13 38 06.00000     -13 38 37.56179        0.00

* J0741+2520        07 38 52.530581   * 07 41 55.000000     07 43 14.688627       0.00
                    25 27 34.87686    * 25 20 29.85000      25 17 25.97405        0.00

* J0747+1153        07 45 02.603737   * 07 47 49.000000     07 49 01.676299       0.00
                    12 01 21.24323    * 11 53 52.46000      11 50 35.30036        0.00

* J0901+1615        08 58 45.404418   * 09 01 33.000000     09 02 46.538982       0.00
                    16 26 55.83629    * 16 15 06.83000      16 09 56.26542        0.00

* J1034+2033        10 31 35.899198   * 10 34 19.000000     10 35 31.109105       0.00
                    20 48 30.80135    * 20 33 00.21000      20 26 13.18602        0.00

* J1614+4640        16 12 54.691308   * 16 14 25.000000     16 15 07.083705       0.00
                    46 47 57.23162    * 46 40 28.94000      46 37 08.38057        0.00

* J2239+0030        22 36 34.376408   * 22 39 08.000000     22 40 16.079280       0.00
                    00 14 44.12942    * 00 30 22.60000      00 37 15.03683        0.00

* J2245+0024        22 42 50.326361   * 22 45 24.000000     22 46 32.067511       0.00
                    00 08 26.26877    * 00 24 14.00000      00 31 10.61581        0.00

* J2344+1653        23 42 01.692301   * 23 44 34.000000     23 45 41.099248       0.00
                    16 36 37.06573    * 16 53 16.47000      17 00 30.98645        0.00

  0902+158          09 02 42.218193   * 09 05 29.090702     09 06 42.332407       0.45
* J0905+1541        15 53 59.59515    * 15 41 58.51730      15 36 42.47350        0.66
                    rfc_2021a Petrov and Kovalev, in preparation  36 observations. No flux informati

  2237+012          22 37 07.489172   * 22 39 40.717316     22 40 48.616744       1.45
* J2239+0128        01 13 13.79439    * 01 28 53.09884      01 35 45.56763        2.23
                    rfc_2021a Petrov and Kovalev, in preparation  36 observations. No flux informati
```

```
  2345+168          23 45 23.004044   * 23 47 55.584753     23 49 02.785730       0.54
* J2347+1709        16 53 16.00859    * 17 09 56.37261      17 17 11.27231        0.78
                    rfc_2021a Petrov and Kovalev, in preparation  36 observations

  0615-142          06 15 52.580312   * 06 18 09.336634     06 19 08.611808       0.10
* J0618-1418       -14 17 32.22094    *-14 18 46.51695     -14 19 21.57509        0.25
                    /home/guest/rmc/SCHED/sched11.6/catalogs/sources.gsfc
                    GSFC 2016a X/S astro solution,     53 observations.

  0642+449          06 42 53.021446   * 06 46 32.025993     06 48 07.336259       0.00
* J0646+4451        44 54 30.82738    * 44 51 16.59012      44 49 55.63760        0.00
  J0646+44          /home/guest/rmc/SCHED/sched11.6/catalogs/sources.gsfc
                    GSFC 2016a X/S astro solution, 155842 observations.

  0743+259          07 43 23.059889   * 07 46 25.874178     07 47 45.729759       0.00
* J0746+2549        25 56 24.93991    * 25 49 02.13473      25 45 50.60280        0.01
  J0746+25          /home/guest/rmc/SCHED/sched11.6/catalogs/sources.gsfc
                    GSFC 2016a X/S astro solution,  31302 observations.

  0746+110          07 46 42.049332   * 07 49 27.385344     07 50 39.601329       0.21
* J0749+1057        11 05 08.34451    * 10 57 33.12684      10 54 12.92483        0.34
                    /home/guest/rmc/SCHED/sched11.6/catalogs/sources.gsfc
                    GSFC 2016a X/S astro solution,     84 observations.

  1033+223          10 33 49.376039   * 10 36 32.980691     10 37 45.328223       0.09
* J1036+2203        22 18 46.35811    * 22 03 12.20516      21 56 24.10115        0.14
                    /home/guest/rmc/SCHED/sched11.6/catalogs/sources.gsfc
                    GSFC 2016a X/S astro solution,    145 observations.

  1614+466          16 14 33.383824   * 16 16 03.766742     16 16 45.877633       0.15
* J1616+4632        46 39 47.08724    * 46 32 25.23989      46 29 07.41441        0.14
                    /home/guest/rmc/SCHED/sched11.6/catalogs/sources.gsfc
                    GSFC 2016a X/S astro solution,    146 observations.

  3C345             16 41 17.606229   * 16 42 58.809967     16 43 45.461248       0.79
* J1642+3948        39 54 10.81492    * 39 48 36.99399      39 46 05.14546        0.59
  1641+399          /home/guest/rmc/SCHED/sched11.6/catalogs/sources.gsfc
  J1642+39          GSFC 2016a X/S astro solution,  53724 observations.

  2244-002          22 44 56.371283   * 22 47 30.195992     22 48 38.319697       0.06
* J2247+0000       -00 15 44.21888    * 00 00 06.46238      00 07 04.53965        0.13
                    /home/guest/rmc/SCHED/sched11.6/catalogs/sources.gsfc
                    GSFC 2016a X/S astro solution,    158 observations.

  3C454.3           22 51 29.519739   * 22 53 57.747939     22 55 03.322873       0.65
* J2253+1608        15 52 54.34808    * 16 08 53.56091      16 15 49.98020        0.73
  2251+158          /home/guest/rmc/SCHED/sched11.6/catalogs/sources.gsfc
  J2253+16          GSFC 2016a X/S astro solution,  41272 observations.


EFFECT OF SOLAR CORONA

  The solar corona can cause unstable phases for sources too close to the Sun.
  SCHED provides warnings at individual scans for distances less than 10 degrees.
  The distance from the Sun to each source in this schedule is:
   Source         Sun distance (deg)
  J0616-1338          42.1
  J0741+2520          39.9
  J0747+1153          44.3
  J0901+1615          60.0
  J1034+2033          79.5
  J1614+4640         110.6
```

```
 J2239+0030          91.6
 J2245+0024          90.2
 J2344+1653          70.7
 J0905+1541          61.0
 J2239+0128          91.1
 J2347+1709          69.8
 J0618-1418          42.9
 J0646+4451          33.2
 J0746+2549          40.9
 J0749+1057          45.0
 J1036+2203          79.5
 J1616+4632         110.7
 J1642+3948         117.8
 J2247+0000          89.9
 J2253+1608          82.4

Barry Clark estimates from predictions by Ketan Desai of IPM scattering sizes
that the Sun will cause amplitude reductions on the  longest VLBA baselines
at a solar distance of 60deg F^(-0.6) where F is in GHz.
For common VLBI bands, this is:
     1.6 GHz         45. deg
     2.3 GHz         36. deg
     5.0 GHz         23. deg
     8.4 GHz         17. deg
    15.0 GHz         12. deg
    22.0 GHz          9. deg
```

gm081ctr

Radio AGN feedback

PI: *Suma Murthy*

```
Address:  JIVE

Observing mode: vlbi

Schedule for TORUN     (Code Tr )                                  Page   2
               Radio AGN feedback
  UP:  D => Below limits;  H => Below horizon mask;  W => still slewing at end;  blank => Up.
  Early: Seconds between end of slew and start.   Dwell: On source seconds.
  Disk: GBytes recorded to this point.
  TPStart:  Recording start time.  Frequencies are LO sum (band edge).
  SYNC: Time correlator is expected to sync up.
-----------------------------------------------------------------------------------------
Start UT  Source               Start / Stop                 Early    Disk   TPStart
Stop UT                  LST      EL    AZ   HA  UP   ParA  Dwell   GBytes    SYNC
-----------------------------------------------------------------------------------------
 --- Sat   4 Jun 2022   Day 155 ---
 Next scan frequencies:  1267.25  1267.25  1267.25  1267.25  1283.25  1283.25  1283.25  1283.25
                         1299.25  1299.25  1299.25  1299.25  1315.25  1315.25  1315.25  1315.25
 Next BBC frequencies:    832.75   832.75   832.75   832.75   816.75   816.75   816.75   816.75
                          800.75   800.75   800.75   800.75   784.75   784.75   784.75   784.75
 Next scan bandwidths:      8.00     8.00     8.00     8.00     8.00     8.00     8.00     8.00
                            8.00     8.00     8.00     8.00     8.00     8.00     8.00     8.00

19 00 00  J1638+5720   13 07 03  60.3  60.4 -3.5     -75.1     0        0   19 00 00
19 05 00  =1637+574    13 12 04  60.9  60.8 -3.4     -75.9   300       19   19 00 01

19 07 00  J1642+2523   13 14 05  42.3 104.4 -3.5     -40.1    18       19   19 07 00
19 10 00  ---          13 17 05  42.8 105.1 -3.4     -39.9   180       31   19 07 01

19 10 00  J1638+2754   13 17 05  45.3 103.8 -3.4     -41.3   -23       31   No stop
19 15 00  ---          13 22 06  46.0 105.0 -3.3     -41.0   277       50   19 10 01

19 15 30  J1642+2523   13 22 36  43.6 106.4 -3.4     -39.6     7       50   19 15 30
19 17 00  ---          13 24 06  43.8 106.8 -3.3     -39.5    90       56   19 15 31

19 17 00  J1638+2754   13 24 06  46.3 105.5 -3.3     -40.9   -23       56   No stop
19 22 00  ---          13 29 07  47.0 106.7 -3.2     -40.6   277       75   19 17 01

19 22 30  J1642+2523   13 29 37  44.6 108.1 -3.2     -39.2     7       75   19 22 30
19 24 00  ---          13 31 07  44.8 108.5 -3.2     -39.1    90       81   19 22 31

19 24 00  J1638+2754   13 31 07  47.3 107.2 -3.1     -40.5   -23       81   No stop
19 29 00  ---          13 36 08  48.0 108.4 -3.1     -40.1   277      100   19 24 01

19 29 30  J1642+2523   13 36 38  45.6 109.9 -3.1     -38.7     7      100   19 29 30
19 31 00  ---          13 38 08  45.8 110.3 -3.1     -38.6    90      106   19 29 31

19 31 00  J1638+2754   13 38 08  48.3 108.9 -3.0     -40.0   -23      106   No stop
19 36 00  ---          13 43 09  49.0 110.2 -2.9     -39.6   277      126   19 31 01

19 36 30  J1642+2523   13 43 39  46.6 111.7 -3.0     -38.1     7      126   19 36 30
19 38 00  ---          13 45 10  46.8 112.1 -3.0     -38.0    90      131   19 36 31

19 38 00  J1638+2754   13 45 10  49.3 110.7 -2.9     -39.4   -24      131   No stop
19 43 00  ---          13 50 10  50.0 112.1 -2.8     -39.0   276      151   19 38 01

19 43 30  J1642+2523   13 50 41  47.5 113.5 -2.9     -37.5     7      151   19 43 30
19 45 00  ---          13 52 11  47.7 113.9 -2.9     -37.4    90      157   19 43 31
```

19 45 00	J1638+2754	13 52 11	50.3	112.6	-2.8	-38.8	-24	157	No stop
19 50 00	---	13 57 12	51.0	114.0	-2.7	-38.4	276	176	19 45 01

Schedule for TORUN (Code Tr) Page 3

Radio AGN feedback

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Sat 4 Jun 2022 Day 155 ---										
19 50 30	J1642+2523	13 57 42	48.5	115.4	-2.8		-36.9	7	176	19 50 30
19 52 00	---	13 59 12	48.7	115.8	-2.7		-36.7	90	182	19 50 31
19 52 00	J1638+2754	13 59 12	51.2	114.5	-2.7		-38.2	-24	182	No stop
19 57 00	---	14 04 13	51.9	115.9	-2.6		-37.7	276	201	19 52 01
19 57 30	J1642+2523	14 04 43	49.4	117.4	-2.6		-36.2	7	201	19 57 30
19 59 00	---	14 06 13	49.6	117.8	-2.6		-36.0	90	207	19 57 31
19 59 00	J1638+2754	14 06 13	52.2	116.5	-2.6		-37.4	-24	207	No stop
20 04 00	---	14 11 14	52.9	118.0	-2.5		-36.9	276	226	19 59 01
20 04 30	J1642+2523	14 11 44	50.4	119.4	-2.5		-35.4	7	226	20 04 30
20 06 00	---	14 13 14	50.6	119.8	-2.5		-35.2	90	232	20 04 31
20 06 00	J1638+2754	14 13 14	53.1	118.5	-2.4		-36.6	-24	232	No stop
20 11 00	---	14 18 15	53.8	120.0	-2.4		-36.0	276	251	20 06 01
20 11 30	J1642+2523	14 18 45	51.3	121.4	-2.4		-34.5	7	251	20 11 30
20 13 00	---	14 20 15	51.5	121.9	-2.4		-34.4	90	257	20 11 31
20 13 00	J1638+2754	14 20 15	54.0	120.7	-2.3		-35.8	-24	257	No stop
20 18 00	---	14 25 16	54.7	122.2	-2.2		-35.1	276	276	20 13 01
20 18 30	J1642+2523	14 25 46	52.2	123.5	-2.3		-33.6	7	276	20 18 30
20 20 00	---	14 27 17	52.3	124.0	-2.3		-33.4	90	282	20 18 31
20 20 00	J1638+2754	14 27 17	54.9	122.8	-2.2		-34.8	-24	282	No stop
20 25 00	---	14 32 17	55.6	124.4	-2.1		-34.1	276	301	20 20 01
20 25 30	J1642+2523	14 32 47	53.0	125.7	-2.2		-32.6	7	301	20 25 30
20 27 00	---	14 34 18	53.2	126.2	-2.2		-32.4	90	307	20 25 31
20 27 00	J1638+2754	14 34 18	55.8	125.1	-2.1		-33.8	-24	307	No stop
20 32 00	---	14 39 18	56.4	126.8	-2.0		-33.0	276	327	20 27 01
20 32 30	J1642+2523	14 39 49	53.9	128.0	-2.1		-31.6	6	327	20 32 30
20 34 00	---	14 41 19	54.0	128.5	-2.0		-31.3	90	332	20 32 31
20 34 00	J1638+2754	14 41 19	56.7	127.4	-2.0		-32.6	-24	332	No stop
20 39 00	---	14 46 20	57.2	129.1	-1.9		-31.8	276	352	20 34 01
20 39 30	J1642+2523	14 46 50	54.7	130.3	-1.9		-30.4	6	352	20 39 30
20 41 00	---	14 48 20	54.9	130.8	-1.9		-30.2	90	357	20 39 31

```
Schedule for TORUN     (Code Tr )                                  Page   4
               Radio AGN feedback
  UP:  D => Below limits;  H => Below horizon mask;  W => still slewing at end;  blank => Up.
  Early: Seconds between end of slew and start.   Dwell: On source seconds.
  Disk: GBytes recorded to this point.
  TPStart:  Recording start time.  Frequencies are LO sum (band edge).
  SYNC: Time correlator is expected to sync up.
-----------------------------------------------------------------------------------------
Start UT  Source               Start / Stop                 Early    Disk   TPStart
Stop UT                  LST      EL    AZ   HA  UP   ParA  Dwell   GBytes    SYNC
-----------------------------------------------------------------------------------------

 --- Sat   4 Jun 2022   Day 155 ---

20 41 00  J1638+2754   14 48 20  57.5 129.8 -1.9     -31.4   -24      357   No stop
20 46 00  ---          14 53 21  58.1 131.6 -1.8     -30.5   276      377   20 41 01

20 46 30  J1642+2523   14 53 51  55.5 132.7 -1.8     -29.2     6      377   20 46 30
20 48 00  ---          14 55 21  55.6 133.2 -1.8     -29.0    90      383   20 46 31

20 48 00  J1638+2754   14 55 21  58.3 132.4 -1.7     -30.1   -24      383   No stop
20 53 00  ---          15 00 22  58.8 134.2 -1.7     -29.1   276      402   20 48 01

20 53 30  J1642+2523   15 00 52  56.2 135.2 -1.7     -27.9     6      402   20 53 30
20 55 00  ---          15 02 22  56.4 135.7 -1.7     -27.6    90      408   20 53 31

20 55 00  J1638+2754   15 02 22  59.0 135.0 -1.6     -28.7   -24      408   No stop
21 00 00  ---          15 07 23  59.6 136.9 -1.5     -27.7   276      427   20 55 01

21 00 30  J1642+2523   15 07 53  57.0 137.7 -1.6     -26.5     6      427   21 00 30
21 02 00  ---          15 09 23  57.1 138.3 -1.6     -26.2    90      433   21 00 31

21 02 00  J1638+2754   15 09 23  59.8 137.6 -1.5     -27.2   -24      433   No stop
21 07 00  ---          15 14 24  60.3 139.6 -1.4     -26.1   276      452   21 02 01

21 07 30  J1642+2523   15 14 54  57.7 140.4 -1.5     -25.1     6      452   21 07 30
21 09 00  ---          15 16 25  57.8 141.0 -1.5     -24.7    90      458   21 07 31

21 09 00  J1638+2754   15 16 25  60.5 140.4 -1.4     -25.6   -24      458   No stop
21 14 00  ---          15 21 25  60.9 142.5 -1.3     -24.4   276      477   21 09 01

21 14 30  J1642+2523   15 21 55  58.3 143.1 -1.4     -23.5     6      477   21 14 30
21 16 00  ---          15 23 26  58.4 143.7 -1.3     -23.2    90      483   21 14 31

21 16 00  J1638+2754   15 23 26  61.1 143.3 -1.3     -23.9   -24      483   No stop
21 21 00  ---          15 28 27  61.5 145.4 -1.2     -22.7   276      502   21 16 01

21 21 30  J1642+2523   15 28 57  58.9 145.9 -1.2     -21.9     6      502   21 21 30
21 23 00  ---          15 30 27  59.0 146.5 -1.2     -21.5    90      508   21 21 31

21 23 00  J1638+2754   15 30 27  61.7 146.3 -1.2     -22.1   -24      508   No stop
21 28 00  ---          15 35 28  62.1 148.5 -1.1     -20.8   276      528   21 23 01

21 28 30  J1642+2523   15 35 58  59.5 148.8 -1.1     -20.1     6      528   21 28 30
21 30 00  ---          15 37 28  59.6 149.4 -1.1     -19.7    90      533   21 28 31

21 30 00  J1638+2754   15 37 28  62.3 149.4 -1.0     -20.2   -24      533   No stop
21 35 00  ---          15 42 29  62.6 151.6 -1.0     -18.8   276      553   21 30 01
```

Schedule for TORUN (Code Tr) Page 5

Radio AGN feedback

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Sat 4 Jun 2022 Day 155 ---										
21 35 30	J1642+2523	15 42 59	60.0	151.8	-1.0		-18.3	6	553	21 35 30
21 37 00	---	15 44 29	60.1	152.4	-1.0		-17.9	90	558	21 35 31
21 37 00	J1638+2754	15 44 29	62.8	152.6	-0.9		-18.2	-24	558	No stop
21 42 00	---	15 49 30	63.1	154.9	-0.8		-16.8	276	578	21 37 01
21 42 30	J1642+2523	15 50 00	60.5	154.8	-0.9		-16.4	6	578	21 42 30
21 44 00	---	15 51 30	60.6	155.5	-0.9		-16.0	90	584	21 42 31
21 44 00	J1638+2754	15 51 30	63.2	155.8	-0.8		-16.2	-24	584	No stop
21 49 00	---	15 56 31	63.5	158.2	-0.7		-14.6	276	603	21 44 01
21 49 30	J1642+2523	15 57 01	60.9	158.0	-0.8		-14.4	6	603	21 49 30
21 51 00	---	15 58 31	61.0	158.6	-0.8		-14.0	90	609	21 49 31
21 51 00	J1638+2754	15 58 31	63.6	159.2	-0.7		-14.0	-24	609	No stop
21 56 00	---	16 03 32	63.9	161.6	-0.6		-12.4	276	628	21 51 01
21 56 30	J1642+2523	16 04 02	61.3	161.2	-0.7		-12.4	6	628	21 56 30
21 58 00	---	16 05 33	61.3	161.8	-0.6		-11.9	90	634	21 56 31
22 00 00	J1638+5720	16 07 33	83.9	43.5	-0.5		-130.1	-135	634	22 00 00
22 05 00	=1637+574	16 12 34	84.4	38.9	-0.4		-135.7	165	653	22 00 01
22 07 00	J1642+2523	16 14 34	61.7	166.0	-0.5		-9.2	-151	653	22 07 00
22 10 00	---	16 17 35	61.8	167.5	-0.4		-8.3	29	665	22 07 01
22 10 00	J1638+2754	16 17 35	64.4	168.6	-0.4		-7.7	-24	665	No stop
22 15 00	---	16 22 35	64.6	171.2	-0.3		-6.0	276	684	22 10 01
22 15 30	J1642+2523	16 23 06	62.0	170.1	-0.3		-6.6	6	684	22 15 30
22 17 00	---	16 24 36	62.0	170.8	-0.3		-6.1	90	690	22 15 31
22 17 00	J1638+2754	16 24 36	64.6	172.2	-0.3		-5.3	-24	690	No stop
22 22 00	---	16 29 37	64.7	174.8	-0.2		-3.5	276	709	22 17 01
22 22 30	J1642+2523	16 30 07	62.1	173.5	-0.2		-4.3	6	709	22 22 30
22 24 00	---	16 31 37	62.2	174.2	-0.2		-3.9	90	715	22 22 31
22 24 00	J1638+2754	16 31 37	64.7	175.8	-0.1		-2.8	-24	715	No stop
22 29 00	---	16 36 38	64.8	178.4	-0.1		-1.1	276	734	22 24 01
22 29 30	J1642+2523	16 37 08	62.2	176.9	-0.1		-2.1	7	734	22 29 30
22 31 00	---	16 38 38	62.2	177.6	-0.1		-1.6	90	740	22 29 31

Schedule for TORUN (Code Tr) Page 6

Radio AGN feedback

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT	Source	Start / Stop						Early	Disk	TPStart
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC
--- Sat 4 Jun 2022 Day 155 ---										
22 31 00	J1638+2754	16 38 38	64.8	179.5	-0.0		-0.4	-23	740	No stop
22 36 00	---	16 43 39	64.8	182.1	0.1		1.4	277	759	22 31 01
22 36 30	J1642+2523	16 44 09	62.2	180.3	0.0		0.2	7	759	22 36 30
22 38 00	---	16 45 39	62.2	181.0	0.0		0.7	90	765	22 36 31
22 38 00	J1638+2754	16 45 39	64.7	183.1	0.1		2.1	-23	765	No stop
22 43 00	---	16 50 40	64.7	185.7	0.2		3.9	277	785	22 38 01
22 43 30	J1642+2523	16 51 10	62.2	183.7	0.1		2.4	7	785	22 43 30
22 45 00	---	16 52 40	62.2	184.4	0.2		2.9	90	790	22 43 31
22 45 00	J1638+2754	16 52 40	64.7	186.7	0.2		4.6	-23	790	No stop
22 50 00	---	16 57 41	64.6	189.3	0.3		6.3	277	810	22 45 01
22 50 30	J1642+2523	16 58 11	62.1	187.1	0.2		4.7	7	810	22 50 30
22 52 00	---	16 59 41	62.1	187.8	0.3		5.2	90	815	22 50 31
22 52 00	J1638+2754	16 59 41	64.5	190.3	0.3		7.0	-23	815	No stop
22 57 00	---	17 04 42	64.3	192.9	0.4		8.7	277	835	22 52 01
22 57 30	J1642+2523	17 05 12	62.0	190.4	0.4		6.9	7	835	22 57 30
22 59 00	---	17 06 43	61.9	191.1	0.4		7.4	90	841	22 57 31
22 59 00	J1638+2754	17 06 43	64.3	193.9	0.5		9.4	-23	841	No stop
23 04 00	---	17 11 43	64.1	196.4	0.5		11.0	277	860	22 59 01
23 04 30	J1642+2523	17 12 14	61.7	193.7	0.5		9.1	7	860	23 04 30
23 06 00	---	17 13 44	61.7	194.5	0.5		9.5	90	866	23 04 31
23 06 00	J1638+2754	17 13 44	64.0	197.4	0.6		11.7	-23	866	No stop
23 11 00	---	17 18 45	63.8	199.8	0.7		13.3	277	885	23 06 01
23 11 30	J1642+2523	17 19 15	61.5	197.0	0.6		11.2	8	885	23 11 30
23 13 00	---	17 20 45	61.4	197.7	0.6		11.7	90	891	23 11 31
23 13 00	J1638+2754	17 20 45	63.7	200.8	0.7		14.0	-22	891	No stop
23 18 00	---	17 25 46	63.4	203.2	0.8		15.5	278	910	23 13 01
23 18 30	J1642+2523	17 26 16	61.1	200.3	0.7		13.3	8	910	23 18 30
23 20 00	---	17 27 46	61.0	200.9	0.7		13.7	90	916	23 18 31
23 20 00	J1638+2754	17 27 46	63.2	204.2	0.8		16.1	-22	916	No stop
23 25 00	---	17 32 47	62.9	206.5	0.9		17.6	278	935	23 20 01

Schedule for TORUN (Code Tr) Page 7

Radio AGN feedback

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Sat 4 Jun 2022 Day 155 ---										
23 25 30	J1642+2523	17 33 17	60.7	203.4	0.8		15.3	8	935	23 25 30
23 27 00	---	17 34 47	60.6	204.1	0.9		15.7	90	941	23 25 31
23 27 00	J1638+2754	17 34 47	62.8	207.4	0.9		18.2	-22	941	No stop
23 32 00	---	17 39 48	62.4	209.7	1.0		19.7	278	960	23 27 01
23 32 30	J1642+2523	17 40 18	60.3	206.5	0.9		17.3	8	960	23 32 30
23 34 00	---	17 41 48	60.2	207.2	1.0		17.7	90	966	23 32 31
23 34 00	J1638+2754	17 41 48	62.3	210.6	1.0		20.2	-22	966	No stop
23 39 00	---	17 46 49	61.9	212.8	1.1		21.6	278	985	23 34 01
23 39 30	J1642+2523	17 47 19	59.8	209.5	1.1		19.1	8	985	23 39 30
23 41 00	---	17 48 50	59.7	210.2	1.1		19.5	90	991	23 39 31
23 41 00	J1638+2754	17 48 50	61.7	213.7	1.2		22.1	-22	991	No stop
23 46 00	---	17 53 50	61.3	215.8	1.2		23.4	278	1011	23 41 01
23 46 30	J1642+2523	17 54 20	59.2	212.5	1.2		20.9	8	1011	23 46 30
23 48 00	---	17 55 51	59.1	213.1	1.2		21.3	90	1016	23 46 31
23 48 00	J1638+2754	17 55 51	61.1	216.7	1.3		23.9	-22	1016	No stop
23 53 00	---	18 00 52	60.7	218.7	1.4		25.2	278	1036	23 48 01
23 53 30	J1642+2523	18 01 22	58.7	215.3	1.3		22.6	8	1036	23 53 30
23 55 00	---	18 02 52	58.5	215.9	1.3		22.9	90	1042	23 53 31
23 55 00	J1638+2754	18 02 52	60.5	219.5	1.4		25.6	-22	1042	No stop
23 59 59	---	18 07 53	60.0	221.6	1.5		26.8	277	1061	23 55 01
--- Sun 5 Jun 2022 Day 156 ---										
00 00 30	J1642+2523	18 08 23	58.0	218.1	1.4		24.2	8	1061	00 00 30
00 02 00	---	18 09 53	57.9	218.7	1.4		24.5	90	1067	00 00 31
00 02 00	J1638+2754	18 09 53	59.8	222.3	1.5		27.2	-22	1067	No stop
00 07 00	---	18 14 54	59.3	224.3	1.6		28.3	278	1086	00 02 01
00 07 30	J1642+2523	18 15 24	57.4	220.8	1.5		25.7	8	1086	00 07 30
00 09 00	---	18 16 54	57.2	221.3	1.6		26.0	90	1092	00 07 31
00 09 00	J1638+2754	18 16 54	59.0	225.0	1.6		28.7	-22	1092	No stop
00 14 00	---	18 21 55	58.5	226.9	1.7		29.7	278	1111	00 09 01

Schedule for TORUN (Code Tr) Page 8

Radio AGN feedback

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Sun 5 Jun 2022 Day 156 ---										
00 14 30	J1642+2523	18 22 25	56.6	223.4	1.6		27.2	8	1111	00 14 30
00 16 00	---	18 23 55	56.5	223.9	1.7		27.5	90	1117	00 14 31
00 16 00	J1638+2754	18 23 55	58.3	227.6	1.7		30.1	-22	1117	No stop
00 21 00	---	18 28 56	57.7	229.4	1.8		31.1	278	1136	00 16 01
00 21 30	J1642+2523	18 29 26	55.9	225.9	1.8		28.5	8	1136	00 21 30
00 23 00	---	18 30 56	55.7	226.4	1.8		28.8	90	1142	00 21 31
00 23 00	J1638+2754	18 30 56	57.5	230.1	1.9		31.4	-22	1142	No stop
00 28 00	---	18 35 57	56.9	231.9	1.9		32.3	278	1161	00 23 01
00 28 30	J1642+2523	18 36 27	55.1	228.4	1.9		29.8	8	1161	00 28 30
00 30 00	---	18 37 58	55.0	228.9	1.9		30.0	90	1167	00 28 31
00 30 00	J1638+2754	18 37 58	56.7	232.6	2.0		32.6	-22	1167	No stop
00 35 00	---	18 42 58	56.1	234.2	2.1		33.4	278	1186	00 30 01
00 35 30	J1642+2523	18 43 28	54.3	230.7	2.0		31.0	8	1186	00 35 30
00 37 00	---	18 44 59	54.2	231.2	2.0		31.2	90	1192	00 35 31
00 37 00	J1638+2754	18 44 59	55.8	234.9	2.1		33.8	-22	1192	No stop
00 42 00	---	18 50 00	55.2	236.5	2.2		34.5	278	1212	00 37 01
00 42 30	J1642+2523	18 50 30	53.5	233.0	2.1		32.1	8	1212	00 42 30
00 44 00	---	18 52 00	53.3	233.5	2.1		32.3	90	1217	00 42 31
00 44 00	J1638+2754	18 52 00	54.9	237.1	2.2		34.8	-22	1217	No stop
00 49 00	---	18 57 01	54.3	238.7	2.3		35.5	278	1237	00 44 01
00 49 30	J1642+2523	18 57 31	52.7	235.3	2.2		33.1	8	1237	00 49 30
00 51 00	---	18 59 01	52.5	235.7	2.3		33.3	90	1242	00 49 31
00 51 00	J1638+2754	18 59 01	54.0	239.3	2.3		35.7	-22	1242	No stop
00 56 00	---	19 04 02	53.4	240.8	2.4		36.4	278	1262	00 51 01
00 56 30	J1642+2523	19 04 32	51.8	237.4	2.3		34.0	8	1262	00 56 30
00 58 00	---	19 06 02	51.6	237.9	2.4		34.2	90	1268	00 56 31
00 58 00	J1638+2754	19 06 02	53.1	241.4	2.4		36.6	-22	1268	No stop
01 03 00	---	19 11 03	52.5	242.9	2.5		37.2	278	1287	00 58 01
01 03 30	J1642+2523	19 11 33	50.9	239.5	2.5		34.9	8	1287	01 03 30
01 05 00	---	19 13 03	50.7	239.9	2.5		35.1	90	1293	01 03 31

Schedule for TORUN (Code Tr) Page 9

Radio AGN feedback

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Sun 5 Jun 2022 Day 156 ---										
01 05 00	J1638+2754	19 13 03	52.2	243.5	2.6		37.4	-22	1293	No stop
01 10 00	---	19 18 04	51.5	244.9	2.6		38.0	278	1312	01 05 01
01 10 30	J1642+2523	19 18 34	50.0	241.5	2.6		35.7	8	1312	01 10 30
01 12 00	---	19 20 04	49.8	242.0	2.6		35.9	90	1318	01 10 31
01 12 00	J1638+2754	19 20 04	51.2	245.5	2.7		38.2	-22	1318	No stop
01 17 00	---	19 25 05	50.6	246.8	2.8		38.6	278	1337	01 12 01
01 17 30	J1642+2523	19 25 35	49.0	243.5	2.7		36.5	9	1337	01 17 30
01 19 00	---	19 27 06	48.8	243.9	2.7		36.6	90	1343	01 17 31
01 19 00	J1638+2754	19 27 06	50.3	247.4	2.8		38.8	-22	1343	No stop
01 22 30	---	19 30 36	49.8	248.3	2.8		39.1	188	1356	01 19 01
01 22 30	J1642+2523	19 30 36	48.3	244.9	2.8		37.0	-21	1356	No stop
01 24 00	---	19 32 06	48.1	245.3	2.8		37.1	69	1362	01 22 31
01 26 00	J1638+5720	19 34 07	65.1	297.4	2.9		80.8	1	1362	01 26 00
01 30 00	=1637+574	19 38 07	64.5	297.6	3.0		80.1	240	1378	01 26 01
01 32 00	J1642+2523	19 40 08	47.0	247.4	2.9		37.8	5	1378	01 32 00
01 35 00	---	19 43 08	46.6	248.2	3.0		38.1	180	1389	01 32 01
01 35 00	J1638+2754	19 43 08	48.0	251.6	3.1		40.1	-22	1389	No stop
01 40 00	---	19 48 09	47.3	252.8	3.1		40.5	278	1409	01 35 01
01 40 30	J1642+2523	19 48 39	45.8	249.6	3.1		38.5	9	1409	01 40 30
01 42 00	---	19 50 09	45.6	250.0	3.1		38.6	90	1414	01 40 31
01 42 00	J1638+2754	19 50 09	47.0	253.3	3.2		40.6	-21	1414	No stop
01 47 00	---	19 55 10	46.3	254.5	3.3		40.9	279	1434	01 42 01
01 47 30	J1642+2523	19 55 40	44.9	251.4	3.2		39.0	9	1434	01 47 30
01 49 00	---	19 57 11	44.6	251.7	3.2		39.1	90	1440	01 47 31
01 49 00	J1638+2754	19 57 11	46.0	255.0	3.3		41.0	-21	1440	No stop
01 54 00	---	20 02 11	45.3	256.2	3.4		41.3	279	1459	01 49 01
01 54 30	J1642+2523	20 02 41	43.9	253.1	3.3		39.5	9	1459	01 54 30
01 56 00	---	20 04 12	43.6	253.5	3.3		39.6	90	1465	01 54 31
01 56 00	J1638+2754	20 04 12	45.0	256.7	3.4		41.4	-21	1465	No stop
02 01 00	---	20 09 13	44.2	257.8	3.5		41.6	279	1484	01 56 01

Schedule for TORUN (Code Tr) Page 10

Radio AGN feedback

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	LST	Start / Stop EL	 AZ	 HA	 UP	 ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Sun 5 Jun 2022 Day 156 ---										
02 01 30	J1642+2523	20 09 43	42.8	254.8	3.4		39.9	9	1484	02 01 30
02 03 00	---	20 11 13	42.6	255.1	3.5		40.0	90	1490	02 01 31
02 03 00	J1638+2754	20 11 13	44.0	258.3	3.5		41.7	-21	1490	No stop
02 08 00	---	20 16 14	43.2	259.5	3.6		41.9	279	1509	02 03 01
02 08 30	J1642+2523	20 16 44	41.8	256.4	3.6		40.2	9	1509	02 08 30
02 10 00	---	20 18 14	41.6	256.8	3.6		40.3	90	1515	02 08 31
02 10 00	J1638+2754	20 18 14	42.9	259.9	3.6		42.0	-21	1515	No stop
02 15 00	---	20 23 15	42.2	261.0	3.7		42.1	279	1534	02 10 01
02 15 30	J1642+2523	20 23 45	40.8	258.0	3.7		40.5	9	1534	02 15 30
02 17 00	---	20 25 15	40.6	258.4	3.7		40.6	90	1540	02 15 31
02 17 00	J1638+2754	20 25 15	41.9	261.5	3.8		42.2	-21	1540	No stop
02 22 00	---	20 30 16	41.1	262.6	3.8		42.3	279	1559	02 17 01
02 22 30	J1642+2523	20 30 46	39.8	259.6	3.8		40.8	9	1559	02 22 30
02 24 00	---	20 32 16	39.5	259.9	3.8		40.9	90	1565	02 22 31
02 24 00	J1638+2754	20 32 16	40.8	263.0	3.9		42.4	-21	1565	No stop
02 29 00	---	20 37 17	40.1	264.1	4.0		42.5	279	1584	02 24 01
02 29 30	J1642+2523	20 37 47	38.7	261.1	3.9		41.0	10	1584	02 29 30
02 31 00	---	20 39 17	38.5	261.5	3.9		41.1	90	1590	02 29 31
02 31 00	J1638+2754	20 39 17	39.8	264.5	4.0		42.5	-21	1590	No stop
02 36 00	---	20 44 18	39.0	265.5	4.1		42.6	279	1610	02 31 01
02 36 30	J1642+2523	20 44 48	37.7	262.7	4.0		41.2	10	1610	02 36 30
02 38 00	---	20 46 19	37.5	263.0	4.0		41.3	90	1615	02 36 31
02 38 00	J1638+2754	20 46 19	38.7	266.0	4.1		42.7	-21	1615	No stop
02 43 00	---	20 51 19	38.0	267.0	4.2		42.7	279	1635	02 38 01
02 43 30	J1642+2523	20 51 50	36.6	264.2	4.1		41.4	10	1635	02 43 30
02 45 00	---	20 53 20	36.4	264.5	4.2		41.4	90	1641	02 43 31
02 45 00	J1638+2754	20 53 20	37.7	267.4	4.2		42.7	-20	1641	No stop
02 50 00	---	20 58 21	36.9	268.4	4.3		42.8	280	1660	02 45 01
02 50 30	J1642+2523	20 58 51	35.6	265.6	4.3		41.5	10	1660	02 50 30
02 52 00	---	21 00 21	35.4	265.9	4.3		41.5	90	1666	02 50 31

Schedule for TORUN (Code Tr) Page 11

Radio AGN feedback

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Sun 5 Jun 2022 Day 156 ---										
02 52 00	J1638+2754	21 00 21	36.6	268.8	4.3		42.8	-20	1666	No stop
02 57 00	---	21 05 22	35.9	269.9	4.4		42.8	280	1685	02 52 01
02 57 30	J1642+2523	21 05 52	34.5	267.1	4.4		41.6	10	1685	02 57 30
02 59 00	---	21 07 22	34.3	267.4	4.4		41.6	90	1691	02 57 31
02 59 00	J1638+2754	21 07 22	35.6	270.3	4.5		42.8	-20	1691	No stop
03 04 00	---	21 12 23	34.8	271.3	4.5		42.8	280	1710	02 59 01
03 04 30	J1642+2523	21 12 53	33.5	268.5	4.5		41.6	10	1710	03 04 30
03 06 00	---	21 14 23	33.2	268.8	4.5		41.6	90	1716	03 04 31
03 06 00	J1638+2754	21 14 23	34.5	271.6	4.6		42.8	-20	1716	No stop
03 11 00	---	21 19 24	33.8	272.6	4.7		42.7	280	1735	03 06 01
03 11 30	J1642+2523	21 19 54	32.4	269.9	4.6		41.6	10	1735	03 11 30
03 13 00	---	21 21 24	32.2	270.2	4.6		41.6	90	1741	03 11 31
03 13 00	J1638+2754	21 21 24	33.5	273.0	4.7		42.7	-20	1741	No stop
03 18 00	---	21 26 25	32.7	274.0	4.8		42.7	280	1760	03 13 01
03 18 30	J1642+2523	21 26 55	31.4	271.3	4.7		41.6	10	1760	03 18 30
03 20 00	---	21 28 26	31.1	271.6	4.7		41.6	90	1766	03 18 31
03 20 00	J1638+2754	21 28 26	32.4	274.4	4.8		42.6	-20	1766	No stop
03 25 00	---	21 33 26	31.7	275.3	4.9		42.6	280	1785	03 20 01
03 25 30	J1642+2523	21 33 56	30.3	272.7	4.8		41.6	10	1785	03 25 30
03 27 00	---	21 35 27	30.1	273.0	4.9		41.6	90	1791	03 25 31
03 27 00	J1638+2754	21 35 27	31.4	275.7	4.9		42.5	-20	1791	No stop
03 32 00	---	21 40 27	30.6	276.7	5.0		42.4	280	1811	03 27 01
03 32 30	J1642+2523	21 40 58	29.3	274.1	5.0		41.5	10	1811	03 32 30
03 34 00	---	21 42 28	29.0	274.4	5.0		41.5	90	1816	03 32 31
03 34 00	J1638+2754	21 42 28	30.3	277.1	5.0		42.4	-20	1816	No stop
03 39 00	---	21 47 29	29.6	278.0	5.1		42.3	280	1836	03 34 01
03 39 30	J1642+2523	21 47 59	28.2	275.4	5.1		41.4	10	1836	03 39 30
03 41 00	---	21 49 29	28.0	275.7	5.1		41.4	90	1841	03 39 31
03 41 00	J1638+2754	21 49 29	29.3	278.4	5.2		42.2	-20	1841	No stop
03 44 00	---	21 52 29	28.8	278.9	5.2		42.1	160	1853	03 41 01

```
Schedule for TORUN     (Code Tr )                                Page  12
               Radio AGN feedback
  UP:  D => Below limits;  H => Below horizon mask;  W => still slewing at end;  blank => Up.
  Early: Seconds between end of slew and start.   Dwell: On source seconds.
  Disk: GBytes recorded to this point.
  TPStart:  Recording start time.  Frequencies are LO sum (band edge).
  SYNC: Time correlator is expected to sync up.
-------------------------------------------------------------------------------------------
Start UT  Source               Start / Stop                 Early    Disk   TPStart
Stop UT                  LST      EL    AZ   HA  UP   ParA  Dwell   GBytes    SYNC
-------------------------------------------------------------------------------------------

 --- Sun   5 Jun 2022   Day 156 ---

03 44 00  J1642+2523   21 52 29  27.5 276.3  5.1      41.3   -19     1853   No stop
03 46 00  ---          21 54 30  27.2 276.7  5.2      41.3   101     1861   03 44 01

03 46 00  J1638+2754   21 54 30  28.5 279.3  5.2      42.1   -20     1861   No stop
03 51 00  ---          21 59 31  27.8 280.3  5.3      41.9   280     1880   03 46 01

03 51 30  J1642+2523   22 00 01  26.4 277.7  5.3      41.2    11     1880   03 51 30
03 53 00  ---          22 01 31  26.2 278.0  5.3      41.1    90     1886   03 51 31

03 55 00  J1638+5720   22 03 31  46.3 309.4  5.4      59.1    31     1886   03 55 00
04 00 00  =1637+574    22 08 32  45.7 309.9  5.5      58.4   300     1905   03 55 01



SETUP FILE INFORMATION:
   NOTE: If DOPPLER, FREQ, or BW were used, see the individual scans for the final BBC settings.


 ======== Setup file: sess222.H512globlineC

   Setup group:   16         Station: TORUN            Total bit rate:   512
   Format: VDIF              Bits per sample: 2        Sample rate: 16.000
   Number of channels: 16    DBE type: DBBC_DDC        Speedup factor:   1.00

   Disk used to record data.
```

```
  1st LO=   2100.00   2100.00   2100.00   2100.00   2100.00   2100.00   2100.00   2100.00
            2100.00   2100.00   2100.00   2100.00   2100.00   2100.00   2100.00   2100.00
  Net SB=         L         L         U         U         L         L         U         U
                  L         L         U         U         L         L         U         U
  IF SB =         L         L         L         L         L         L         L         L
                  L         L         L         L         L         L         L         L
  Pol.  =       RCP       LCP       RCP       LCP       RCP       LCP       RCP       LCP
                RCP       LCP       RCP       LCP       RCP       LCP       RCP       LCP
  BBC   =         1         9         1         9         2        10         2        10
                  3        11         3        11         4        12         4        12
  BBC SB=         U         U         L         L         U         U         L         L
                  U         U         L         L         U         U         L         L
  IF    =        A1        B1        A1        B1        A1        B1        A1        B1
                 A1        B1        A1        B1        A1        B1        A1        B1

 The following frequency sets based on these setups were used.

  Frequency Set:   5  Setup file default.  Used with PCAL = off
  LO sum=   1267.25  1267.25  1267.25  1267.25  1283.25  1283.25  1283.25  1283.25
            1299.25  1299.25  1299.25  1299.25  1315.25  1315.25  1315.25  1315.25
  BBC fr=    832.75   832.75   832.75   832.75   816.75   816.75   816.75   816.75
             800.75   800.75   800.75   800.75   784.75   784.75   784.75   784.75
  Bandwd=      8.00     8.00     8.00     8.00     8.00     8.00     8.00     8.00
               8.00     8.00     8.00     8.00     8.00     8.00     8.00     8.00
   Matching frequency sets:   5

  Track assignments are:
   track1=   1,  2,  3,  4,  5,  6,  7,  8,  9, 10, 11, 12, 13, 14, 15, 16
   barrel=roll_off



POSITIONS OF SOURCES USED IN RECORDING SCANS

  Source                          Source position (RA/Dec)                        Error
                       (B1950)             (J2000)             (Date)             (mas)

* J1638+2754        16 36 44.220779   * 16 38 44.805000     16 39 39.791509       0.00
                    28 00 30.97115    * 27 54 39.07000      27 51 59.65366        0.00

* J1642+2523        16 40 36.555185   * 16 42 40.411827     16 43 36.808597       0.00
                    25 28 43.57730    * 25 23 07.68226      25 20 35.15681        0.00

  1637+574          16 37 17.425185   * 16 38 13.456300     16 38 40.984610       0.01
* J1638+5720        57 26 15.76132    * 57 20 23.97903      57 17 44.69626        0.01
  J1638+57          /home/guest/rmc/SCHED/sched11.6/catalogs/sources.gsfc
                    GSFC 2016a X/S astro solution,  10291 observations.
```

f22c1tr

C-band FTP fringe-test

PI: *Benito Marcote*

```
Address:  JIVE

Observing mode:
Schedule for TORUN     (Code Tr )                                  Page   2
               C-band FTP fringe-test
  UP:  D => Below limits;  H => Below horizon mask;  W => still slewing at end;  blank => Up.
  Early: Seconds between end of slew and start.   Dwell: On source seconds.
  Disk: GBytes recorded to this point.
  TPStart:  Recording start time.  Frequencies are LO sum (band edge).
  SYNC: Time correlator is expected to sync up.
-------------------------------------------------------------------------------------------
Start UT  Source                Start / Stop                 Early    Disk   TPStart
Stop UT                  LST      EL    AZ   HA  UP   ParA  Dwell   GBytes    SYNC
-------------------------------------------------------------------------------------------
 --- Thu   9 Jun 2022   Day 160 ---
 Next scan frequencies:  4632.00  4632.00  4632.00  4632.00  4696.00  4696.00  4696.00  4696.00
                         4760.00  4760.00  4760.00  4760.00  4824.00  4824.00  4824.00  4824.00
                         4888.00  4888.00  4888.00  4888.00  4952.00  4952.00  4952.00  4952.00
                         5016.00  5016.00  5016.00  5016.00  5080.00  5080.00  5080.00  5080.00
 Next BBC frequencies:    544.00   544.00   544.00   544.00   608.00   608.00   608.00   608.00
                          672.00   672.00   672.00   672.00   736.00   736.00   736.00   736.00
                          800.00   800.00   800.00   800.00   864.00   864.00   864.00   864.00
                          928.00   928.00   928.00   928.00   992.00   992.00   992.00   992.00
 Next scan bandwidths:     32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00
                           32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00
                           32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00
                           32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00

12 00 00  J0854+2006   06 25 37  46.1 124.2 -2.5     -31.9     0        0   12 00 00
12 07 00  =OJ287       06 32 38  47.0 126.2 -2.4     -31.0   420      216   12 00 01

12 10 00  J0854+2006   06 35 39  47.3 127.1 -2.3     -30.6   173      216   12 10 00
12 12 00  =OJ287       06 37 39  47.6 127.7 -2.3     -30.4   120      278   12 10 01

12 15 00  J0854+2006   06 40 40  47.9 128.6 -2.3     -30.0   173      278   12 15 00
12 20 00  =OJ287       06 45 40  48.5 130.2 -2.2     -29.2   300      433   12 15 01

12 23 00  J0854+2006   06 48 41  48.9 131.1 -2.1     -28.8   173      433   12 23 00
12 25 00  =OJ287       06 50 41  49.1 131.7 -2.1     -28.5   120      495   12 23 01

12 30 00  J0854+2006   06 55 42  49.6 133.3 -2.0     -27.7   293      495   12 30 00
12 40 00  =OJ287       07 05 44  50.7 136.6 -1.8     -26.0   600      804   12 30 01

12 42 00  J0854+2006   07 07 44  50.9 137.3 -1.8     -25.7   113      804   12 42 00
12 46 00  =OJ287       07 11 45  51.3 138.6 -1.7     -25.0   240      927   12 42 01

12 51 00  J0854+2006   07 16 46  51.8 140.4 -1.7     -24.1   293      927   12 51 00
13 00 00  =OJ287       07 25 47  52.6 143.5 -1.5     -22.3   540     1206   12 51 01



SETUP FILE INFORMATION:
   NOTE: If DOPPLER, FREQ, or BW were used, see the individual scans for the final BBC settings.


 ======== Setup file: sess222.C4096

   Setup group:    8         Station: TORUN            Total bit rate:  4096
   Format: VDIF              Bits per sample: 2        Sample rate: 64.000
```

```
Number of channels: 32    DBE type: DBBC_DDC         Speedup factor:   1.00

Disk used to record data.
```

```
  1st LO=   4088.00   4088.00   4088.00   4088.00   4088.00   4088.00   4088.00   4088.00
            4088.00   4088.00   4088.00   4088.00   4088.00   4088.00   4088.00   4088.00
            4088.00   4088.00   4088.00   4088.00   4088.00   4088.00   4088.00   4088.00
            4088.00   4088.00   4088.00   4088.00   4088.00   4088.00   4088.00   4088.00
  Net SB=         L         L         U         U         L         L         U         U
                  L         L         U         U         L         L         U         U
                  L         L         U         U         L         L         U         U
                  L         L         U         U         L         L         U         U
  IF SB =         U         U         U         U         U         U         U         U
                  U         U         U         U         U         U         U         U
                  U         U         U         U         U         U         U         U
                  U         U         U         U         U         U         U         U
  Pol.  =       RCP       LCP       RCP       LCP       RCP       LCP       RCP       LCP
                RCP       LCP       RCP       LCP       RCP       LCP       RCP       LCP
                RCP       LCP       RCP       LCP       RCP       LCP       RCP       LCP
                RCP       LCP       RCP       LCP       RCP       LCP       RCP       LCP
  BBC   =         1         9         1         9         2        10         2        10
                  3        11         3        11         4        12         4        12
                  5        13         5        13         6        14         6        14
                  7        15         7        15         8        16         8        16
  BBC SB=         L         L         U         U         L         L         U         U
                  L         L         U         U         L         L         U         U
                  L         L         U         U         L         L         U         U
                  L         L         U         U         L         L         U         U
  IF    =        A1        B1        A1        B1        A1        B1        A1        B1
                 A1        B1        A1        B1        A1        B1        A1        B1
                 A1        B1        A1        B1        A1        B1        A1        B1
                 A1        B1        A1        B1        A1        B1        A1        B1

 The following frequency sets based on these setups were used.

  Frequency Set:   9  Setup file default.  Used with PCAL = off
  LO sum=   4632.00  4632.00  4632.00  4632.00  4696.00  4696.00  4696.00  4696.00
            4760.00  4760.00  4760.00  4760.00  4824.00  4824.00  4824.00  4824.00
            4888.00  4888.00  4888.00  4888.00  4952.00  4952.00  4952.00  4952.00
            5016.00  5016.00  5016.00  5016.00  5080.00  5080.00  5080.00  5080.00
  BBC fr=    544.00   544.00   544.00   544.00   608.00   608.00   608.00   608.00
             672.00   672.00   672.00   672.00   736.00   736.00   736.00   736.00
             800.00   800.00   800.00   800.00   864.00   864.00   864.00   864.00
             928.00   928.00   928.00   928.00   992.00   992.00   992.00   992.00
  Bandwd=     32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00
              32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00
              32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00
              32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00
   Matching frequency sets:   9

  Track assignments are:
   track1=   1,  2,  3,  4,  5,  6,  7,  8,  9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 2
   barrel=roll_off



POSITIONS OF SOURCES USED IN RECORDING SCANS

  Source                        Source position (RA/Dec)                        Error
                       (B1950)            (J2000)            (Date)            (mas)

  OJ287             08 51 57.250615   * 08 54 48.874927     08 56 04.088484       0.00
* J0854+2006        20 17 58.41740    * 20 06 30.64085      20 01 30.83571        0.00
  0851+202          /home/guest/rmc/SCHED/sched11.6/catalogs/sources.gsfc
  J0854+20          GSFC 2016a X/S astro solution, 270807 observations.
```

em163tr

Tick-tock: exploring the imminent merger of a supermassive black ho
PI: *Marcote*

```
Address:  JIVE

Observing mode: vlbi
Schedule for TORUN     (Code Tr )                                    Page   2
               Tick-tock: exploring the imminent merger of a supermassive black hole bi
  UP:  D => Below limits;  H => Below horizon mask;  W => still slewing at end;  blank => Up.
  Early: Seconds between end of slew and start.   Dwell: On source seconds.
  Disk: GBytes recorded to this point.
  TPStart:  Recording start time.  Frequencies are LO sum (band edge).
  SYNC: Time correlator is expected to sync up.
-------------------------------------------------------------------------------------------
Start UT  Source                Start / Stop                  Early    Disk   TPStart
Stop UT                   LST      EL    AZ   HA  UP   ParA  Dwell   GBytes    SYNC
-------------------------------------------------------------------------------------------
 --- Thu   9 Jun 2022   Day 160 ---
 Next scan frequencies:  4632.00  4632.00  4632.00  4632.00  4696.00  4696.00  4696.00  4696.00
                         4760.00  4760.00  4760.00  4760.00  4824.00  4824.00  4824.00  4824.00
                         4888.00  4888.00  4888.00  4888.00  4952.00  4952.00  4952.00  4952.00
                         5016.00  5016.00  5016.00  5016.00  5080.00  5080.00  5080.00  5080.00
 Next BBC frequencies:    544.00   544.00   544.00   544.00   608.00   608.00   608.00   608.00
                          672.00   672.00   672.00   672.00   736.00   736.00   736.00   736.00
                          800.00   800.00   800.00   800.00   864.00   864.00   864.00   864.00
                          928.00   928.00   928.00   928.00   992.00   992.00   992.00   992.00
 Next scan bandwidths:     32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00
                           32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00
                           32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00
                           32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00

14 00 00  J1310+3220   08 25 57  36.1  82.6 -4.8     -44.7     0        0   14 00 00
14 03 00  =1308+326    08 28 57  36.5  83.1 -4.7     -44.8   180       93   14 00 01

14 04 30  J1427+2348   08 30 28  19.1  75.7 -6.0     -39.5    11       93   14 04 30
14 06 30  =1424+240    08 32 28  19.4  76.1 -5.9     -39.5   120      155   14 04 31

14 06 30  SDSSJ1430    08 32 28  18.3  75.9 -6.0     -39.2   -17      155   No stop
14 10 00  ---          08 35 59  18.9  76.6 -5.9     -39.4   193      263   14 06 31

14 10 30  J1427+2348   08 36 29  20.0  76.8 -5.9     -39.7    13      263   14 10 30
14 11 30  =1424+240    08 37 29  20.1  77.0 -5.8     -39.7    60      294   14 10 31

14 11 30  SDSSJ1430    08 37 29  19.1  76.9 -5.9     -39.4   -17      294   No stop
14 15 00  ---          08 40 59  19.6  77.5 -5.8     -39.6   193      402   14 11 31

14 15 00  J1427+2348   08 40 59  20.6  77.7 -5.8     -39.8   -17      402   No stop
14 16 30  =1424+240    08 42 30  20.9  77.9 -5.8     -39.9    73      448   14 15 01

14 16 30  SDSSJ1430    08 42 30  19.8  77.8 -5.8     -39.6   -17      448   No stop
14 20 00  ---          08 46 00  20.3  78.5 -5.8     -39.7   193      556   14 16 31

14 20 30  J1427+2348   08 46 30  21.5  78.7 -5.7     -40.0    13      556   14 20 30
14 21 30  =1424+240    08 47 30  21.6  78.9 -5.7     -40.1    60      587   14 20 31

14 21 30  SDSSJ1430    08 47 30  20.6  78.8 -5.7     -39.8   -17      587   No stop
14 25 00  ---          08 51 01  21.1  79.4 -5.7     -39.9   193      696   14 21 31

14 25 00  J1427+2348   08 51 01  22.1  79.5 -5.6     -40.2   -17      696   No stop
14 26 30  =1424+240    08 52 31  22.3  79.8 -5.6     -40.2    73      742   14 25 01
```

Schedule for TORUN (Code Tr) Page 3

Tick-tock: exploring the imminent merger of a supermassive black hole bi

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Thu 9 Jun 2022 Day 160 ---										
14 26 30	J1424+225A	08 52 31	22.0	80.9	-5.6		-40.0	-14	742	No stop
14 30 00	---	08 56 02	22.5	81.6	-5.5		-40.1	196	850	14 26 31
14 30 30	J1427+2348	08 56 32	22.9	80.6	-5.5		-40.3	16	850	14 30 30
14 31 30	=1424+240	08 57 32	23.1	80.8	-5.5		-40.3	60	881	14 30 31
14 31 30	SDSSJ1430	08 57 32	22.0	80.7	-5.6		-40.1	-17	881	No stop
14 35 00	---	09 01 03	22.6	81.3	-5.5		-40.1	193	989	14 31 31
14 35 30	J1427+2348	09 01 33	23.7	81.5	-5.4		-40.4	13	989	14 35 30
14 36 30	=1424+240	09 02 33	23.8	81.7	-5.4		-40.5	60	1020	14 35 31
14 36 30	SDSSJ1430	09 02 33	22.8	81.6	-5.5		-40.2	-17	1020	No stop
14 40 00	---	09 06 03	23.3	82.3	-5.4		-40.3	193	1128	14 36 31
14 40 00	J1427+2348	09 06 03	24.3	82.4	-5.4		-40.5	-17	1128	No stop
14 41 30	=1424+240	09 07 34	24.6	82.7	-5.3		-40.6	73	1175	14 40 01
14 41 30	SDSSJ1430	09 07 34	23.5	82.6	-5.4		-40.3	-17	1175	No stop
14 45 00	---	09 11 04	24.0	83.3	-5.3		-40.4	193	1283	14 41 31
14 45 30	J1427+2348	09 11 34	25.2	83.5	-5.3		-40.7	13	1283	14 45 30
14 46 30	=1424+240	09 12 35	25.3	83.7	-5.3		-40.7	60	1314	14 45 31
14 46 30	SDSSJ1430	09 12 35	24.3	83.6	-5.3		-40.4	-17	1314	No stop
14 50 00	---	09 16 05	24.8	84.2	-5.3		-40.5	193	1422	14 46 31
14 50 00	J1427+2348	09 16 05	25.8	84.3	-5.2		-40.7	-17	1422	No stop
14 51 30	=1424+240	09 17 35	26.1	84.6	-5.2		-40.8	73	1469	14 50 01
14 51 30	J1424+225A	09 17 35	25.8	85.7	-5.1		-40.5	-14	1469	No stop
14 55 00	---	09 21 06	26.3	86.4	-5.1		-40.6	196	1577	14 51 31
14 55 30	J1427+2348	09 21 36	26.7	85.4	-5.1		-40.8	16	1577	14 55 30
14 56 30	=1424+240	09 22 36	26.8	85.6	-5.1		-40.8	60	1608	14 55 31
14 56 30	SDSSJ1430	09 22 36	25.8	85.5	-5.1		-40.6	-17	1608	No stop
15 00 00	---	09 26 07	26.3	86.2	-5.1		-40.6	193	1716	14 56 31
15 00 30	J1427+2348	09 26 37	27.4	86.4	-5.0		-40.9	13	1716	15 00 30
15 01 30	=1424+240	09 27 37	27.6	86.6	-5.0		-40.9	60	1747	15 00 31
15 01 30	SDSSJ1430	09 27 37	26.5	86.5	-5.1		-40.6	-17	1747	No stop
15 05 00	---	09 31 08	27.0	87.2	-5.0		-40.6	193	1855	15 01 31
15 05 00	J1427+2348	09 31 08	28.1	87.2	-4.9		-40.9	-17	1855	No stop
15 06 30	=1424+240	09 32 38	28.3	87.5	-4.9		-40.9	73	1901	15 05 01

Schedule for TORUN (Code Tr) Page 4

Tick-tock: exploring the imminent merger of a supermassive black hole bi

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Thu 9 Jun 2022 Day 160 ---										
15 06 30	SDSSJ1430	09 32 38	27.3	87.4	-5.0		-40.7	-17	1901	No stop
15 10 00	---	09 36 08	27.8	88.1	-4.9		-40.7	193	2010	15 06 31
15 10 30	J1427+2348	09 36 38	28.9	88.3	-4.9		-41.0	13	2010	15 10 30
15 11 30	=1424+240	09 37 39	29.1	88.5	-4.8		-41.0	60	2040	15 10 31
15 11 30	SDSSJ1430	09 37 39	28.0	88.4	-4.9		-40.7	-17	2040	No stop
15 15 00	---	09 41 09	28.5	89.1	-4.8		-40.7	193	2149	15 11 31
15 15 00	J1427+2348	09 41 09	29.6	89.2	-4.8		-41.0	-17	2149	No stop
15 16 30	=1424+240	09 42 39	29.8	89.5	-4.8		-41.0	73	2195	15 15 01
15 16 30	J1424+225A	09 42 39	29.5	90.7	-4.7		-40.7	-15	2195	No stop
15 20 00	---	09 46 10	30.0	91.4	-4.7		-40.6	195	2303	15 16 31
15 20 30	J1427+2348	09 46 40	30.4	90.3	-4.7		-41.0	16	2303	15 20 30
15 21 30	=1424+240	09 47 40	30.6	90.5	-4.7		-41.0	60	2334	15 20 31
15 21 30	SDSSJ1430	09 47 40	29.5	90.4	-4.7		-40.7	-17	2334	No stop
15 25 00	---	09 51 11	30.1	91.1	-4.7		-40.7	193	2442	15 21 31
15 25 30	J1427+2348	09 51 41	31.2	91.3	-4.6		-41.0	13	2442	15 25 30
15 26 30	=1424+240	09 52 41	31.3	91.5	-4.6		-41.0	60	2473	15 25 31
15 26 30	SDSSJ1430	09 52 41	30.3	91.4	-4.6		-40.7	-17	2473	No stop
15 30 00	---	09 56 12	30.8	92.2	-4.6		-40.7	193	2582	15 26 31
15 30 00	J1427+2348	09 56 12	31.9	92.3	-4.5		-40.9	-17	2582	No stop
15 31 30	=1424+240	09 57 42	32.1	92.6	-4.5		-40.9	73	2628	15 30 01
15 31 30	SDSSJ1430	09 57 42	31.0	92.5	-4.6		-40.7	-17	2628	No stop
15 35 00	---	10 01 12	31.6	93.2	-4.5		-40.6	193	2736	15 31 31
15 35 30	J1427+2348	10 01 43	32.7	93.4	-4.4		-40.9	13	2736	15 35 30
15 36 30	=1424+240	10 02 43	32.8	93.6	-4.4		-40.9	60	2767	15 35 31
15 36 30	SDSSJ1430	10 02 43	31.8	93.5	-4.5		-40.6	-17	2767	No stop
15 40 00	---	10 06 13	32.3	94.2	-4.4		-40.6	193	2875	15 36 31
15 40 00	J1427+2348	10 06 13	33.4	94.3	-4.4		-40.8	-17	2875	No stop
15 41 30	=1424+240	10 07 44	33.6	94.6	-4.3		-40.8	73	2922	15 40 01
15 41 30	J1424+225A	10 07 44	33.3	95.8	-4.3		-40.4	-15	2922	No stop
15 45 00	---	10 11 14	33.8	96.5	-4.2		-40.3	195	3030	15 41 31

Schedule for TORUN (Code Tr) Page 5

Tick-tock: exploring the imminent merger of a supermassive black hole bi

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Thu 9 Jun 2022 Day 160 ---										
15 45 30	J1427+2348	10 11 44	34.2	95.5	-4.3		-40.8	15	3030	15 45 30
15 46 30	=1424+240	10 12 44	34.3	95.7	-4.3		-40.7	60	3061	15 45 31
15 46 30	SDSSJ1430	10 12 44	33.3	95.6	-4.3		-40.5	-17	3061	No stop
15 50 00	---	10 16 15	33.8	96.3	-4.3		-40.4	193	3169	15 46 31
15 50 30	J1427+2348	10 16 45	34.9	96.5	-4.2		-40.7	13	3169	15 50 30
15 51 30	=1424+240	10 17 45	35.1	96.7	-4.2		-40.6	60	3200	15 50 31
15 51 30	SDSSJ1430	10 17 45	34.0	96.6	-4.2		-40.4	-17	3200	No stop
15 55 00	---	10 21 16	34.6	97.4	-4.2		-40.3	193	3308	15 51 31
15 55 00	J1427+2348	10 21 16	35.6	97.5	-4.1		-40.6	-17	3308	No stop
15 56 30	=1424+240	10 22 46	35.8	97.8	-4.1		-40.5	73	3354	15 55 01
15 56 30	SDSSJ1430	10 22 46	34.8	97.7	-4.1		-40.3	-17	3354	No stop
16 00 00	---	10 26 17	35.3	98.4	-4.1		-40.2	193	3463	15 56 31
16 00 30	J1427+2348	10 26 47	36.4	98.7	-4.0		-40.4	13	3463	16 00 30
16 01 30	=1424+240	10 27 47	36.6	98.9	-4.0		-40.4	60	3494	16 00 31
16 01 30	SDSSJ1430	10 27 47	35.5	98.8	-4.1		-40.1	-17	3494	No stop
16 05 00	---	10 31 17	36.0	99.5	-4.0		-40.0	193	3602	16 01 31
16 05 00	J1427+2348	10 31 17	37.1	99.6	-3.9		-40.3	-17	3602	No stop
16 06 30	=1424+240	10 32 48	37.3	100.0	-3.9		-40.2	73	3648	16 05 01
16 06 30	J1424+225A	10 32 48	37.0	101.2	-3.9		-39.7	-15	3648	No stop
16 10 00	---	10 36 18	37.5	102.0	-3.8		-39.6	195	3756	16 06 31
16 10 30	J1427+2348	10 36 48	37.9	100.9	-3.9		-40.1	15	3756	16 10 30
16 11 30	=1424+240	10 37 48	38.1	101.1	-3.8		-40.1	60	3787	16 10 31
16 11 30	SDSSJ1430	10 37 48	37.0	101.0	-3.9		-39.8	-17	3787	No stop
16 15 00	---	10 41 19	37.5	101.7	-3.8		-39.7	193	3895	16 11 31
16 15 30	J1427+2348	10 41 49	38.6	102.0	-3.8		-39.9	13	3895	16 15 30
16 16 30	=1424+240	10 42 49	38.8	102.2	-3.8		-39.9	60	3926	16 15 31
16 16 30	SDSSJ1430	10 42 49	37.7	102.1	-3.8		-39.6	-17	3926	No stop
16 20 00	---	10 46 20	38.3	102.9	-3.7		-39.5	193	4035	16 16 31
16 20 00	J1427+2348	10 46 20	39.3	103.0	-3.7		-39.7	-17	4035	No stop
16 21 30	=1424+240	10 47 50	39.5	103.3	-3.7		-39.6	73	4081	16 20 01

Schedule for TORUN (Code Tr) Page 6

Tick-tock: exploring the imminent merger of a supermassive black hole bi

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Thu 9 Jun 2022 Day 160 ---										
16 21 30	SDSSJ1430	10 47 50	38.5	103.2	-3.7		-39.4	-17	4081	No stop
16 25 00	---	10 51 21	39.0	104.0	-3.7		-39.3	193	4189	16 21 31
16 25 30	J1427+2348	10 51 51	40.1	104.3	-3.6		-39.5	13	4189	16 25 30
16 26 30	=1424+240	10 52 51	40.3	104.5	-3.6		-39.4	60	4220	16 25 31
16 26 30	SDSSJ1430	10 52 51	39.2	104.4	-3.6		-39.2	-17	4220	No stop
16 30 00	---	10 56 22	39.7	105.2	-3.6		-39.0	193	4328	16 26 31
16 30 00	J1427+2348	10 56 22	40.8	105.3	-3.5		-39.2	-17	4328	No stop
16 31 30	=1424+240	10 57 52	41.0	105.7	-3.5		-39.2	73	4375	16 30 01
16 31 30	J1424+225A	10 57 52	40.6	106.9	-3.5		-38.6	-15	4375	No stop
16 35 00	---	11 01 22	41.2	107.8	-3.4		-38.3	195	4483	16 31 31
16 35 30	J1427+2348	11 01 52	41.6	106.6	-3.4		-38.9	15	4483	16 35 30
16 36 30	=1424+240	11 02 53	41.7	106.9	-3.4		-38.9	60	4514	16 35 31
16 36 30	SDSSJ1430	11 02 53	40.7	106.7	-3.5		-38.7	-17	4514	No stop
16 40 00	---	11 06 23	41.2	107.5	-3.4		-38.5	193	4622	16 36 31
16 40 30	J1427+2348	11 06 53	42.3	107.8	-3.4		-38.6	13	4622	16 40 30
16 41 30	=1424+240	11 07 53	42.4	108.1	-3.3		-38.6	60	4653	16 40 31
16 41 30	SDSSJ1430	11 07 53	41.4	107.9	-3.4		-38.4	-17	4653	No stop
16 45 00	---	11 11 24	41.9	108.7	-3.3		-38.1	193	4761	16 41 31
16 45 00	J1427+2348	11 11 24	42.9	108.9	-3.3		-38.3	-17	4761	No stop
16 46 30	=1424+240	11 12 54	43.1	109.3	-3.3		-38.2	73	4808	16 45 01
16 46 30	SDSSJ1430	11 12 54	42.1	109.1	-3.3		-38.0	-17	4808	No stop
16 50 00	---	11 16 25	42.6	110.0	-3.2		-37.8	193	4916	16 46 31
16 50 30	J1427+2348	11 16 55	43.7	110.3	-3.2		-38.0	13	4916	16 50 30
16 51 30	=1424+240	11 17 55	43.8	110.5	-3.2		-37.9	60	4947	16 50 31
16 51 30	SDSSJ1430	11 17 55	42.8	110.3	-3.2		-37.7	-17	4947	No stop
16 55 00	---	11 21 26	43.3	111.2	-3.2		-37.4	193	5055	16 51 31
16 55 00	J1427+2348	11 21 26	44.3	111.4	-3.1		-37.6	-17	5055	No stop
16 56 30	=1424+240	11 22 56	44.5	111.8	-3.1		-37.5	73	5101	16 55 01
16 56 30	J1424+225A	11 22 56	44.2	113.1	-3.0		-36.8	-16	5101	No stop
17 00 00	---	11 26 26	44.7	114.0	-3.0		-36.5	194	5209	16 56 31

Schedule for TORUN (Code Tr) Page 7

Tick-tock: exploring the imminent merger of a supermassive black hole bi

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Thu 9 Jun 2022 Day 160 ---										
17 00 30	J1427+2348	11 26 57	45.1	112.8	-3.0		-37.2	15	5209	17 00 30
17 01 30	=1424+240	11 27 57	45.2	113.1	-3.0		-37.1	60	5240	17 00 31
17 01 30	SDSSJ1430	11 27 57	44.2	112.9	-3.1		-36.9	-17	5240	No stop
17 05 00	---	11 31 27	44.7	113.8	-3.0		-36.6	193	5349	17 01 31
17 05 30	J1427+2348	11 31 57	45.8	114.1	-2.9		-36.8	13	5349	17 05 30
17 06 30	=1424+240	11 32 58	45.9	114.4	-2.9		-36.7	60	5379	17 05 31
17 06 30	SDSSJ1430	11 32 58	44.9	114.2	-3.0		-36.5	-17	5379	No stop
17 10 00	---	11 36 28	45.4	115.1	-2.9		-36.2	193	5488	17 06 31
17 10 00	J1427+2348	11 36 28	46.4	115.3	-2.9		-36.4	-17	5488	No stop
17 11 30	=1424+240	11 37 58	46.6	115.7	-2.8		-36.2	73	5534	17 10 01
17 11 30	SDSSJ1430	11 37 58	45.6	115.5	-2.9		-36.1	-17	5534	No stop
17 15 00	---	11 41 29	46.0	116.4	-2.8		-35.7	193	5642	17 11 31
17 15 30	J1427+2348	11 41 59	47.2	116.8	-2.8		-35.8	13	5642	17 15 30
17 16 30	=1424+240	11 42 59	47.3	117.1	-2.8		-35.7	60	5673	17 15 31
17 16 30	SDSSJ1430	11 42 59	46.3	116.8	-2.8		-35.6	-17	5673	No stop
17 20 00	---	11 46 30	46.7	117.8	-2.7		-35.2	193	5781	17 16 31
17 20 00	J1427+2348	11 46 30	47.8	118.1	-2.7		-35.4	-17	5781	No stop
17 21 30	=1424+240	11 48 00	48.0	118.5	-2.7		-35.2	73	5828	17 20 01
17 21 30	J1424+225A	11 48 00	47.5	119.9	-2.6		-34.4	-16	5828	No stop
17 25 00	---	11 51 31	48.0	120.9	-2.6		-34.0	194	5936	17 21 31
17 25 30	J1427+2348	11 52 01	48.5	119.6	-2.6		-34.8	15	5936	17 25 30
17 26 30	=1424+240	11 53 01	48.6	119.9	-2.6		-34.6	60	5967	17 25 31
17 26 30	SDSSJ1430	11 53 01	47.6	119.6	-2.6		-34.5	-17	5967	No stop
17 30 00	---	11 56 31	48.0	120.6	-2.6		-34.2	193	6075	17 26 31
17 30 30	J1427+2348	11 57 01	49.1	121.1	-2.5		-34.2	13	6075	17 30 30
17 31 30	=1424+240	11 58 02	49.3	121.3	-2.5		-34.1	60	6106	17 30 31
17 31 30	SDSSJ1430	11 58 02	48.2	121.0	-2.6		-34.0	-17	6106	No stop
17 35 00	---	12 01 32	48.7	122.0	-2.5		-33.6	193	6214	17 31 31
17 35 00	J1427+2348	12 01 32	49.7	122.4	-2.4		-33.6	-17	6214	No stop
17 36 30	=1424+240	12 03 02	49.9	122.8	-2.4		-33.4	73	6261	17 35 01

Schedule for TORUN (Code Tr) Page 8

Tick-tock: exploring the imminent merger of a supermassive black hole bi

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Thu 9 Jun 2022 Day 160 ---										
17 36 30	SDSSJ1430	12 03 02	48.9	122.5	-2.5		-33.4	-17	6261	No stop
17 40 00	---	12 06 33	49.3	123.5	-2.4		-32.9	193	6369	17 36 31
17 40 30	J1427+2348	12 07 03	50.4	124.0	-2.3		-32.9	13	6369	17 40 30
17 41 30	=1424+240	12 08 03	50.5	124.3	-2.3		-32.8	60	6400	17 40 31
17 41 30	SDSSJ1430	12 08 03	49.5	124.0	-2.4		-32.7	-17	6400	No stop
17 45 00	---	12 11 34	49.9	125.0	-2.3		-32.3	193	6508	17 41 31
17 45 00	J1427+2348	12 11 34	51.0	125.4	-2.3		-32.3	-17	6508	No stop
17 46 30	=1424+240	12 13 04	51.1	125.8	-2.2		-32.1	73	6554	17 45 01
17 46 30	J1424+225A	12 13 04	50.7	127.3	-2.2		-31.2	-16	6554	No stop
17 50 00	---	12 16 35	51.1	128.4	-2.2		-30.7	194	6663	17 46 31
17 50 30	J1427+2348	12 17 05	51.6	127.1	-2.2		-31.5	14	6663	17 50 30
17 51 30	=1424+240	12 18 05	51.7	127.4	-2.2		-31.4	60	6693	17 50 31
17 51 30	SDSSJ1430	12 18 05	50.7	127.0	-2.2		-31.4	-17	6693	No stop
17 55 00	---	12 21 35	51.1	128.1	-2.2		-30.9	193	6802	17 51 31
17 55 30	J1427+2348	12 22 06	52.2	128.7	-2.1		-30.8	13	6802	17 55 30
17 56 30	=1424+240	12 23 06	52.3	129.0	-2.1		-30.6	60	6833	17 55 31
17 56 30	SDSSJ1430	12 23 06	51.3	128.6	-2.1		-30.7	-17	6833	No stop
18 00 00	---	12 26 36	51.7	129.7	-2.1		-30.1	193	6941	17 56 31
18 00 00	J1427+2348	12 26 36	52.7	130.2	-2.0		-30.1	-17	6941	No stop
18 01 30	=1424+240	12 28 07	52.9	130.6	-2.0		-29.8	73	6987	18 00 01
18 01 30	SDSSJ1430	12 28 07	51.9	130.2	-2.1		-29.9	-16	6987	No stop
18 05 00	---	12 31 37	52.3	131.3	-2.0		-29.3	194	7095	18 01 31
18 05 30	J1427+2348	12 32 07	53.4	132.0	-1.9		-29.2	13	7095	18 05 30
18 06 30	=1424+240	12 33 07	53.5	132.3	-1.9		-29.0	60	7126	18 05 31
18 06 30	SDSSJ1430	12 33 07	52.5	131.8	-2.0		-29.1	-16	7126	No stop
18 10 00	---	12 36 38	52.9	133.0	-1.9		-28.5	194	7234	18 06 31
18 10 00	J1427+2348	12 36 38	53.9	133.5	-1.9		-28.4	-17	7234	No stop
18 11 30	=1424+240	12 38 08	54.0	134.0	-1.8		-28.1	73	7281	18 10 01
18 11 30	J1424+225A	12 38 08	53.5	135.5	-1.8		-27.2	-16	7281	No stop
18 15 00	---	12 41 39	53.9	136.7	-1.7		-26.5	194	7389	18 11 31

Schedule for TORUN (Code Tr) Page 9

Tick-tock: exploring the imminent merger of a supermassive black hole bi

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Thu 9 Jun 2022 Day 160 ---										
18 15 30	J1427+2348	12 42 09	54.5	135.4	-1.8		-27.4	14	7389	18 15 30
18 16 30	=1424+240	12 43 09	54.6	135.8	-1.7		-27.2	60	7420	18 15 31
18 24 30	J1310+3220	12 51 10	68.8	168.0	-0.3		-8.5	408	7420	18 24 30
18 27 30	=1308+326	12 54 11	68.9	169.8	-0.3		-7.2	180	7513	18 24 31
18 29 00	J1427+2348	12 55 41	55.8	140.3	-1.5		-24.8	16	7513	18 29 00
18 30 30	=1424+240	12 57 11	56.0	140.8	-1.5		-24.5	90	7559	18 29 01
18 30 30	SDSSJ1430	12 57 11	55.0	140.2	-1.6		-24.7	-16	7559	No stop
18 34 00	---	13 00 42	55.3	141.5	-1.5		-24.0	194	7667	18 30 31
18 34 30	J1427+2348	13 01 12	56.3	142.3	-1.4		-23.6	13	7667	18 34 30
18 35 30	=1424+240	13 02 12	56.4	142.7	-1.4		-23.4	60	7698	18 34 31
18 35 30	SDSSJ1430	13 02 12	55.4	142.0	-1.5		-23.7	-16	7698	No stop
18 39 00	---	13 05 43	55.8	143.3	-1.4		-22.9	194	7806	18 35 31
18 39 00	J1427+2348	13 05 43	56.7	144.1	-1.4		-22.6	-16	7806	No stop
18 40 30	=1424+240	13 07 13	56.9	144.6	-1.3		-22.3	74	7853	18 39 01
18 40 30	SDSSJ1430	13 07 13	55.9	143.9	-1.4		-22.6	-16	7853	No stop
18 44 00	---	13 10 44	56.2	145.2	-1.3		-21.8	194	7961	18 40 31
18 44 30	J1427+2348	13 11 14	57.2	146.2	-1.3		-21.4	14	7961	18 44 30
18 45 30	=1424+240	13 12 14	57.3	146.6	-1.3		-21.2	60	7992	18 44 31
18 45 30	SDSSJ1430	13 12 14	56.3	145.8	-1.3		-21.5	-16	7992	No stop
18 49 00	---	13 15 44	56.6	147.2	-1.3		-20.7	194	8100	18 45 31
18 49 00	J1427+2348	13 15 44	57.6	148.0	-1.2		-20.3	-16	8100	No stop
18 50 30	=1424+240	13 17 15	57.7	148.6	-1.2		-20.0	74	8147	18 49 01
18 50 30	J1424+225A	13 17 15	57.1	150.1	-1.1		-19.0	-16	8147	No stop
18 54 00	---	13 20 45	57.3	151.5	-1.1		-18.1	194	8255	18 50 31
18 54 30	J1427+2348	13 21 15	58.0	150.2	-1.1		-19.0	14	8255	18 54 30
18 55 30	=1424+240	13 22 15	58.1	150.6	-1.1		-18.8	60	8286	18 54 31
18 55 30	SDSSJ1430	13 22 15	57.1	149.8	-1.2		-19.2	-16	8286	No stop
18 59 00	---	13 25 46	57.4	151.2	-1.1		-18.3	194	8394	18 55 31
18 59 30	J1427+2348	13 26 16	58.4	152.3	-1.0		-17.7	14	8394	18 59 30
19 00 30	=1424+240	13 27 16	58.4	152.7	-1.0		-17.5	60	8425	18 59 31

Schedule for TORUN (Code Tr) Page 10

Tick-tock: exploring the imminent merger of a supermassive black hole bi

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Thu 9 Jun 2022 Day 160 ---										
19 00 30	SDSSJ1430	13 27 16	57.5	151.8	-1.1		-18.0	-16	8425	No stop
19 04 00	---	13 30 47	57.7	153.2	-1.0		-17.1	194	8533	19 00 31
19 04 00	J1427+2348	13 30 47	58.7	154.2	-1.0		-16.6	-16	8533	No stop
19 05 30	=1424+240	13 32 17	58.8	154.8	-0.9		-16.2	74	8579	19 04 01
19 05 30	SDSSJ1430	13 32 17	57.8	153.9	-1.0		-16.7	-16	8579	No stop
19 09 00	---	13 35 48	58.1	155.3	-0.9		-15.8	194	8688	19 05 31
19 09 30	J1427+2348	13 36 18	59.0	156.5	-0.9		-15.1	14	8688	19 09 30
19 10 30	=1424+240	13 37 18	59.1	157.0	-0.8		-14.9	60	8718	19 09 31
19 10 30	SDSSJ1430	13 37 18	58.2	156.0	-0.9		-15.4	-16	8718	No stop
19 14 00	---	13 40 48	58.4	157.4	-0.8		-14.5	194	8827	19 10 31
19 14 00	J1427+2348	13 40 48	59.3	158.5	-0.8		-13.9	-16	8827	No stop
19 15 30	=1424+240	13 42 19	59.4	159.1	-0.8		-13.5	74	8873	19 14 01
19 15 30	J1424+225A	13 42 19	58.6	160.6	-0.7		-12.5	-16	8873	No stop
19 19 00	---	13 45 49	58.8	162.1	-0.7		-11.6	194	8981	19 15 31
19 19 30	J1427+2348	13 46 19	59.6	160.9	-0.7		-12.4	15	8981	19 19 30
19 20 30	=1424+240	13 47 20	59.6	161.3	-0.7		-12.1	60	9012	19 19 31
19 20 30	SDSSJ1430	13 47 20	58.7	160.2	-0.7		-12.7	-16	9012	No stop
19 24 00	---	13 50 50	58.9	161.8	-0.7		-11.8	194	9120	19 20 31
19 24 30	J1427+2348	13 51 20	59.8	163.1	-0.6		-11.0	14	9120	19 24 30
19 25 30	=1424+240	13 52 20	59.8	163.6	-0.6		-10.7	60	9151	19 24 31
19 25 30	SDSSJ1430	13 52 20	59.0	162.4	-0.6		-11.4	-16	9151	No stop
19 29 00	---	13 55 51	59.1	164.0	-0.6		-10.4	194	9260	19 25 31
19 29 00	J1427+2348	13 55 51	60.0	165.2	-0.5		-9.7	-16	9260	No stop
19 30 30	=1424+240	13 57 21	60.0	165.8	-0.5		-9.2	74	9306	19 29 01
19 30 30	SDSSJ1430	13 57 21	59.2	164.6	-0.6		-10.0	-16	9306	No stop
19 34 00	---	14 00 52	59.3	166.2	-0.5		-9.0	194	9414	19 30 31
19 34 30	J1427+2348	14 01 22	60.2	167.7	-0.4		-8.1	14	9414	19 34 30
19 35 30	=1424+240	14 02 22	60.2	168.1	-0.4		-7.8	60	9445	19 34 31
19 35 30	SDSSJ1430	14 02 22	59.4	166.8	-0.5		-8.5	-16	9445	No stop
19 39 00	---	14 05 53	59.5	168.4	-0.4		-7.5	194	9553	19 35 31

Schedule for TORUN (Code Tr) Page 11

Tick-tock: exploring the imminent merger of a supermassive black hole bi

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Thu 9 Jun 2022 Day 160 ---										
19 39 00	J1427+2348	14 05 53	60.3	169.7	-0.4		-6.7	-16	9553	No stop
19 40 30	=1424+240	14 07 23	60.3	170.4	-0.3		-6.3	74	9600	19 39 01
19 40 30	J1424+225A	14 07 23	59.5	171.7	-0.3		-5.4	-15	9600	No stop
19 44 00	---	14 10 53	59.6	173.3	-0.2		-4.4	195	9708	19 40 31
19 44 30	J1427+2348	14 11 23	60.4	172.3	-0.3		-5.1	15	9708	19 44 30
19 45 30	=1424+240	14 12 24	60.5	172.7	-0.3		-4.8	60	9739	19 44 31
19 45 30	SDSSJ1430	14 12 24	59.7	171.4	-0.3		-5.6	-15	9739	No stop
19 49 00	---	14 15 54	59.7	173.0	-0.3		-4.6	195	9847	19 45 31
19 49 30	J1427+2348	14 16 24	60.5	174.6	-0.2		-3.5	14	9847	19 49 30
19 50 30	=1424+240	14 17 24	60.5	175.1	-0.2		-3.2	60	9878	19 49 31
19 50 30	SDSSJ1430	14 17 24	59.8	173.6	-0.2		-4.1	-15	9878	No stop
19 54 00	---	14 20 55	59.8	175.2	-0.2		-3.1	195	9986	19 50 31
19 54 00	J1427+2348	14 20 55	60.6	176.7	-0.1		-2.2	-16	9986	No stop
19 55 30	=1424+240	14 22 25	60.6	177.4	-0.1		-1.7	74	10032	19 54 01
19 55 30	SDSSJ1430	14 22 25	59.8	175.9	-0.1		-2.7	-15	10032	No stop
19 59 00	---	14 25 56	59.9	177.5	-0.1		-1.6	195	10141	19 55 31
19 59 30	J1427+2348	14 26 26	60.6	179.3	-0.0		-0.5	14	10141	19 59 30
20 00 30	=1424+240	14 27 26	60.6	179.7	-0.0		-0.2	60	10172	19 59 31
20 00 30	SDSSJ1430	14 27 26	59.9	178.2	-0.1		-1.2	-16	10172	No stop
20 04 00	---	14 30 57	59.9	179.8	-0.0		-0.1	194	10280	20 00 31
20 04 00	J1427+2348	14 30 57	60.6	181.4	0.0		0.9	-16	10280	No stop
20 05 30	=1424+240	14 32 27	60.6	182.1	0.1		1.4	74	10326	20 04 01
20 05 30	J1424+225A	14 32 27	59.7	183.1	0.1		2.0	-16	10326	No stop
20 09 00	---	14 35 57	59.7	184.7	0.2		3.1	194	10434	20 05 31
20 09 30	J1427+2348	14 36 28	60.6	183.9	0.1		2.6	14	10434	20 09 30
20 10 30	=1424+240	14 37 28	60.6	184.4	0.2		2.9	60	10465	20 09 31
20 10 30	SDSSJ1430	14 37 28	59.8	182.8	0.1		1.8	-16	10465	No stop
20 14 00	---	14 40 58	59.8	184.4	0.2		2.9	194	10573	20 10 31
20 14 30	J1427+2348	14 41 28	60.5	186.3	0.2		4.1	13	10573	20 14 30
20 15 30	=1424+240	14 42 29	60.5	186.7	0.2		4.4	60	10604	20 14 31

Schedule for TORUN (Code Tr) Page 12

Tick-tock: exploring the imminent merger of a supermassive black hole bi

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Thu 9 Jun 2022 Day 160 ---										
20 15 30	SDSSJ1430	14 42 29	59.8	185.1	0.2		3.3	-16	10604	No stop
20 19 00	---	14 45 59	59.7	186.7	0.2		4.4	194	10713	20 15 31
20 19 00	J1427+2348	14 45 59	60.4	188.3	0.3		5.5	-17	10713	No stop
20 20 30	=1424+240	14 47 29	60.4	189.0	0.3		5.9	73	10759	20 19 01
20 20 30	SDSSJ1430	14 47 29	59.7	187.4	0.3		4.8	-16	10759	No stop
20 24 00	---	14 51 00	59.6	189.0	0.3		5.9	194	10867	20 20 31
20 24 30	J1427+2348	14 51 30	60.3	190.9	0.4		7.1	13	10867	20 24 30
20 25 30	=1424+240	14 52 30	60.2	191.3	0.4		7.4	60	10898	20 24 31
20 25 30	SDSSJ1430	14 52 30	59.6	189.7	0.4		6.3	-16	10898	No stop
20 29 00	---	14 56 01	59.5	191.3	0.4		7.3	194	11006	20 25 31
20 29 00	J1427+2348	14 56 01	60.1	192.9	0.5		8.4	-17	11006	No stop
20 30 30	=1424+240	14 57 31	60.1	193.6	0.5		8.9	73	11053	20 29 01
20 30 30	J1424+225A	14 57 31	59.1	194.4	0.5		9.3	-16	11053	No stop
20 34 00	---	15 01 02	59.0	196.0	0.6		10.3	194	11161	20 30 31
20 34 30	J1427+2348	15 01 32	59.9	195.4	0.6		10.1	14	11161	20 34 30
20 35 30	=1424+240	15 02 32	59.9	195.9	0.6		10.3	60	11192	20 34 31
20 35 30	SDSSJ1430	15 02 32	59.3	194.2	0.5		9.2	-16	11192	No stop
20 39 00	---	15 06 02	59.2	195.7	0.6		10.2	194	11300	20 35 31
20 39 30	J1427+2348	15 06 33	59.7	197.7	0.6		11.5	13	11300	20 39 30
20 40 30	=1424+240	15 07 33	59.7	198.1	0.7		11.8	60	11331	20 39 31
20 40 30	SDSSJ1430	15 07 33	59.1	196.4	0.6		10.6	-16	11331	No stop
20 44 00	---	15 11 03	58.9	197.9	0.7		11.6	194	11439	20 40 31
20 44 00	J1427+2348	15 11 03	59.5	199.7	0.7		12.8	-17	11439	No stop
20 45 30	=1424+240	15 12 33	59.4	200.3	0.7		13.2	73	11486	20 44 01
20 45 30	SDSSJ1430	15 12 33	58.9	198.6	0.7		12.0	-16	11486	No stop
20 49 00	---	15 16 04	58.7	200.1	0.7		13.0	194	11594	20 45 31
20 49 30	J1427+2348	15 16 34	59.2	202.1	0.8		14.3	13	11594	20 49 30
20 50 30	=1424+240	15 17 34	59.1	202.5	0.8		14.5	60	11625	20 49 31
20 50 30	SDSSJ1430	15 17 34	58.6	200.8	0.8		13.4	-17	11625	No stop
20 54 00	---	15 21 05	58.4	202.3	0.8		14.3	193	11733	20 50 31

Schedule for TORUN (Code Tr) Page 13

Tick-tock: exploring the imminent merger of a supermassive black hole bi

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Thu 9 Jun 2022 Day 160 ---										
20 54 00	J1427+2348	15 21 05	58.9	204.0	0.9		15.5	-17	11733	No stop
20 55 30	=1424+240	15 22 35	58.8	204.7	0.9		15.9	73	11779	20 54 01
20 55 30	J1424+225A	15 22 35	57.9	205.2	0.9		16.1	-17	11779	No stop
20 59 00	---	15 26 06	57.6	206.7	1.0		17.0	193	11887	20 55 31
20 59 30	J1427+2348	15 26 36	58.6	206.4	1.0		16.9	14	11887	20 59 30
21 00 30	=1424+240	15 27 36	58.5	206.8	1.0		17.2	60	11918	20 59 31
21 00 30	SDSSJ1430	15 27 36	58.0	205.0	0.9		16.0	-17	11918	No stop
21 04 00	---	15 31 07	57.8	206.5	1.0		16.9	193	12027	21 00 31
21 04 30	J1427+2348	15 31 37	58.2	208.4	1.1		18.2	13	12027	21 04 30
21 05 30	=1424+240	15 32 37	58.2	208.9	1.1		18.5	60	12057	21 04 31
21 05 30	SDSSJ1430	15 32 37	57.7	207.1	1.0		17.3	-17	12057	No stop
21 09 00	---	15 36 07	57.4	208.5	1.1		18.1	193	12166	21 05 31
21 09 00	J1427+2348	15 36 07	57.9	210.3	1.1		19.3	-17	12166	No stop
21 10 30	=1424+240	15 37 38	57.8	210.9	1.2		19.7	73	12212	21 09 01
21 10 30	SDSSJ1430	15 37 38	57.3	209.1	1.1		18.5	-17	12212	No stop
21 14 00	---	15 41 08	57.1	210.6	1.2		19.4	193	12320	21 10 31
21 14 30	J1427+2348	15 41 38	57.5	212.5	1.2		20.6	13	12320	21 14 30
21 15 30	=1424+240	15 42 38	57.4	212.9	1.2		20.9	60	12351	21 14 31
21 15 30	SDSSJ1430	15 42 38	57.0	211.2	1.2		19.7	-17	12351	No stop
21 19 00	---	15 46 09	56.7	212.5	1.2		20.5	193	12459	21 15 31
21 19 00	J1427+2348	15 46 09	57.1	214.3	1.3		21.7	-17	12459	No stop
21 20 30	=1424+240	15 47 39	57.0	214.9	1.3		22.0	73	12506	21 19 01
21 20 30	J1424+225A	15 47 39	56.0	215.2	1.4		22.1	-17	12506	No stop
21 24 00	---	15 51 10	55.7	216.5	1.4		22.8	193	12614	21 20 31
21 24 30	J1427+2348	15 51 40	56.6	216.4	1.4		22.9	13	12614	21 24 30
21 25 30	=1424+240	15 52 40	56.5	216.8	1.4		23.1	60	12645	21 24 31
21 25 30	SDSSJ1430	15 52 40	56.1	215.1	1.4		22.0	-17	12645	No stop
21 29 00	---	15 56 11	55.8	216.4	1.4		22.8	193	12753	21 25 31
21 29 30	J1427+2348	15 56 41	56.2	218.3	1.5		24.0	13	12753	21 29 30
21 30 30	=1424+240	15 57 41	56.1	218.7	1.5		24.2	60	12784	21 29 31

Schedule for TORUN (Code Tr) Page 14

Tick-tock: exploring the imminent merger of a supermassive black hole bi

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Thu 9 Jun 2022 Day 160 ---										
21 30 30	SDSSJ1430	15 57 41	55.7	217.0	1.4		23.1	-17	12784	No stop
21 34 00	---	16 01 11	55.4	218.3	1.5		23.8	193	12892	21 30 31
21 34 00	J1427+2348	16 01 11	55.7	220.0	1.6		24.9	-17	12892	No stop
21 35 30	=1424+240	16 02 42	55.6	220.6	1.6		25.2	73	12939	21 34 01
21 35 30	SDSSJ1430	16 02 42	55.2	218.8	1.5		24.1	-17	12939	No stop
21 39 00	---	16 06 12	54.9	220.1	1.6		24.8	193	13047	21 35 31
21 39 30	J1427+2348	16 06 42	55.2	222.0	1.6		26.0	13	13047	21 39 30
21 40 30	=1424+240	16 07 43	55.1	222.4	1.7		26.2	60	13078	21 39 31
21 40 30	SDSSJ1430	16 07 43	54.8	220.7	1.6		25.1	-17	13078	No stop
21 44 00	---	16 11 13	54.4	221.9	1.7		25.8	193	13186	21 40 31
21 44 00	J1427+2348	16 11 13	54.7	223.6	1.7		26.9	-17	13186	No stop
21 45 30	=1424+240	16 12 43	54.6	224.2	1.7		27.2	73	13232	21 44 01
21 45 30	J1424+225A	16 12 43	53.6	224.3	1.8		27.1	-17	13232	No stop
21 49 00	---	16 16 14	53.2	225.5	1.8		27.7	193	13341	21 45 31
21 49 30	J1427+2348	16 16 44	54.2	225.6	1.8		27.9	13	13341	21 49 30
21 50 30	=1424+240	16 17 44	54.0	225.9	1.8		28.1	60	13371	21 49 31
21 50 30	SDSSJ1430	16 17 44	53.7	224.2	1.8		27.0	-16	13371	No stop
21 54 00	---	16 21 15	53.4	225.4	1.8		27.7	194	13480	21 50 31
21 54 30	J1427+2348	16 21 45	53.6	227.3	1.9		28.8	13	13480	21 54 30
21 55 30	=1424+240	16 22 45	53.5	227.6	1.9		29.0	60	13511	21 54 31
21 55 30	SDSSJ1430	16 22 45	53.2	225.9	1.9		27.9	-16	13511	No stop
21 59 00	---	16 26 16	52.8	227.1	1.9		28.5	194	13619	21 55 31
21 59 00	J1427+2348	16 26 16	53.1	228.8	2.0		29.6	-17	13619	No stop
22 00 30	=1424+240	16 27 46	52.9	229.3	2.0		29.8	73	13665	21 59 01
22 00 30	SDSSJ1430	16 27 46	52.7	227.6	1.9		28.8	-16	13665	No stop
22 04 00	---	16 31 16	52.3	228.8	2.0		29.4	194	13773	22 00 31
22 04 30	J1427+2348	16 31 46	52.5	230.6	2.1		30.4	13	13773	22 04 30
22 05 30	=1424+240	16 32 47	52.4	230.9	2.1		30.6	60	13804	22 04 31
22 05 30	SDSSJ1430	16 32 47	52.1	229.3	2.0		29.6	-16	13804	No stop
22 09 00	---	16 36 17	51.7	230.4	2.1		30.2	194	13912	22 05 31

Schedule for TORUN (Code Tr) Page 15

Tick-tock: exploring the imminent merger of a supermassive black hole bi

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

--- Thu 9 Jun 2022 Day 160 ---

Start UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
22 09 00	J1427+2348	16 36 17	51.9	232.0	2.1		31.1	-17	13912	No stop
22 10 30	=1424+240	16 37 47	51.8	232.5	2.2		31.4	73	13959	22 09 01
22 10 30	J1424+225A	16 37 47	50.7	232.5	2.2		31.1	-17	13959	No stop
22 14 00	---	16 41 18	50.3	233.6	2.3		31.6	193	14067	22 10 31
22 14 30	J1427+2348	16 41 48	51.3	233.8	2.2		31.9	13	14067	22 14 30
22 15 30	=1424+240	16 42 48	51.2	234.1	2.2		32.1	60	14098	22 14 31
22 23 30	J1310+3220	16 50 50	46.0	264.3	3.7		44.9	408	14098	22 23 30
22 26 30	=1308+326	16 53 50	45.5	264.9	3.7		45.0	180	14191	22 23 31
22 28 30	J1427+2348	16 55 50	49.5	238.0	2.5		33.8	51	14191	22 28 30
22 30 00	=1424+240	16 57 21	49.3	238.5	2.5		34.0	90	14237	22 28 31
22 30 00	SDSSJ1430	16 57 21	49.1	236.9	2.4		33.1	-16	14237	No stop
22 33 30	---	17 00 51	48.7	237.9	2.5		33.5	194	14345	22 30 01
22 34 00	J1427+2348	17 01 21	48.8	239.6	2.6		34.5	14	14345	22 34 00
22 35 00	=1424+240	17 02 21	48.7	239.9	2.6		34.6	60	14376	22 34 01
22 35 00	SDSSJ1430	17 02 21	48.5	238.3	2.5		33.7	-16	14376	No stop
22 38 30	---	17 05 52	48.1	239.3	2.6		34.1	194	14484	22 35 01
22 38 30	J1427+2348	17 05 52	48.2	240.9	2.6		35.0	-16	14484	No stop
22 40 00	=1424+240	17 07 22	48.0	241.3	2.7		35.1	74	14531	22 38 31
22 40 00	SDSSJ1430	17 07 22	47.9	239.8	2.6		34.3	-16	14531	No stop
22 43 30	---	17 10 53	47.4	240.8	2.7		34.7	194	14639	22 40 01
22 44 00	J1427+2348	17 11 23	47.5	242.4	2.7		35.5	14	14639	22 44 00
22 45 00	=1424+240	17 12 23	47.4	242.7	2.7		35.6	60	14670	22 44 01
22 45 00	SDSSJ1430	17 12 23	47.2	241.2	2.7		34.8	-16	14670	No stop
22 48 30	---	17 15 54	46.7	242.2	2.7		35.2	194	14778	22 45 01
22 48 30	J1427+2348	17 15 54	46.9	243.7	2.8		36.0	-16	14778	No stop
22 50 00	=1424+240	17 17 24	46.7	244.1	2.8		36.1	74	14825	22 48 31
22 50 00	J1424+225A	17 17 24	45.7	244.0	2.9		35.8	-17	14825	No stop
22 53 30	---	17 20 55	45.2	244.9	2.9		36.2	193	14933	22 50 01
22 54 00	J1427+2348	17 21 25	46.2	245.1	2.9		36.5	13	14933	22 54 00
22 55 00	=1424+240	17 22 25	46.0	245.4	2.9		36.6	60	14964	22 54 01

Schedule for TORUN (Code Tr) Page 16

Tick-tock: exploring the imminent merger of a supermassive black hole bi

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Thu 9 Jun 2022 Day 160 ---										
22 55 00	SDSSJ1430	17 22 25	45.9	243.9	2.9		35.9	-16	14964	No stop
22 58 30	---	17 25 55	45.4	244.9	2.9		36.2	194	15072	22 55 01
22 59 00	J1427+2348	17 26 25	45.5	246.5	3.0		37.0	14	15072	22 59 00
23 00 00	=1424+240	17 27 26	45.3	246.7	3.0		37.0	60	15103	22 59 01
23 00 00	SDSSJ1430	17 27 26	45.2	245.2	2.9		36.3	-16	15103	No stop
23 03 30	---	17 30 56	44.7	246.2	3.0		36.6	194	15211	23 00 01
23 03 30	J1427+2348	17 30 56	44.9	247.6	3.0		37.3	-16	15211	No stop
23 05 00	=1424+240	17 32 26	44.6	248.0	3.1		37.5	74	15257	23 03 31
23 05 00	SDSSJ1430	17 32 26	44.5	246.6	3.0		36.8	-16	15257	No stop
23 08 30	---	17 35 57	44.0	247.5	3.1		37.0	194	15366	23 05 01
23 09 00	J1427+2348	17 36 27	44.1	249.0	3.1		37.8	14	15366	23 09 00
23 10 00	=1424+240	17 37 27	43.9	249.3	3.2		37.8	60	15396	23 09 01
23 10 00	SDSSJ1430	17 37 27	43.8	247.8	3.1		37.2	-16	15396	No stop
23 13 30	---	17 40 58	43.3	248.7	3.2		37.4	194	15505	23 10 01
23 13 30	J1427+2348	17 40 58	43.4	250.2	3.2		38.1	-16	15505	No stop
23 15 00	=1424+240	17 42 28	43.2	250.5	3.2		38.2	74	15551	23 13 31
23 15 00	J1424+225A	17 42 28	42.2	250.4	3.3		37.9	-17	15551	No stop
23 18 30	---	17 45 59	41.7	251.3	3.3		38.1	193	15659	23 15 01
23 19 00	J1427+2348	17 46 29	42.7	251.5	3.3		38.5	14	15659	23 19 00
23 20 00	=1424+240	17 47 29	42.5	251.8	3.3		38.5	60	15690	23 19 01
23 20 00	SDSSJ1430	17 47 29	42.4	250.4	3.3		37.9	-15	15690	No stop
23 23 30	---	17 50 59	41.9	251.2	3.3		38.1	195	15798	23 20 01
23 24 00	J1427+2348	17 51 30	41.9	252.7	3.4		38.8	14	15798	23 24 00
23 25 00	=1424+240	17 52 30	41.8	253.0	3.4		38.8	60	15829	23 24 01
23 25 00	SDSSJ1430	17 52 30	41.7	251.6	3.4		38.2	-15	15829	No stop
23 28 30	---	17 56 00	41.2	252.4	3.4		38.4	195	15938	23 25 01
23 28 30	J1427+2348	17 56 00	41.3	253.8	3.5		39.0	-16	15938	No stop
23 30 00	=1424+240	17 57 31	41.1	254.2	3.5		39.1	74	15984	23 28 31
23 30 00	SDSSJ1430	17 57 31	41.0	252.8	3.4		38.5	-15	15984	No stop
23 33 30	---	18 01 01	40.5	253.6	3.5		38.7	195	16092	23 30 01

Schedule for TORUN (Code Tr) Page 17

Tick-tock: exploring the imminent merger of a supermassive black hole bi

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Thu 9 Jun 2022 Day 160 ---										
23 34 00	J1427+2348	18 01 31	40.5	255.1	3.6		39.3	14	16092	23 34 00
23 35 00	=1424+240	18 02 31	40.4	255.3	3.6		39.4	60	16123	23 34 01
23 35 00	SDSSJ1430	18 02 31	40.3	254.0	3.5		38.8	-15	16123	No stop
23 38 30	---	18 06 02	39.7	254.8	3.6		39.0	195	16231	23 35 01
23 38 30	J1427+2348	18 06 02	39.8	256.1	3.6		39.5	-16	16231	No stop
23 40 00	=1424+240	18 07 32	39.6	256.5	3.7		39.6	74	16278	23 38 31
23 40 00	J1424+225A	18 07 32	38.6	256.3	3.7		39.3	-17	16278	No stop
23 43 30	---	18 11 03	38.1	257.1	3.8		39.4	193	16386	23 40 01
23 44 00	J1427+2348	18 11 33	39.0	257.4	3.7		39.8	14	16386	23 44 00
23 45 00	=1424+240	18 12 33	38.9	257.6	3.7		39.8	60	16417	23 44 01
23 45 00	SDSSJ1430	18 12 33	38.8	256.3	3.7		39.3	-15	16417	No stop
23 48 30	---	18 16 04	38.3	257.1	3.7		39.5	195	16525	23 45 01
23 49 00	J1427+2348	18 16 34	38.3	258.5	3.8		40.0	15	16525	23 49 00
23 50 00	=1424+240	18 17 34	38.2	258.8	3.8		40.0	60	16556	23 49 01
23 50 00	SDSSJ1430	18 17 34	38.1	257.4	3.8		39.5	-15	16556	No stop
23 53 30	---	18 21 04	37.6	258.2	3.8		39.7	195	16664	23 50 01
23 53 30	J1427+2348	18 21 04	37.6	259.5	3.9		40.2	-15	16664	No stop
23 55 00	=1424+240	18 22 35	37.4	259.9	3.9		40.2	75	16710	23 53 31
23 55 00	SDSSJ1430	18 22 35	37.3	258.6	3.9		39.7	-15	16710	No stop
23 58 30	---	18 26 05	36.8	259.3	3.9		39.9	195	16819	23 55 01
23 59 00	J1427+2348	18 26 35	36.8	260.7	4.0		40.3	15	16819	23 59 00
23 59 59	=1424+240	18 27 35	36.7	261.0	4.0		40.4	59	16850	23 59 01
--- Fri 10 Jun 2022 Day 161 ---										
00 00 00	SDSSJ1430	18 27 35	36.6	259.7	3.9		39.9	-15	16850	No stop
00 03 30	---	18 31 06	36.1	260.4	4.0		40.0	195	16958	00 00 00
00 03 30	J1427+2348	18 31 06	36.2	261.7	4.1		40.5	-15	16958	No stop
00 05 00	=1424+240	18 32 36	35.9	262.0	4.1		40.5	75	17004	00 03 31
00 05 00	J1424+225A	18 32 36	34.9	261.9	4.1		40.2	-17	17004	No stop
00 08 30	---	18 36 07	34.4	262.6	4.2		40.3	193	17112	00 05 01

Schedule for TORUN (Code Tr) Page 18

Tick-tock: exploring the imminent merger of a supermassive black hole bi

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Fri 10 Jun 2022 Day 161 ---										
00 09 00	J1427+2348	18 36 37	35.3	262.9	4.1		40.6	14	17112	00 09 00
00 10 00	=1424+240	18 37 37	35.2	263.1	4.2		40.6	60	17143	00 09 01
00 10 00	SDSSJ1430	18 37 37	35.1	261.8	4.1		40.2	-15	17143	No stop
00 13 30	---	18 41 08	34.6	262.6	4.2		40.3	195	17251	00 10 01
00 14 00	J1427+2348	18 41 38	34.6	264.0	4.2		40.7	15	17251	00 14 00
00 15 00	=1424+240	18 42 38	34.4	264.2	4.2		40.7	60	17282	00 14 01
00 15 00	SDSSJ1430	18 42 38	34.4	262.9	4.2		40.3	-15	17282	No stop
00 18 30	---	18 46 08	33.8	263.7	4.2		40.4	195	17391	00 15 01
00 18 30	J1427+2348	18 46 08	33.9	264.9	4.3		40.8	-15	17391	No stop
00 20 00	=1424+240	18 47 39	33.7	265.2	4.3		40.8	75	17437	00 18 31
00 20 00	SDSSJ1430	18 47 39	33.6	264.0	4.3		40.4	-15	17437	No stop
00 23 30	---	18 51 09	33.1	264.7	4.3		40.5	195	17545	00 20 01
00 24 00	J1427+2348	18 51 39	33.1	266.1	4.4		40.9	15	17545	00 24 00
00 25 00	=1424+240	18 52 40	32.9	266.3	4.4		40.9	60	17576	00 24 01
00 25 00	SDSSJ1430	18 52 40	32.9	265.0	4.4		40.5	-15	17576	No stop
00 28 30	---	18 56 10	32.3	265.8	4.4		40.6	195	17684	00 25 01
00 28 30	J1427+2348	18 56 10	32.4	267.0	4.5		40.9	-15	17684	No stop
00 30 00	=1424+240	18 57 40	32.2	267.3	4.5		40.9	75	17731	00 28 31
00 30 00	J1424+225A	18 57 40	31.2	267.1	4.5		40.6	-17	17731	No stop
00 33 30	---	19 01 11	30.6	267.8	4.6		40.6	193	17839	00 30 01
00 34 00	J1427+2348	19 01 41	31.6	268.1	4.6		41.0	14	17839	00 34 00
00 35 00	=1424+240	19 02 41	31.4	268.3	4.6		41.0	60	17870	00 34 01
00 35 00	SDSSJ1430	19 02 41	31.4	267.1	4.5		40.6	-15	17870	No stop
00 38 30	---	19 06 12	30.8	267.8	4.6		40.7	195	17978	00 35 01
00 39 00	J1427+2348	19 06 42	30.8	269.1	4.6		41.0	15	17978	00 39 00
00 40 00	=1424+240	19 07 42	30.7	269.3	4.7		41.0	60	18009	00 39 01
00 40 00	SDSSJ1430	19 07 42	30.6	268.1	4.6		40.7	-15	18009	No stop
00 43 30	---	19 11 13	30.1	268.8	4.7		40.7	195	18117	00 40 01
00 43 30	J1427+2348	19 11 13	30.2	270.0	4.7		41.0	-15	18117	No stop
00 45 00	=1424+240	19 12 43	29.9	270.3	4.7		41.0	75	18164	00 43 31

Schedule for TORUN (Code Tr) Page 19

Tick-tock: exploring the imminent merger of a supermassive black hole bi

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Fri 10 Jun 2022 Day 161 ---										
00 45 00	SDSSJ1430	19 12 43	29.9	269.1	4.7		40.7	-15	18164	No stop
00 48 30	---	19 16 13	29.3	269.8	4.7		40.7	195	18272	00 45 01
00 49 00	J1427+2348	19 16 43	29.3	271.1	4.8		41.0	15	18272	00 49 00
00 50 00	=1424+240	19 17 44	29.2	271.3	4.8		41.0	60	18303	00 49 01
00 50 00	SDSSJ1430	19 17 44	29.1	270.1	4.8		40.7	-15	18303	No stop
00 53 30	---	19 21 14	28.6	270.8	4.8		40.7	195	18411	00 50 01
00 53 30	J1427+2348	19 21 14	28.6	272.0	4.9		40.9	-15	18411	No stop
00 55 00	=1424+240	19 22 44	28.4	272.3	4.9		40.9	75	18457	00 53 31
00 55 00	J1424+225A	19 22 44	27.4	272.1	5.0		40.6	-17	18457	No stop
00 58 30	---	19 26 15	26.9	272.8	5.0		40.6	193	18565	00 55 01
00 59 00	J1427+2348	19 26 45	27.8	273.1	5.0		40.9	14	18565	00 59 00
01 00 00	=1424+240	19 27 45	27.7	273.3	5.0		40.9	60	18596	00 59 01
01 00 00	SDSSJ1430	19 27 45	27.6	272.1	4.9		40.7	-15	18596	No stop
01 03 30	---	19 31 16	27.1	272.8	5.0		40.6	195	18705	01 00 01
01 04 00	J1427+2348	19 31 46	27.1	274.1	5.1		40.9	15	18705	01 04 00
01 05 00	=1424+240	19 32 46	26.9	274.3	5.1		40.8	60	18735	01 04 01
01 05 00	SDSSJ1430	19 32 46	26.8	273.1	5.0		40.6	-15	18735	No stop
01 08 30	---	19 36 17	26.3	273.8	5.1		40.6	195	18844	01 05 01
01 08 30	J1427+2348	19 36 17	26.4	275.0	5.1		40.8	-15	18844	No stop
01 10 00	=1424+240	19 37 47	26.2	275.3	5.2		40.8	75	18890	01 08 31
01 10 00	SDSSJ1430	19 37 47	26.1	274.1	5.1		40.6	-15	18890	No stop
01 13 30	---	19 41 18	25.6	274.8	5.2		40.5	195	18998	01 10 01
01 14 00	J1427+2348	19 41 48	25.6	276.0	5.2		40.7	15	18998	01 14 00
01 15 00	=1424+240	19 42 48	25.4	276.2	5.2		40.7	60	19029	01 14 01
01 15 00	SDSSJ1430	19 42 48	25.3	275.1	5.2		40.5	-15	19029	No stop
01 18 30	---	19 46 18	24.8	275.7	5.3		40.5	195	19137	01 15 01
01 18 30	J1427+2348	19 46 18	24.9	276.9	5.3		40.6	-15	19137	No stop
01 20 00	=1424+240	19 47 49	24.7	277.2	5.3		40.6	75	19184	01 18 31
01 20 00	J1424+225A	19 47 49	23.7	277.0	5.4		40.3	-17	19184	No stop
01 23 30	---	19 51 19	23.1	277.7	5.4		40.2	193	19292	01 20 01

```
Schedule for TORUN     (Code Tr )                                  Page  20
              Tick-tock: exploring the imminent merger of a supermassive black hole bi
  UP:  D => Below limits;  H => Below horizon mask;  W => still slewing at end;  blank => Up.
  Early: Seconds between end of slew and start.   Dwell: On source seconds.
  Disk: GBytes recorded to this point.
  TPStart:  Recording start time.  Frequencies are LO sum (band edge).
  SYNC: Time correlator is expected to sync up.
-----------------------------------------------------------------------------------------
Start UT  Source               Start / Stop                 Early    Disk   TPStart
Stop UT                  LST      EL    AZ   HA  UP   ParA  Dwell   GBytes    SYNC
-----------------------------------------------------------------------------------------

 --- Fri  10 Jun 2022   Day 161 ---

01 24 00  J1427+2348   19 51 49  24.1 277.9  5.4      40.5    14    19292   01 24 00
01 25 00  =1424+240    19 52 49  23.9 278.1  5.4      40.5    60    19323   01 24 01

01 25 00  SDSSJ1430    19 52 49  23.9 277.0  5.4      40.3   -14    19323   No stop
01 28 30  ---          19 56 20  23.3 277.7  5.4      40.3   196    19431   01 25 01

01 29 00  J1427+2348   19 56 50  23.3 278.9  5.5      40.4    15    19431   01 29 00
01 30 00  =1424+240    19 57 50  23.2 279.1  5.5      40.4    60    19462   01 29 01

01 30 00  SDSSJ1430    19 57 50  23.1 277.9  5.4      40.2   -14    19462   No stop
01 33 30  ---          20 01 21  22.6 278.6  5.5      40.2   196    19570   01 30 01

01 33 30  J1427+2348   20 01 21  22.7 279.8  5.6      40.3   -15    19570   No stop
01 35 00  =1424+240    20 02 51  22.4 280.0  5.6      40.2    75    19617   01 33 31

01 35 00  SDSSJ1430    20 02 51  22.4 278.9  5.5      40.1   -14    19617   No stop
01 38 30  ---          20 06 22  21.8 279.6  5.6      40.0   196    19725   01 35 01

01 39 00  J1427+2348   20 06 52  21.8 280.8  5.6      40.1    15    19725   01 39 00
01 40 00  =1424+240    20 07 52  21.7 281.0  5.7      40.1    60    19756   01 39 01

01 40 00  SDSSJ1430    20 07 52  21.6 279.9  5.6      40.0   -14    19756   No stop
01 43 30  ---          20 11 22  21.1 280.5  5.7      39.9   196    19864   01 40 01

01 43 30  J1427+2348   20 11 22  21.2 281.6  5.7      40.0   -15    19864   No stop
01 45 00  =1424+240    20 12 53  21.0 281.9  5.7      39.9    75    19910   01 43 31

01 45 00  J1424+225A   20 12 53  19.9 281.8  5.8      39.6   -17    19910   No stop
01 48 30  ---          20 16 23  19.4 282.4  5.8      39.5   193    20019   01 45 01

01 49 00  J1427+2348   20 16 53  20.4 282.7  5.8      39.8    14    20019   01 49 00
01 50 00  =1424+240    20 17 54  20.2 282.9  5.8      39.7    60    20049   01 49 01

01 57 00  J2236+2828   20 24 55  55.5 122.1 -2.2     -35.4    82    20049   01 57 00
02 00 00  =2234+282    20 27 55  55.9 123.0 -2.2     -35.0   180    20142   01 57 01



SETUP FILE INFORMATION:
   NOTE: If DOPPLER, FREQ, or BW were used, see the individual scans for the final BBC settings.


 ======== Setup file: sess222.C4096

   Setup group:    8         Station: TORUN            Total bit rate:  4096
   Format: VDIF              Bits per sample: 2        Sample rate: 64.000
   Number of channels: 32    DBE type: DBBC_DDC        Speedup factor:   1.00
```

Disk used to record data.

```
 1st LO=   4088.00   4088.00   4088.00   4088.00   4088.00   4088.00   4088.00   4088.00
           4088.00   4088.00   4088.00   4088.00   4088.00   4088.00   4088.00   4088.00
           4088.00   4088.00   4088.00   4088.00   4088.00   4088.00   4088.00   4088.00
           4088.00   4088.00   4088.00   4088.00   4088.00   4088.00   4088.00   4088.00
 Net SB=         L         L         U         U         L         L         U         U
                 L         L         U         U         L         L         U         U
                 L         L         U         U         L         L         U         U
                 L         L         U         U         L         L         U         U
 IF SB =         U         U         U         U         U         U         U         U
                 U         U         U         U         U         U         U         U
                 U         U         U         U         U         U         U         U
                 U         U         U         U         U         U         U         U
 Pol.  =       RCP       LCP       RCP       LCP       RCP       LCP       RCP       LCP
               RCP       LCP       RCP       LCP       RCP       LCP       RCP       LCP
               RCP       LCP       RCP       LCP       RCP       LCP       RCP       LCP
               RCP       LCP       RCP       LCP       RCP       LCP       RCP       LCP
 BBC   =         1         9         1         9         2        10         2        10
                 3        11         3        11         4        12         4        12
                 5        13         5        13         6        14         6        14
                 7        15         7        15         8        16         8        16
 BBC SB=         L         L         U         U         L         L         U         U
                 L         L         U         U         L         L         U         U
                 L         L         U         U         L         L         U         U
                 L         L         U         U         L         L         U         U
 IF    =        A1        B1        A1        B1        A1        B1        A1        B1
                A1        B1        A1        B1        A1        B1        A1        B1
                A1        B1        A1        B1        A1        B1        A1        B1
                A1        B1        A1        B1        A1        B1        A1        B1

 The following frequency sets based on these setups were used.

 Frequency Set:   9  Setup file default.  Used with PCAL = off
 LO sum=   4632.00  4632.00  4632.00  4632.00  4696.00  4696.00  4696.00  4696.00
           4760.00  4760.00  4760.00  4760.00  4824.00  4824.00  4824.00  4824.00
           4888.00  4888.00  4888.00  4888.00  4952.00  4952.00  4952.00  4952.00
           5016.00  5016.00  5016.00  5016.00  5080.00  5080.00  5080.00  5080.00
 BBC fr=    544.00   544.00   544.00   544.00   608.00   608.00   608.00   608.00
            672.00   672.00   672.00   672.00   736.00   736.00   736.00   736.00
            800.00   800.00   800.00   800.00   864.00   864.00   864.00   864.00
            928.00   928.00   928.00   928.00   992.00   992.00   992.00   992.00
 Bandwd=     32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00
             32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00
             32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00
             32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00
  Matching frequency sets:   9

 Track assignments are:
  track1=   1,  2,  3,  4,  5,  6,  7,  8,  9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 2
  barrel=roll_off



POSITIONS OF SOURCES USED IN RECORDING SCANS

 Source                        Source position (RA/Dec)                        Error
                      (B1950)            (J2000)            (Date)            (mas)

* SDSSJ1430         14 27 59.587526   * 14 30 16.040960     14 31 17.709404       0.00
                    23 17 01.74515    * 23 03 44.53870      22 57 53.48423        0.00

* J1424+225A        14 22 20.997855   * 14 24 38.118000     14 25 40.056440       0.00
```

```
                    23 09 32.78519    * 22 56 00.89000      22 50 03.48944        0.00

  1308+326          13 08 07.560130   * 13 10 28.663850     13 11 32.081242       0.22
* J1310+3220        32 36 40.23884    * 32 20 43.78291      32 13 47.16499        0.20
  J1310+32          /home/guest/rmc/SCHED/sched11.6/catalogs/sources.gsfc
                    GSFC 2016a X/S astro solution, 116159 observations.

  1424+240          14 24 44.222625   * 14 27 00.391778     14 28 01.929142       0.03
* J1427+2348        24 01 25.78942    * 23 48 00.03753      23 42 05.46557        0.03
  J1427+23          /home/guest/rmc/SCHED/sched11.6/catalogs/sources.gsfc
                    GSFC 2016a X/S astro solution,   1168 observations.

  2234+282          22 34 01.728802   * 22 36 22.470847     22 37 24.984734       0.34
* J2236+2828        28 13 23.21045    * 28 28 57.41317      28 35 39.87633        0.31
  J2236+28          /home/guest/rmc/SCHED/sched11.6/catalogs/sources.gsfc
                    GSFC 2016a X/S astro solution,  91001 observations.
```

ew029ctr

Monitoring the old, discovering the new; mas-scale radio emission I

PI: *Dr David Williams*

Address: Jodrell Band Centre for Astrophysics

Observing mode:

```
Schedule for TORUN     (Code Tr )                                   Page   2
               Monitoring the old, discovering the new; mas-scale radio emission in M82
  UP:  D => Below limits;  H => Below horizon mask;  W => still slewing at end;  blank => Up.
  Early: Seconds between end of slew and start.   Dwell: On source seconds.
  Disk: GBytes recorded to this point.
  TPStart:  Recording start time.  Frequencies are LO sum (band edge).
  SYNC: Time correlator is expected to sync up.
-------------------------------------------------------------------------------------------
Start UT  Source                Start / Stop                  Early    Disk   TPStart
Stop UT                   LST      EL    AZ   HA  UP   ParA  Dwell   GBytes    SYNC
-------------------------------------------------------------------------------------------
 --- Fri  10 Jun 2022   Day 161 ---
 Next scan frequencies:  4958.49  4958.49  4958.49  4958.49  5022.49  5022.49  5022.49  5022.49
 Next BBC frequencies:    758.49   758.49   758.49   758.49   822.49   822.49   822.49   822.49
 Next scan bandwidths:     32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00

04 00 00  3C84         22 28 15  41.3  72.5 -4.9     -50.0     0        0   04 00 00
04 06 00  ---          22 34 16  42.2  73.4 -4.8     -50.3   360       46   04 00 01

04 12 00  J0958+65     22 40 17  28.8   4.7-11.3      -6.8   207       46   04 12 00
04 18 00  ---          22 46 18  28.9   5.4-11.2      -7.8   360       93   04 12 01

04 18 40  J0958+65     22 46 58  28.9   5.5-11.2      -7.9    34       93   04 18 40
04 20 30  ---          22 48 48  28.9   5.7-11.2      -8.3   110      107   04 18 41

04 20 30  M82          22 48 48  33.0   5.3-11.1      -9.1   -29      107   No stop
04 25 00  ---          22 53 19  33.1   5.7-11.1      -9.9   241      142   04 20 31

04 25 00  J0958+65     22 53 19  29.0   6.2-11.1      -9.0   -29      142   No stop
04 27 30  ---          22 55 49  29.0   6.5-11.1      -9.5   121      161   04 25 01

04 27 30  M82          22 55 49  33.1   6.0-11.0     -10.4   -29      161   No stop
04 32 00  ---          23 00 20  33.2   6.5-11.0     -11.2   241      196   04 27 31

04 32 40  J0958+65     23 01 00  29.1   7.1-11.0     -10.3    11      196   04 32 40
04 34 30  ---          23 02 51  29.2   7.3-11.0     -10.7   110      210   04 32 41

04 34 30  M82          23 02 51  33.2   6.7-10.9     -11.6   -29      210   No stop
04 39 00  ---          23 07 21  33.3   7.2-10.8     -12.4   241      245   04 34 31

04 39 40  J0958+65     23 08 01  29.3   7.9-10.9     -11.5    11      245   04 39 40
04 41 30  ---          23 09 52  29.3   8.2-10.8     -11.8   110      259   04 39 41

04 41 30  M82          23 09 52  33.4   7.4-10.8     -12.9   -29      259   No stop
04 46 00  ---          23 14 22  33.5   7.9-10.7     -13.7   241      294   04 41 31

04 46 00  J0958+65     23 14 22  29.4   8.7-10.8     -12.6   -29      294   No stop
04 48 30  ---          23 16 53  29.5   9.0-10.7     -13.0   121      313   04 46 01

04 48 30  M82          23 16 53  33.5   8.2-10.7     -14.1   -29      313   No stop
04 53 00  ---          23 21 24  33.6   8.6-10.6     -14.9   241      348   04 48 31

04 53 40  J0958+65     23 22 04  29.6   9.6-10.6     -13.9    11      348   04 53 40
04 55 30  ---          23 23 54  29.6   9.8-10.6     -14.2   110      362   04 53 41
```

Schedule for TORUN (Code Tr) Page 3

Monitoring the old, discovering the new; mas-scale radio emission in M82

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Fri 10 Jun 2022 Day 161 ---										
04 55 30	M82	23 23 54	33.7	8.9	-10.6		-15.4	-29	362	No stop
05 00 00	---	23 28 25	33.8	9.3	-10.5		-16.2	241	397	04 55 31
05 00 40	J0958+65	23 29 05	29.8	10.4	-10.5		-15.1	11	397	05 00 40
05 02 30	---	23 30 55	29.8	10.6	-10.5		-15.4	110	411	05 00 41
05 02 30	M82	23 30 55	33.8	9.6	-10.4		-16.6	-29	411	No stop
05 07 00	---	23 35 26	34.0	10.0	-10.4		-17.4	241	446	05 02 31
05 07 00	J0958+65	23 35 26	29.9	11.1	-10.4		-16.2	-29	446	No stop
05 09 30	---	23 37 56	30.0	11.4	-10.4		-16.6	121	465	05 07 01
05 09 30	M82	23 37 56	34.0	10.3	-10.3		-17.9	-29	465	No stop
05 14 00	---	23 42 27	34.2	10.7	-10.3		-18.7	241	500	05 09 31
05 14 40	J0958+65	23 43 07	30.2	12.0	-10.3		-17.5	11	500	05 14 40
05 16 30	---	23 44 57	30.2	12.2	-10.3		-17.8	110	514	05 14 41
05 16 30	M82	23 44 57	34.2	11.0	-10.2		-19.1	-29	514	No stop
05 21 00	---	23 49 28	34.4	11.4	-10.1		-19.9	241	549	05 16 31
05 21 40	J0958+65	23 50 08	30.4	12.8	-10.2		-18.7	11	549	05 21 40
05 23 30	---	23 51 59	30.5	13.0	-10.1		-19.0	110	563	05 21 41
05 23 30	M82	23 51 59	34.4	11.7	-10.1		-20.4	-29	563	No stop
05 28 00	---	23 56 29	34.6	12.1	-10.0		-21.2	241	598	05 23 31
05 28 00	J0958+65	23 56 29	30.6	13.5	-10.1		-19.8	-29	598	No stop
05 30 30	---	23 59 00	30.7	13.8	-10.0		-20.2	121	617	05 28 01
05 30 30	M82	23 59 00	34.6	12.4	-10.0		-21.6	-29	617	No stop
05 35 00	---	00 03 30	34.8	12.8	-9.9		-22.4	241	652	05 30 31
05 35 40	J0958+65	00 04 11	30.9	14.4	-9.9		-21.1	11	652	05 35 40
05 37 30	---	00 06 01	31.0	14.6	-9.9		-21.4	110	666	05 35 41
05 37 30	M82	00 06 01	34.9	13.1	-9.9		-22.9	-29	666	No stop
05 42 00	---	00 10 32	35.0	13.5	-9.8		-23.7	241	701	05 37 31
05 42 40	J0958+65	00 11 12	31.2	15.2	-9.8		-22.3	12	701	05 42 40
05 44 30	---	00 13 02	31.2	15.4	-9.8		-22.6	110	715	05 42 41
05 44 30	M82	00 13 02	35.1	13.7	-9.7		-24.1	-29	715	No stop
05 49 00	---	00 17 33	35.3	14.2	-9.7		-24.9	241	750	05 44 31
05 49 00	J0958+65	00 17 33	31.4	15.9	-9.7		-23.3	-28	750	No stop
05 51 30	---	00 20 03	31.5	16.2	-9.7		-23.8	122	769	05 49 01

Schedule for TORUN (Code Tr) Page 4

Monitoring the old, discovering the new; mas-scale radio emission in M82

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Fri 10 Jun 2022 Day 161 ---										
05 51 30	M82	00 20 03	35.4	14.4	-9.6		-25.4	-28	769	No stop
05 56 00	---	00 24 34	35.6	14.9	-9.6		-26.2	242	804	05 51 31
05 56 40	J0958+65	00 25 14	31.7	16.8	-9.6		-24.6	12	804	05 56 40
05 58 30	---	00 27 04	31.8	17.0	-9.6		-25.0	110	818	05 56 41
05 58 30	M82	00 27 04	35.6	15.1	-9.5		-26.6	-28	818	No stop
06 03 00	---	00 31 35	35.8	15.5	-9.4		-27.4	242	853	05 58 31
06 03 40	J0958+65	00 32 15	32.1	17.5	-9.5		-25.8	12	853	06 03 40
06 05 30	---	00 34 05	32.1	17.7	-9.4		-26.1	110	867	06 03 41
06 05 30	M82	00 34 05	35.9	15.8	-9.4		-27.9	-28	867	No stop
06 10 00	---	00 38 36	36.1	16.2	-9.3		-28.7	242	902	06 05 31
06 10 00	J0958+65	00 38 36	32.4	18.2	-9.4		-26.9	-28	902	No stop
06 12 30	---	00 41 07	32.5	18.5	-9.3		-27.3	122	921	06 10 01
06 12 30	M82	00 41 07	36.2	16.4	-9.3		-29.1	-28	921	No stop
06 17 00	---	00 45 37	36.4	16.9	-9.2		-29.9	242	956	06 12 31
06 17 40	J0958+65	00 46 17	32.7	19.1	-9.2		-28.2	12	956	06 17 40
06 19 30	---	00 48 08	32.8	19.3	-9.2		-28.5	110	970	06 17 41
06 19 30	M82	00 48 08	36.5	17.1	-9.2		-30.4	-28	970	No stop
06 24 00	---	00 52 39	36.7	17.5	-9.1		-31.2	242	1005	06 19 31
06 24 40	J0958+65	00 53 19	33.1	19.8	-9.1		-29.4	12	1005	06 24 40
06 26 30	---	00 55 09	33.2	20.0	-9.1		-29.7	110	1019	06 24 41
06 26 30	M82	00 55 09	36.8	17.8	-9.0		-31.7	-28	1019	No stop
06 31 00	---	00 59 40	37.1	18.2	-9.0		-32.5	242	1054	06 26 31
06 31 00	J0958+65	00 59 40	33.4	20.5	-9.0		-30.5	-28	1054	No stop
06 33 30	---	01 02 10	33.5	20.8	-9.0		-30.9	122	1073	06 31 01
06 33 30	M82	01 02 10	37.2	18.4	-8.9		-32.9	-28	1073	No stop
06 38 00	---	01 06 41	37.4	18.8	-8.8		-33.7	242	1108	06 33 31
06 38 40	J0958+65	01 07 21	33.8	21.3	-8.9		-31.7	13	1108	06 38 40
06 40 30	---	01 09 11	33.9	21.5	-8.9		-32.1	110	1122	06 38 41
06 40 30	M82	01 09 11	37.5	19.0	-8.8		-34.2	-27	1122	No stop
06 45 00	---	01 13 42	37.7	19.5	-8.7		-35.0	243	1157	06 40 31

Schedule for TORUN (Code Tr) Page 5

Monitoring the old, discovering the new; mas-scale radio emission in M82

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Fri 10 Jun 2022 Day 161 ---										
06 45 40	J0958+65	01 14 22	34.2	22.1	-8.8		-32.9	13	1157	06 45 40
06 47 30	---	01 16 12	34.3	22.3	-8.7		-33.2	110	1171	06 45 41
06 47 30	M82	01 16 12	37.9	19.7	-8.7		-35.4	-27	1171	No stop
06 52 00	---	01 20 43	38.1	20.1	-8.6		-36.2	243	1206	06 47 31
06 52 00	J0958+65	01 20 43	34.6	22.7	-8.7		-34.0	-27	1206	No stop
06 54 30	---	01 23 14	34.7	23.0	-8.6		-34.4	123	1225	06 52 01
06 54 30	M82	01 23 14	38.2	20.3	-8.6		-36.7	-27	1225	No stop
06 59 00	---	01 27 44	38.5	20.7	-8.5		-37.5	243	1260	06 54 31
06 59 40	J0958+65	01 28 24	35.0	23.5	-8.5		-35.3	13	1260	06 59 40
07 01 30	---	01 30 15	35.1	23.7	-8.5		-35.6	110	1274	06 59 41
07 01 30	M82	01 30 15	38.6	20.9	-8.5		-37.9	-27	1274	No stop
07 06 00	---	01 34 45	38.8	21.3	-8.4		-38.7	243	1309	07 01 31
07 06 40	J0958+65	01 35 26	35.4	24.3	-8.4		-36.5	13	1309	07 06 40
07 08 30	---	01 37 16	35.6	24.5	-8.4		-36.8	110	1323	07 06 41
07 08 30	M82	01 37 16	39.0	21.5	-8.3		-39.2	-27	1323	No stop
07 13 00	---	01 41 47	39.2	21.9	-8.3		-40.0	243	1358	07 08 31
07 13 00	J0958+65	01 41 47	35.8	24.9	-8.3		-37.5	-26	1358	No stop
07 15 30	---	01 44 17	36.0	25.2	-8.3		-38.0	124	1377	07 13 01
07 15 30	M82	01 44 17	39.4	22.1	-8.2		-40.5	-27	1377	No stop
07 20 00	---	01 48 48	39.6	22.5	-8.1		-41.3	243	1412	07 15 31
07 20 40	J0958+65	01 49 28	36.3	25.7	-8.2		-38.8	14	1412	07 20 40
07 22 30	---	01 51 18	36.5	25.9	-8.2		-39.1	110	1426	07 20 41
07 22 30	M82	01 51 18	39.8	22.7	-8.1		-41.7	-26	1426	No stop
07 27 00	---	01 55 49	40.0	23.1	-8.0		-42.5	244	1461	07 22 31
07 27 40	J0958+65	01 56 29	36.8	26.4	-8.1		-40.0	14	1461	07 27 40
07 29 30	---	01 58 19	36.9	26.6	-8.0		-40.3	110	1475	07 27 41
07 29 30	M82	01 58 19	40.2	23.3	-8.0		-43.0	-26	1475	No stop
07 34 00	---	02 02 50	40.4	23.7	-7.9		-43.8	244	1510	07 29 31
07 34 00	J0958+65	02 02 50	37.2	27.0	-8.0		-41.1	-26	1510	No stop
07 36 30	---	02 05 20	37.4	27.3	-7.9		-41.5	124	1529	07 34 01

Schedule for TORUN (Code Tr) Page 6

Monitoring the old, discovering the new; mas-scale radio emission in M82

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT	Source	Start / Stop						Early	Disk	TPStart
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC
--- Fri 10 Jun 2022 Day 161 ---										
07 36 30	M82	02 05 20	40.6	23.9	-7.9		-44.2	-26	1529	No stop
07 41 00	---	02 09 51	40.9	24.3	-7.8		-45.1	244	1564	07 36 31
07 41 40	J0958+65	02 10 31	37.8	27.8	-7.8		-42.4	14	1564	07 41 40
07 43 30	---	02 12 22	37.9	28.0	-7.8		-42.7	110	1578	07 41 41
07 43 30	M82	02 12 22	41.0	24.5	-7.8		-45.5	-26	1578	No stop
07 48 00	---	02 16 52	41.3	24.9	-7.7		-46.3	244	1613	07 43 31
07 48 00	J0958+65	02 16 52	38.2	28.4	-7.7		-43.4	-25	1613	No stop
07 50 00	---	02 18 53	38.4	28.6	-7.7		-43.8	95	1628	07 48 01
07 50 20	J0958+65	02 19 13	38.4	28.6	-7.7		-43.8	14	1628	07 50 20
07 51 40	---	02 20 33	38.5	28.7	-7.7		-44.0	80	1639	07 50 21
07 51 40	M82	02 20 33	41.5	25.2	-7.6		-47.0	-26	1639	No stop
07 56 10	---	02 25 04	41.8	25.5	-7.5		-47.8	244	1673	07 51 41
07 56 30	J0958+65	02 25 24	38.8	29.2	-7.6		-44.9	-5	1673	07 56 30
07 58 00	---	02 26 54	38.9	29.3	-7.6		-45.1	85	1685	07 56 31
07 58 40	J0958+65	02 27 34	39.0	29.4	-7.5		-45.2	34	1685	07 58 40
08 00 30	---	02 29 24	39.1	29.6	-7.5		-45.5	110	1699	07 58 41
08 00 30	M82	02 29 24	42.1	25.8	-7.5		-48.6	-25	1699	No stop
08 05 00	---	02 33 55	42.4	26.2	-7.4		-49.4	245	1734	08 00 31
08 05 00	J0958+65	02 33 55	39.5	30.0	-7.4		-46.3	-25	1734	No stop
08 07 30	---	02 36 26	39.6	30.2	-7.4		-46.7	125	1753	08 05 01
08 07 30	M82	02 36 26	42.6	26.4	-7.4		-49.9	-25	1753	No stop
08 12 00	---	02 40 56	42.9	26.7	-7.3		-50.7	245	1788	08 07 31
08 12 40	J0958+65	02 41 36	40.0	30.7	-7.3		-47.6	15	1788	08 12 40
08 14 30	---	02 43 27	40.2	30.9	-7.3		-47.9	110	1802	08 12 41
08 14 30	M82	02 43 27	43.1	26.9	-7.2		-51.2	-25	1802	No stop
08 19 00	---	02 47 57	43.4	27.3	-7.2		-52.0	245	1837	08 14 31
08 19 40	J0958+65	02 48 38	40.6	31.3	-7.2		-48.8	16	1837	08 19 40
08 21 30	---	02 50 28	40.7	31.5	-7.2		-49.1	110	1851	08 19 41
08 21 30	M82	02 50 28	43.5	27.4	-7.1		-52.5	-25	1851	No stop
08 26 00	---	02 54 59	43.9	27.8	-7.0		-53.3	245	1886	08 21 31

Schedule for TORUN (Code Tr) Page 7

Monitoring the old, discovering the new; mas-scale radio emission in M82

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	LST	Start / Stop EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Fri 10 Jun 2022 Day 161 ---										
08 26 00	J0958+65	02 54 59	41.1	31.9	-7.1		-49.8	-24	1886	No stop
08 28 30	---	02 57 29	41.3	32.1	-7.0		-50.3	126	1905	08 26 01
08 28 30	M82	02 57 29	44.0	27.9	-7.0		-53.8	-24	1905	No stop
08 33 00	---	03 02 00	44.3	28.3	-6.9		-54.6	246	1940	08 28 31
08 33 40	J0958+65	03 02 40	41.7	32.6	-7.0		-51.2	16	1940	08 33 40
08 35 30	---	03 04 30	41.8	32.7	-6.9		-51.5	110	1954	08 33 41
08 35 30	M82	03 04 30	44.5	28.4	-6.9		-55.1	-24	1954	No stop
08 40 00	---	03 09 01	44.8	28.8	-6.8		-55.9	246	1989	08 35 31
08 40 40	J0958+65	03 09 41	42.3	33.2	-6.8		-52.3	16	1989	08 40 40
08 42 30	---	03 11 31	42.4	33.4	-6.8		-52.7	110	2003	08 40 41
08 42 30	M82	03 11 31	45.0	28.9	-6.8		-56.4	-24	2003	No stop
08 47 00	---	03 16 02	45.4	29.2	-6.7		-57.2	246	2038	08 42 31
08 47 00	J0958+65	03 16 02	42.8	33.7	-6.7		-53.4	-24	2038	No stop
08 49 30	---	03 18 32	43.0	33.9	-6.7		-53.8	126	2057	08 47 01
08 49 30	M82	03 18 32	45.5	29.4	-6.7		-57.7	-24	2057	No stop
08 54 00	---	03 23 03	45.9	29.7	-6.6		-58.5	246	2092	08 49 31
08 54 40	J0958+65	03 23 43	43.4	34.4	-6.6		-54.7	16	2092	08 54 40
08 56 30	---	03 25 34	43.6	34.5	-6.6		-55.0	110	2106	08 54 41
08 56 30	M82	03 25 34	46.1	29.9	-6.5		-59.0	-24	2106	No stop
09 01 00	---	03 30 04	46.4	30.2	-6.5		-59.8	246	2141	08 56 31
09 01 40	J0958+65	03 30 44	44.0	34.9	-6.5		-55.9	15	2141	09 01 40
09 03 30	---	03 32 35	44.2	35.1	-6.5		-56.2	110	2155	09 01 41
09 03 30	M82	03 32 35	46.6	30.3	-6.4		-60.3	-25	2155	No stop
09 08 00	---	03 37 05	46.9	30.6	-6.3		-61.2	245	2190	09 03 31
09 08 00	J0958+65	03 37 05	44.6	35.5	-6.4		-57.0	-25	2190	No stop
09 10 30	---	03 39 36	44.8	35.7	-6.3		-57.4	125	2209	09 08 01
09 10 30	M82	03 39 36	47.1	30.7	-6.3		-61.6	-25	2209	No stop
09 15 00	---	03 44 07	47.5	31.0	-6.2		-62.5	245	2244	09 10 31
09 15 40	J0958+65	03 44 47	45.3	36.1	-6.3		-58.3	15	2244	09 15 40
09 17 30	---	03 46 37	45.4	36.2	-6.2		-58.7	110	2258	09 15 41

Schedule for TORUN (Code Tr) Page 8

Monitoring the old, discovering the new; mas-scale radio emission in M82

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT	Source	Start / Stop						Early	Disk	TPStart
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC
--- Fri 10 Jun 2022 Day 161 ---										
09 17 30	M82	03 46 37	47.7	31.2	-6.2		-63.0	-25	2258	No stop
09 22 00	---	03 51 08	48.0	31.4	-6.1		-63.8	245	2293	09 17 31
09 22 40	J0958+65	03 51 48	45.9	36.6	-6.1		-59.6	15	2293	09 22 40
09 24 30	---	03 53 38	46.1	36.7	-6.1		-59.9	110	2307	09 22 41
09 24 30	M82	03 53 38	48.2	31.6	-6.1		-64.3	-25	2307	No stop
09 29 00	---	03 58 09	48.6	31.8	-6.0		-65.2	245	2342	09 24 31
09 29 00	J0958+65	03 58 09	46.5	37.1	-6.0		-60.7	-26	2342	No stop
09 31 30	---	04 00 39	46.7	37.3	-6.0		-61.1	124	2361	09 29 01
09 31 30	M82	04 00 39	48.8	32.0	-5.9		-65.7	-26	2361	No stop
09 36 00	---	04 05 10	49.1	32.2	-5.9		-66.5	244	2396	09 31 31
09 36 40	J0958+65	04 05 50	47.2	37.6	-5.9		-62.0	14	2396	09 36 40
09 38 30	---	04 07 40	47.3	37.8	-5.9		-62.3	110	2410	09 36 41
09 38 30	M82	04 07 40	49.3	32.3	-5.8		-67.0	-26	2410	No stop
09 43 00	---	04 12 11	49.7	32.6	-5.8		-67.9	244	2445	09 38 31
09 43 40	J0958+65	04 12 51	47.8	38.1	-5.8		-63.2	14	2445	09 43 40
09 45 30	---	04 14 42	48.0	38.3	-5.8		-63.6	110	2459	09 43 41
09 45 30	M82	04 14 42	49.9	32.7	-5.7		-68.4	-26	2459	No stop
09 50 00	---	04 19 12	50.3	32.9	-5.6		-69.3	244	2494	09 45 31
09 50 00	J0958+65	04 19 12	48.4	38.6	-5.7		-64.3	-26	2494	No stop
09 52 30	---	04 21 43	48.6	38.7	-5.6		-64.8	124	2513	09 50 01
09 52 30	M82	04 21 43	50.5	33.0	-5.6		-69.8	-26	2513	No stop
09 57 00	---	04 26 14	50.8	33.3	-5.5		-70.7	244	2548	09 52 31
09 57 40	J0958+65	04 26 54	49.1	39.1	-5.6		-65.7	13	2548	09 57 40
09 59 30	---	04 28 44	49.3	39.2	-5.5		-66.0	110	2562	09 57 41
09 59 30	M82	04 28 44	51.1	33.4	-5.5		-71.2	-27	2562	No stop
10 04 00	---	04 33 15	51.4	33.6	-5.4		-72.1	243	2597	09 59 31
10 04 40	J0958+65	04 33 55	49.8	39.5	-5.4		-67.0	13	2597	10 04 40
10 06 30	---	04 35 45	50.0	39.6	-5.4		-67.3	110	2611	10 04 41
10 06 30	M82	04 35 45	51.6	33.7	-5.4		-72.6	-27	2611	No stop
10 11 00	---	04 40 16	52.0	33.9	-5.3		-73.5	243	2646	10 06 31

Schedule for TORUN (Code Tr) Page 9

Monitoring the old, discovering the new; mas-scale radio emission in M82

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Fri 10 Jun 2022 Day 161 ---										
10 11 00	J0958+65	04 40 16	50.4	39.9	-5.3		-68.1	-27	2646	No stop
10 13 30	---	04 42 46	50.6	40.1	-5.3		-68.6	123	2665	10 11 01
10 13 30	M82	04 42 46	52.2	34.0	-5.2		-74.0	-27	2665	No stop
10 18 00	---	04 47 17	52.6	34.1	-5.2		-74.9	243	2700	10 13 31
10 18 40	J0958+65	04 47 57	51.1	40.4	-5.2		-69.5	13	2700	10 18 40
10 20 30	---	04 49 47	51.3	40.5	-5.2		-69.8	110	2714	10 18 41
10 20 30	M82	04 49 47	52.8	34.2	-5.1		-75.4	-27	2714	No stop
10 25 00	---	04 54 18	53.2	34.4	-5.1		-76.4	243	2749	10 20 31
10 25 40	J0958+65	04 54 58	51.8	40.8	-5.1		-70.8	12	2749	10 25 40
10 27 30	---	04 56 49	52.0	40.9	-5.1		-71.1	110	2763	10 25 41
10 27 30	M82	04 56 49	53.4	34.5	-5.0		-76.9	-28	2763	No stop
10 32 00	---	05 01 19	53.8	34.6	-4.9		-77.8	242	2798	10 27 31
10 32 00	J0958+65	05 01 19	52.5	41.1	-5.0		-72.0	-28	2798	No stop
10 34 30	---	05 03 50	52.7	41.2	-4.9		-72.4	122	2817	10 32 01
10 34 30	M82	05 03 50	54.0	34.7	-4.9		-78.3	-28	2817	No stop
10 39 00	---	05 08 20	54.4	34.8	-4.8		-79.3	242	2852	10 34 31
10 39 40	J0958+65	05 09 01	53.2	41.5	-4.9		-73.4	12	2852	10 39 40
10 41 30	---	05 10 51	53.4	41.6	-4.8		-73.7	110	2866	10 39 41
10 41 30	M82	05 10 51	54.6	34.9	-4.8		-79.8	-28	2866	No stop
10 46 00	---	05 15 22	55.0	35.0	-4.7		-80.8	242	2901	10 41 31
10 46 40	J0958+65	05 16 02	53.9	41.8	-4.7		-74.7	11	2901	10 46 40
10 48 30	---	05 17 52	54.1	41.9	-4.7		-75.1	110	2915	10 46 41
10 48 30	M82	05 17 52	55.2	35.1	-4.7		-81.3	-29	2915	No stop
10 53 00	---	05 22 23	55.6	35.2	-4.6		-82.3	241	2950	10 48 31
10 53 00	J0958+65	05 22 23	54.6	42.1	-4.6		-75.9	-29	2950	No stop
10 55 30	---	05 24 53	54.8	42.2	-4.6		-76.4	121	2969	10 53 01
10 55 30	M82	05 24 53	55.8	35.2	-4.5		-82.8	-29	2969	No stop
11 00 00	---	05 29 24	56.2	35.3	-4.5		-83.8	241	3004	10 55 31
11 00 40	J0958+65	05 30 04	55.3	42.5	-4.5		-77.4	11	3004	11 00 40
11 02 30	---	05 31 54	55.5	42.5	-4.5		-77.8	110	3018	11 00 41

Schedule for TORUN (Code Tr) Page 10

Monitoring the old, discovering the new; mas-scale radio emission in M82

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT	Source	Start / Stop						Early	Disk	TPStart
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC
--- Fri 10 Jun 2022 Day 161 ---										
11 02 30	M82	05 31 54	56.4	35.3	-4.4		-84.4	-29	3018	No stop
11 07 00	---	05 36 25	56.8	35.4	-4.4		-85.4	241	3053	11 02 31
11 07 00	J0958+65	05 36 25	56.0	42.7	-4.4		-78.7	-30	3053	No stop
11 09 00	---	05 38 25	56.2	42.8	-4.4		-79.1	90	3068	11 07 01
11 11 00	J0927+39	05 40 26	49.2	86.6	-3.8		-50.4	17	3068	11 11 00
11 17 00	---	05 46 27	50.1	87.8	-3.7		-50.5	360	3115	11 11 01
11 19 00	J0958+65	05 48 27	57.2	43.1	-4.2		-81.1	16	3115	11 19 00
11 21 00	---	05 50 27	57.4	43.2	-4.2		-81.5	120	3130	11 19 01
11 21 00	M82	05 50 27	58.0	35.5	-4.1		-88.6	-30	3130	No stop
11 25 30	---	05 54 58	58.4	35.5	-4.0		-89.6	240	3165	11 21 01
11 25 50	J0958+65	05 55 18	57.9	43.3	-4.1		-82.5	-11	3165	11 25 50
11 27 00	---	05 56 28	58.0	43.3	-4.1		-82.7	59	3174	11 25 51
11 28 00	J0958+65	05 57 28	58.1	43.3	-4.0		-82.9	54	3174	11 28 00
11 29 30	---	05 58 59	58.3	43.4	-4.0		-83.2	90	3186	11 28 01
11 29 30	M82	05 58 59	58.8	35.5	-4.0		-90.6	-31	3186	No stop
11 34 00	---	06 03 29	59.2	35.5	-3.9		-91.6	239	3220	11 29 31
11 34 00	J0958+65	06 03 29	58.8	43.5	-3.9		-84.2	-31	3220	No stop
11 36 30	---	06 06 00	59.0	43.5	-3.9		-84.7	119	3240	11 34 01
11 36 30	M82	06 06 00	59.4	35.5	-3.9		-92.2	-31	3240	No stop
11 41 00	---	06 10 31	59.8	35.5	-3.8		-93.3	239	3275	11 36 31
11 42 00	J0958+65	06 11 31	59.6	43.6	-3.8		-85.9	29	3275	11 42 00
11 43 30	---	06 13 01	59.7	43.6	-3.8		-86.2	90	3286	11 42 01
11 43 30	M82	06 13 01	60.0	35.4	-3.7		-93.9	-31	3286	No stop
11 48 00	---	06 17 32	60.4	35.4	-3.7		-95.1	239	3321	11 43 31
11 49 00	J0958+65	06 18 32	60.3	43.7	-3.7		-87.4	28	3321	11 49 00
11 50 30	---	06 20 02	60.5	43.7	-3.7		-87.7	90	3333	11 49 01
11 50 30	M82	06 20 02	60.6	35.3	-3.6		-95.7	-32	3333	No stop
11 55 00	---	06 24 33	61.0	35.2	-3.6		-96.8	238	3367	11 50 31
11 55 00	J0958+65	06 24 33	60.9	43.7	-3.6		-88.7	-32	3367	No stop
11 57 30	---	06 27 03	61.2	43.7	-3.6		-89.3	118	3387	11 55 01

Schedule for TORUN (Code Tr) Page 11

Monitoring the old, discovering the new; mas-scale radio emission in M82

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Fri 10 Jun 2022 Day 161 ---										
11 57 30	M82	06 27 03	61.2	35.2	-3.5		-97.4	-32	3387	No stop
12 02 00	---	06 31 34	61.6	35.1	-3.4		-98.6	238	3421	11 57 31
12 03 00	J0958+65	06 32 34	61.8	43.8	-3.5		-90.5	28	3421	12 03 00
12 04 30	---	06 34 04	61.9	43.7	-3.4		-90.9	90	3433	12 03 01
12 04 30	M82	06 34 04	61.8	35.0	-3.4		-99.3	-33	3433	No stop
12 09 00	---	06 38 35	62.2	34.9	-3.3		-100.4	237	3468	12 04 31
12 10 00	J0958+65	06 39 35	62.5	43.7	-3.3		-92.2	27	3468	12 10 00
12 11 30	---	06 41 06	62.7	43.7	-3.3		-92.5	90	3479	12 10 01
12 11 30	M82	06 41 06	62.4	34.8	-3.3		-101.1	-33	3479	No stop
12 16 00	---	06 45 36	62.8	34.6	-3.2		-102.3	237	3514	12 11 31
12 16 00	J0958+65	06 45 36	63.1	43.6	-3.2		-93.6	-33	3514	No stop
12 18 30	---	06 48 07	63.4	43.6	-3.2		-94.2	117	3534	12 16 01
12 18 30	M82	06 48 07	63.0	34.5	-3.2		-103.0	-33	3534	No stop
12 23 00	---	06 52 38	63.4	34.3	-3.1		-104.2	237	3568	12 18 31
12 24 00	J0958+65	06 53 38	64.0	43.5	-3.1		-95.6	27	3568	12 24 00
12 25 30	---	06 55 08	64.1	43.5	-3.1		-95.9	90	3580	12 24 01
12 25 30	M82	06 55 08	63.6	34.2	-3.0		-104.9	-34	3580	No stop
12 30 00	---	06 59 39	64.0	33.9	-3.0		-106.2	236	3615	12 25 31
12 31 00	J0958+65	07 00 39	64.7	43.3	-3.0		-97.3	26	3615	12 31 00
12 32 30	---	07 02 09	64.8	43.3	-3.0		-97.7	90	3626	12 31 01
12 32 30	M82	07 02 09	64.2	33.8	-2.9		-106.9	-34	3626	No stop
12 37 00	---	07 06 40	64.6	33.5	-2.8		-108.2	236	3661	12 32 31
12 37 00	J0958+65	07 06 40	65.3	43.1	-2.9		-98.9	-34	3661	No stop
12 39 30	---	07 09 10	65.6	43.0	-2.9		-99.5	116	3680	12 37 01
12 39 30	M82	07 09 10	64.8	33.3	-2.8		-109.0	-34	3680	No stop
12 44 00	---	07 13 41	65.2	33.0	-2.7		-110.3	236	3715	12 39 31
12 45 00	J0958+65	07 14 41	66.1	42.7	-2.8		-101.0	25	3715	12 45 00
12 46 30	---	07 16 11	66.3	42.7	-2.7		-101.4	90	3727	12 45 01
12 46 30	M82	07 16 11	65.4	32.8	-2.7		-111.1	-35	3727	No stop
12 51 00	---	07 20 42	65.7	32.5	-2.6		-112.4	235	3762	12 46 31

Schedule for TORUN (Code Tr) Page 12

Monitoring the old, discovering the new; mas-scale radio emission in M82

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	LST	Start / Stop EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Fri 10 Jun 2022 Day 161 ---										
12 52 00	J0958+65	07 21 42	66.8	42.4	-2.6		-103.0	25	3762	12 52 00
12 53 30	---	07 23 13	67.0	42.3	-2.6		-103.4	90	3773	12 52 01
12 53 30	M82	07 23 13	65.9	32.3	-2.6		-113.2	-35	3773	No stop
12 58 00	---	07 27 43	66.3	31.9	-2.5		-114.6	235	3808	12 53 31
12 58 00	J0958+65	07 27 43	67.4	42.0	-2.5		-104.7	-35	3808	No stop
13 00 30	---	07 30 14	67.7	41.8	-2.5		-105.4	115	3827	12 58 01
13 00 30	M82	07 30 14	66.5	31.7	-2.5		-115.4	-35	3827	No stop
13 05 00	---	07 34 44	66.8	31.2	-2.4		-116.9	235	3862	13 00 31
13 06 00	J0958+65	07 35 45	68.2	41.4	-2.4		-107.1	25	3862	13 06 00
13 07 30	---	07 37 15	68.4	41.3	-2.4		-107.5	90	3874	13 06 01
13 07 30	M82	07 37 15	67.0	31.0	-2.3		-117.7	-36	3874	No stop
13 12 00	---	07 41 46	67.4	30.5	-2.3		-119.2	234	3908	13 07 31
13 13 00	J0958+65	07 42 46	68.9	40.8	-2.3		-109.2	24	3908	13 13 00
13 14 30	---	07 44 16	69.1	40.6	-2.3		-109.7	90	3920	13 13 01
13 14 30	M82	07 44 16	67.6	30.2	-2.2		-120.1	-36	3920	No stop
13 19 00	---	07 48 47	67.9	29.7	-2.1		-121.6	234	3955	13 14 31
13 19 00	J0958+65	07 48 47	69.5	40.2	-2.2		-111.2	-36	3955	No stop
13 21 30	---	07 51 17	69.8	39.9	-2.2		-112.0	114	3974	13 19 01
13 21 30	M82	07 51 17	68.1	29.3	-2.1		-122.5	-36	3974	No stop
13 26 00	---	07 55 48	68.4	28.8	-2.0		-124.1	234	4009	13 21 31
13 27 00	J0958+65	07 56 48	70.3	39.2	-2.1		-113.9	24	4009	13 27 00
13 28 30	---	07 58 18	70.4	39.0	-2.0		-114.4	90	4020	13 27 01
13 28 30	M82	07 58 18	68.6	28.4	-2.0		-125.0	-36	4020	No stop
13 33 00	---	08 02 49	68.9	27.8	-1.9		-126.6	234	4055	13 28 31
13 34 00	J0958+65	08 03 49	70.9	38.3	-1.9		-116.4	24	4055	13 34 00
13 35 30	---	08 05 19	71.1	38.1	-1.9		-116.9	90	4067	13 34 01
13 35 30	M82	08 05 19	69.1	27.4	-1.9		-127.6	-36	4067	No stop
13 40 00	---	08 09 50	69.4	26.7	-1.8		-129.3	234	4102	13 35 31
13 40 00	J0958+65	08 09 50	71.5	37.4	-1.8		-118.6	-36	4102	No stop
13 42 30	---	08 12 21	71.7	37.0	-1.8		-119.5	114	4121	13 40 01

Schedule for TORUN (Code Tr) Page 13

Monitoring the old, discovering the new; mas-scale radio emission in M82

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT	Source	Start / Stop						Early	Disk	TPStart
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC
--- Fri 10 Jun 2022 Day 161 ---										
13 42 30	M82	08 12 21	69.6	26.3	-1.8		-130.2	-36	4121	No stop
13 47 00	---	08 16 51	69.9	25.6	-1.7		-132.0	234	4156	13 42 31
13 48 00	J0958+65	08 17 51	72.2	36.1	-1.7		-121.7	24	4156	13 48 00
13 49 30	---	08 19 22	72.3	35.8	-1.7		-122.3	90	4167	13 48 01
13 49 30	M82	08 19 22	70.0	25.2	-1.6		-133.0	-36	4167	No stop
13 54 00	---	08 23 52	70.3	24.3	-1.6		-134.8	234	4202	13 49 31
13 55 00	J0958+65	08 24 53	72.8	34.7	-1.6		-124.5	24	4202	13 55 00
13 56 30	---	08 26 23	73.0	34.4	-1.6		-125.2	90	4214	13 55 01
13 56 30	M82	08 26 23	70.5	23.9	-1.5		-135.8	-36	4214	No stop
14 01 00	---	08 30 54	70.7	23.0	-1.4		-137.7	234	4248	13 56 31
14 01 00	J0958+65	08 30 54	73.3	33.5	-1.5		-127.1	-36	4248	No stop
14 03 30	---	08 33 24	73.5	32.9	-1.5		-128.2	114	4268	14 01 01
14 03 30	M82	08 33 24	70.9	22.5	-1.4		-138.8	-36	4268	No stop
14 08 00	---	08 37 55	71.1	21.6	-1.3		-140.7	234	4303	14 03 31
14 09 00	J0958+65	08 38 55	74.0	31.6	-1.4		-130.7	25	4303	14 09 00
14 10 30	---	08 40 25	74.1	31.2	-1.3		-131.4	90	4314	14 09 01
14 10 30	M82	08 40 25	71.3	21.1	-1.3		-141.8	-36	4314	No stop
14 15 00	---	08 44 56	71.5	20.1	-1.2		-143.8	234	4349	14 10 31
14 16 00	J0958+65	08 45 56	74.5	29.8	-1.2		-134.0	25	4349	14 16 00
14 17 30	---	08 47 26	74.6	29.4	-1.2		-134.8	90	4361	14 16 01
14 17 30	M82	08 47 26	71.6	19.5	-1.2		-144.9	-35	4361	No stop
14 22 00	---	08 51 57	71.9	18.5	-1.1		-146.9	235	4395	14 17 31
14 22 00	J0958+65	08 51 57	75.0	28.1	-1.1		-137.1	-34	4395	No stop
14 24 30	---	08 54 27	75.1	27.4	-1.1		-138.3	116	4415	14 22 01
14 24 30	M82	08 54 27	72.0	17.9	-1.1		-148.1	-34	4415	No stop
14 29 00	---	08 58 58	72.2	16.8	-1.0		-150.2	236	4449	14 24 31
14 30 00	J0958+65	08 59 58	75.5	25.6	-1.0		-141.3	27	4449	14 30 00
14 31 30	---	09 01 29	75.6	25.1	-1.0		-142.1	90	4461	14 30 01
14 31 30	M82	09 01 29	72.3	16.2	-0.9		-151.4	-33	4461	No stop
14 36 00	---	09 05 59	72.5	15.0	-0.9		-153.5	237	4496	14 31 31

Schedule for TORUN (Code Tr) Page 14

Monitoring the old, discovering the new; mas-scale radio emission in M82

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Fri 10 Jun 2022 Day 161 ---										
14 36 00	J0958+65	09 05 59	75.9	23.6	-0.9		-144.6	-32	4496	No stop
14 38 30	---	09 08 30	76.0	22.7	-0.9		-146.0	118	4515	14 36 01
14 38 30	M82	09 08 30	72.6	14.4	-0.8		-154.7	-32	4515	No stop
14 43 00	---	09 13 00	72.7	13.2	-0.7		-156.9	238	4550	14 38 31
14 44 00	J0958+65	09 14 01	76.3	20.7	-0.8		-149.2	29	4550	14 44 00
14 45 30	---	09 15 31	76.4	20.1	-0.7		-150.1	90	4561	14 44 01
14 45 30	M82	09 15 31	72.8	12.5	-0.7		-158.2	-31	4561	No stop
14 50 00	---	09 20 02	73.0	11.2	-0.6		-160.4	239	4596	14 45 31
14 51 00	J0958+65	09 21 02	76.7	18.0	-0.7		-153.5	31	4596	14 51 00
14 52 30	---	09 22 32	76.8	17.4	-0.6		-154.4	90	4608	14 51 01
14 54 30	J0927+39	09 24 32	75.8	176.9	-0.1		-2.4	-220	4608	14 54 30
15 00 00	---	09 30 03	75.8	181.3	0.0		1.0	110	4650	14 54 31

SETUP FILE INFORMATION:
NOTE: If DOPPLER, FREQ, or BW were used, see the individual scans for the final BBC settings.

======== Setup file: sess222.C1024

Setup group: 8 Station: TORUN Total bit rate: 1024
Format: VDIF Bits per sample: 2 Sample rate: 64.000
Number of channels: 8 DBE type: DBBC_DDC Speedup factor: 1.00

Disk used to record data.

```
  1st LO=   4200.00   4200.00   4200.00   4200.00   4200.00   4200.00   4200.00   4200.00
  Net SB=         L         L         U         U         L         L         U         U
  IF SB =         U         U         U         U         U         U         U         U
  Pol.  =       RCP       LCP       RCP       LCP       RCP       LCP       RCP       LCP
  BBC   =         1         9         1         9         2        10         2        10
  BBC SB=         L         L         U         U         L         L         U         U
  IF    =        A1        B1        A1        B1        A1        B1        A1        B1

 The following frequency sets based on these setups were used.

  Frequency Set:   9  Setup file default.  Used with PCAL = off
  LO sum=   4958.49  4958.49  4958.49  4958.49  5022.49  5022.49  5022.49  5022.49
  BBC fr=    758.49   758.49   758.49   758.49   822.49   822.49   822.49   822.49
  Bandwd=     32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00
   Matching frequency sets:   9

  Track assignments are:
   track1=   1,  2,  3,  4,  5,  6,  7,  8
   barrel=roll_off



POSITIONS OF SOURCES USED IN RECORDING SCANS

  Source                          Source position (RA/Dec)                        Error
                       (B1950)            (J2000)            (Date)            (mas)

* M82               09 51 41.952886   * 09 55 50.690000     09 57 39.169218       0.00
                    69 54 57.45661    * 69 40 43.76000      69 34 42.14541        0.00

* 3C84              03 16 29.567265   * 03 19 48.160096     03 21 14.688985       1.50
  J0319+4130        41 19 51.91692    * 41 30 42.10404      41 35 23.21589        2.86
  0316+413          /home/guest/rmc/SCHED/sched11.6/catalogs/sources.gsfc
  J0319+41          GSFC 2016a X/S astro solution,  10291 observations.

  4C39.25           09 23 55.319216   * 09 27 03.013937     09 28 25.369931       0.31
  J0927+3902        39 15 23.56644    * 39 02 20.85185      38 56 44.43720        0.16
  0923+392          /home/guest/rmc/SCHED/sched11.6/catalogs/sources.gsfc
* J0927+39          GSFC 2016a X/S astro solution, 250526 observations.

  0954+658          09 54 57.847924   * 09 58 47.245105     10 00 27.584538       0.02
  J0958+6533        65 48 15.53888    * 65 33 54.81807      65 27 49.78006        0.01
* J0958+65          /home/guest/rmc/SCHED/sched11.6/catalogs/sources.gsfc
                    GSFC 2016a X/S astro solution,  15018 observations.
```

ed050atr

The gradual revival of synchrotron radiation from the massive binar

PI: *de Becker*

```
Address:  JIVE

Observing mode: vlbi

Schedule for TORUN     (Code Tr )                                   Page   2
               The gradual revival of synchrotron radiation from the massive binary WR1
  UP:  D => Below limits;  H => Below horizon mask;  W => still slewing at end;  blank => Up.
  Early: Seconds between end of slew and start.   Dwell: On source seconds.
  Disk: GBytes recorded to this point.
  TPStart:  Recording start time.  Frequencies are LO sum (band edge).
  SYNC: Time correlator is expected to sync up.
-----------------------------------------------------------------------------------------
Start UT  Source               Start / Stop                 Early    Disk   TPStart
Stop UT                  LST      EL    AZ   HA  UP   ParA  Dwell   GBytes    SYNC
-----------------------------------------------------------------------------------------
 --- Fri  10 Jun 2022   Day 161 ---
 Next scan frequencies:  4830.49  4830.49  4830.49  4830.49  4894.49  4894.49  4894.49  4894.49
                         4958.49  4958.49  4958.49  4958.49  5022.49  5022.49  5022.49  5022.49
 Next BBC frequencies:    630.49   630.49   630.49   630.49   694.49   694.49   694.49   694.49
                          758.49   758.49   758.49   758.49   822.49   822.49   822.49   822.49
 Next scan bandwidths:     32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00
                           32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00

20 00 00  J1613+3412   14 30 53  63.6 125.5 -1.7     -36.2     0        0   20 00 00
20 03 30  =1611+343    14 34 23  64.0 126.8 -1.7     -35.5   210       54   20 00 01

20 06 30  J1935+2031   14 37 24  25.4  89.1 -5.0     -39.9    21       54   20 06 30
20 08 30  =1932+204    14 39 24  25.7  89.5 -4.9     -39.9   120       85   20 06 31

20 08 30  WR125        14 39 24  26.0  91.6 -4.8     -39.6   -18       85   No stop
20 12 00  ---          14 42 55  26.5  92.3 -4.8     -39.6   192      139   20 08 31

20 12 40  J1935+2031   14 43 35  26.4  90.4 -4.9     -39.9    22      139   20 12 40
20 13 40  =1932+204    14 44 35  26.5  90.6 -4.9     -39.9    60      155   20 12 41

20 13 40  WR125        14 44 35  26.8  92.7 -4.7     -39.5   -18      155   No stop
20 17 10  ---          14 48 05  27.3  93.4 -4.7     -39.5   192      209   20 13 41

20 17 10  J1935+2031   14 48 05  27.0  91.3 -4.8     -39.9   -18      209   No stop
20 18 40  =1932+204    14 49 36  27.3  91.6 -4.8     -39.9    72      232   20 17 11

20 18 40  WR125        14 49 36  27.5  93.7 -4.7     -39.5   -18      232   No stop
20 22 10  ---          14 53 06  28.1  94.4 -4.6     -39.5   192      286   20 18 41

20 22 50  J1935+2031   14 53 46  27.9  92.4 -4.7     -39.9    22      286   20 22 50
20 23 50  =1932+204    14 54 46  28.0  92.6 -4.7     -39.8    60      301   20 22 51

20 23 50  WR125        14 54 46  28.3  94.8 -4.6     -39.4   -18      301   No stop
20 27 20  ---          14 58 17  28.8  95.5 -4.5     -39.4   192      356   20 23 51

20 27 20  J1935+2031   14 58 17  28.6  93.4 -4.6     -39.8   -18      356   No stop
20 28 50  =1932+204    14 59 47  28.8  93.7 -4.6     -39.8    72      379   20 27 21

20 28 50  J1927+1847   14 59 47  28.6  96.5 -4.5     -39.1   -20      379   No stop
20 32 20  ---          15 03 18  29.1  97.3 -4.4     -39.0   190      433   20 28 51

20 33 00  J1935+2031   15 03 58  29.4  94.5 -4.5     -39.7    20      433   20 33 00
20 34 00  =1932+204    15 04 58  29.6  94.7 -4.5     -39.7    60      448   20 33 01
```

Schedule for TORUN (Code Tr) Page 3

The gradual revival of synchrotron radiation from the massive binary WR1

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT	Source	Start / Stop						Early	Disk	TPStart
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC
--- Fri 10 Jun 2022 Day 161 ---										
20 34 00	WR125	15 04 58	29.8	96.9	-4.4		-39.3	-18	448	No stop
20 37 30	---	15 08 29	30.4	97.6	-4.3		-39.2	192	502	20 34 01
20 38 10	J1935+2031	15 09 09	30.2	95.6	-4.5		-39.7	22	502	20 38 10
20 39 10	=1932+204	15 10 09	30.3	95.8	-4.4		-39.7	60	518	20 38 11
20 39 10	WR125	15 10 09	30.6	98.0	-4.3		-39.1	-18	518	No stop
20 42 40	---	15 13 40	31.1	98.7	-4.3		-39.1	192	572	20 39 11
20 42 40	J1935+2031	15 13 40	30.9	96.5	-4.4		-39.6	-18	572	No stop
20 44 10	=1932+204	15 15 10	31.1	96.9	-4.3		-39.6	72	595	20 42 41
20 44 10	WR125	15 15 10	31.4	99.1	-4.2		-39.0	-18	595	No stop
20 47 40	---	15 18 40	31.9	99.8	-4.2		-38.9	192	649	20 44 11
20 48 20	J1935+2031	15 19 21	31.7	97.7	-4.3		-39.5	22	649	20 48 20
20 49 20	=1932+204	15 20 21	31.9	98.0	-4.3		-39.4	60	665	20 48 21
20 49 20	WR125	15 20 21	32.1	100.2	-4.1		-38.9	-18	665	No stop
20 52 50	---	15 23 51	32.6	100.9	-4.1		-38.7	192	719	20 49 21
20 52 50	J1935+2031	15 23 51	32.4	98.7	-4.2		-39.3	-18	719	No stop
20 54 20	=1932+204	15 25 21	32.6	99.0	-4.2		-39.3	72	742	20 52 51
20 54 20	J1927+1847	15 25 21	32.4	102.0	-4.1		-38.4	-21	742	No stop
20 57 50	---	15 28 52	32.9	102.8	-4.0		-38.2	189	796	20 54 21
20 58 30	J1935+2031	15 29 32	33.2	99.9	-4.1		-39.2	20	796	20 58 30
20 59 30	=1932+204	15 30 32	33.4	100.2	-4.1		-39.2	60	812	20 58 31
20 59 30	WR125	15 30 32	33.6	102.4	-4.0		-38.5	-19	812	No stop
21 03 00	---	15 34 03	34.1	103.2	-3.9		-38.4	191	866	20 59 31
21 03 40	J1935+2031	15 34 43	34.0	101.1	-4.0		-39.0	22	866	21 03 40
21 04 40	=1932+204	15 35 43	34.1	101.3	-4.0		-39.0	60	881	21 03 41
21 04 40	WR125	15 35 43	34.4	103.6	-3.9		-38.3	-19	881	No stop
21 08 10	---	15 39 14	34.9	104.3	-3.8		-38.1	191	935	21 04 41
21 08 10	J1935+2031	15 39 14	34.7	102.1	-3.9		-38.8	-18	935	No stop
21 09 40	=1932+204	15 40 44	34.9	102.4	-3.9		-38.8	72	958	21 08 11
21 09 40	WR125	15 40 44	35.1	104.7	-3.8		-38.1	-19	958	No stop
21 13 10	---	15 44 15	35.6	105.5	-3.8		-37.9	191	1013	21 09 41
21 13 50	J1935+2031	15 44 55	35.5	103.3	-3.9		-38.6	22	1013	21 13 50
21 14 50	=1932+204	15 45 55	35.6	103.6	-3.8		-38.6	60	1028	21 13 51

Schedule for TORUN (Code Tr) Page 4

The gradual revival of synchrotron radiation from the massive binary WR1

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Fri 10 Jun 2022 Day 161 ---										
21 14 50	WR125	15 45 55	35.9	105.9	-3.7		-37.8	-19	1028	No stop
21 18 20	---	15 49 25	36.4	106.7	-3.7		-37.6	191	1082	21 14 51
21 18 20	J1935+2031	15 49 25	36.1	104.3	-3.8		-38.4	-19	1082	No stop
21 19 50	=1932+204	15 50 56	36.4	104.7	-3.8		-38.3	71	1105	21 18 21
21 19 50	J1927+1847	15 50 56	36.1	107.8	-3.6		-37.2	-21	1105	No stop
21 23 20	---	15 54 26	36.6	108.6	-3.6		-37.0	189	1159	21 19 51
21 24 00	J1935+2031	15 55 06	37.0	105.6	-3.7		-38.1	19	1159	21 24 00
21 25 00	=1932+204	15 56 07	37.1	105.9	-3.7		-38.1	60	1175	21 24 01
21 25 00	WR125	15 56 07	37.3	108.2	-3.6		-37.3	-19	1175	No stop
21 28 30	---	15 59 37	37.8	109.1	-3.5		-37.0	191	1229	21 25 01
21 29 10	J1935+2031	16 00 17	37.7	106.8	-3.6		-37.9	21	1229	21 29 10
21 30 10	=1932+204	16 01 17	37.9	107.1	-3.6		-37.8	60	1244	21 29 11
21 30 10	WR125	16 01 17	38.1	109.5	-3.5		-36.9	-19	1244	No stop
21 33 40	---	16 04 48	38.6	110.3	-3.4		-36.7	191	1298	21 30 11
21 33 40	J1935+2031	16 04 48	38.4	107.9	-3.5		-37.6	-19	1298	No stop
21 35 10	=1932+204	16 06 18	38.6	108.3	-3.5		-37.5	71	1322	21 33 41
21 35 10	WR125	16 06 18	38.8	110.7	-3.4		-36.6	-19	1322	No stop
21 38 40	---	16 09 49	39.3	111.5	-3.3		-36.4	191	1376	21 35 11
21 39 20	J1935+2031	16 10 29	39.2	109.3	-3.4		-37.3	21	1376	21 39 20
21 40 20	=1932+204	16 11 29	39.3	109.5	-3.4		-37.2	60	1391	21 39 21
21 40 20	WR125	16 11 29	39.5	111.9	-3.3		-36.2	-19	1391	No stop
21 43 50	---	16 15 00	40.0	112.8	-3.2		-36.0	191	1445	21 40 21
21 43 50	J1935+2031	16 15 00	39.8	110.4	-3.4		-37.0	-19	1445	No stop
21 45 20	=1932+204	16 16 30	40.0	110.7	-3.3		-36.9	71	1469	21 43 51
21 45 20	J1927+1847	16 16 30	39.7	114.0	-3.2		-35.4	-21	1469	No stop
21 48 50	---	16 20 00	40.1	114.8	-3.1		-35.2	189	1523	21 45 21
21 49 30	J1935+2031	16 20 41	40.6	111.8	-3.3		-36.6	19	1523	21 49 30
21 50 30	=1932+204	16 21 41	40.7	112.0	-3.2		-36.5	60	1538	21 49 31
21 50 30	WR125	16 21 41	40.9	114.5	-3.1		-35.5	-19	1538	No stop
21 54 00	---	16 25 11	41.4	115.4	-3.1		-35.2	191	1592	21 50 31

Schedule for TORUN (Code Tr) Page 5

The gradual revival of synchrotron radiation from the massive binary WR1

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	LST	Start / Stop EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Fri 10 Jun 2022 Day 161 ---										
21 54 40	J1935+2031	16 25 51	41.3	113.0	-3.2		-36.2	21	1592	21 54 40
21 55 40	=1932+204	16 26 52	41.5	113.3	-3.2		-36.1	60	1608	21 54 41
21 55 40	WR125	16 26 52	41.6	115.8	-3.0		-35.0	-19	1608	No stop
21 59 10	---	16 30 22	42.1	116.7	-3.0		-34.7	191	1662	21 55 41
21 59 10	J1935+2031	16 30 22	41.9	114.2	-3.1		-35.8	-19	1662	No stop
22 00 40	=1932+204	16 31 52	42.2	114.6	-3.1		-35.7	71	1685	21 59 11
22 00 40	WR125	16 31 52	42.3	117.1	-3.0		-34.6	-19	1685	No stop
22 04 10	---	16 35 23	42.7	118.0	-2.9		-34.2	191	1739	22 00 41
22 04 50	J1935+2031	16 36 03	42.7	115.6	-3.0		-35.3	21	1739	22 04 50
22 05 50	=1932+204	16 37 03	42.9	115.9	-3.0		-35.2	60	1755	22 04 51
22 05 50	WR125	16 37 03	43.0	118.5	-2.9		-34.1	-20	1755	No stop
22 09 20	---	16 40 34	43.4	119.4	-2.8		-33.7	190	1809	22 05 51
22 09 20	J1935+2031	16 40 34	43.3	116.8	-2.9		-34.9	-19	1809	No stop
22 10 50	=1932+204	16 42 04	43.5	117.2	-2.9		-34.8	71	1832	22 09 21
22 10 50	J1927+1847	16 42 04	43.1	120.6	-2.8		-33.1	-22	1832	No stop
22 14 20	---	16 45 35	43.5	121.6	-2.7		-32.7	188	1886	22 10 51
22 15 00	J1935+2031	16 46 15	44.1	118.3	-2.8		-34.4	19	1886	22 15 00
22 16 00	=1932+204	16 47 15	44.2	118.6	-2.8		-34.3	60	1901	22 15 01
22 16 00	WR125	16 47 15	44.3	121.3	-2.7		-33.0	-20	1901	No stop
22 19 30	---	16 50 45	44.7	122.2	-2.6		-32.6	190	1955	22 16 01
22 20 10	J1935+2031	16 51 26	44.8	119.8	-2.7		-33.8	21	1955	22 20 10
22 21 10	=1932+204	16 52 26	44.9	120.0	-2.7		-33.7	60	1971	22 20 11
22 21 10	WR125	16 52 26	45.0	122.7	-2.6		-32.4	-20	1971	No stop
22 24 40	---	16 55 56	45.4	123.7	-2.6		-32.0	190	2025	22 21 11
22 24 40	J1935+2031	16 55 56	45.3	121.0	-2.7		-33.4	-19	2025	No stop
22 26 10	=1932+204	16 57 27	45.5	121.4	-2.6		-33.2	71	2048	22 24 41
22 26 10	WR125	16 57 27	45.6	124.1	-2.5		-31.8	-20	2048	No stop
22 29 40	---	17 00 57	46.0	125.1	-2.5		-31.4	190	2102	22 26 11
22 30 20	J1935+2031	17 01 37	46.1	122.6	-2.6		-32.7	20	2102	22 30 20
22 31 20	=1932+204	17 02 37	46.2	122.9	-2.6		-32.6	60	2118	22 30 21

Schedule for TORUN (Code Tr) Page 6

The gradual revival of synchrotron radiation from the massive binary WR1

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Fri 10 Jun 2022 Day 161 ---										
22 31 20	WR125	17 02 37	46.2	125.6	-2.4		-31.2	-20	2118	No stop
22 34 50	---	17 06 08	46.6	126.6	-2.4		-30.8	190	2172	22 31 21
22 34 50	J1935+2031	17 06 08	46.6	123.9	-2.5		-32.2	-20	2172	No stop
22 36 20	=1932+204	17 07 38	46.8	124.3	-2.5		-32.0	70	2195	22 34 51
22 36 20	J1927+1847	17 07 38	46.2	127.9	-2.3		-30.1	-22	2195	No stop
22 39 50	---	17 11 09	46.7	128.9	-2.3		-29.6	188	2249	22 36 21
22 40 30	J1935+2031	17 11 49	47.3	125.5	-2.4		-31.5	18	2249	22 40 30
22 41 30	=1932+204	17 12 49	47.5	125.8	-2.4		-31.3	60	2265	22 40 31
22 41 30	WR125	17 12 49	47.4	128.6	-2.3		-29.9	-20	2265	No stop
22 45 00	---	17 16 20	47.9	129.7	-2.2		-29.4	190	2319	22 41 31
22 45 40	J1935+2031	17 17 00	48.0	127.1	-2.3		-30.8	20	2319	22 45 40
22 46 40	=1932+204	17 18 00	48.1	127.4	-2.3		-30.6	60	2334	22 45 41
22 46 40	WR125	17 18 00	48.0	130.2	-2.2		-29.1	-20	2334	No stop
22 50 10	---	17 21 31	48.4	131.3	-2.1		-28.6	190	2388	22 46 41
22 50 10	J1935+2031	17 21 31	48.5	128.4	-2.2		-30.2	-20	2388	No stop
22 51 40	=1932+204	17 23 01	48.7	128.9	-2.2		-29.9	70	2411	22 50 11
22 51 40	WR125	17 23 01	48.6	131.8	-2.1		-28.4	-20	2411	No stop
22 55 10	---	17 26 31	49.0	132.9	-2.0		-27.8	190	2466	22 51 41
22 55 50	J1935+2031	17 27 11	49.2	130.2	-2.1		-29.3	20	2466	22 55 50
22 56 50	=1932+204	17 28 12	49.3	130.5	-2.1		-29.2	60	2481	22 55 51
22 56 50	WR125	17 28 12	49.2	133.4	-2.0		-27.6	-20	2481	No stop
23 00 20	---	17 31 42	49.6	134.5	-2.0		-27.0	190	2535	22 56 51
23 00 20	J1935+2031	17 31 42	49.7	131.6	-2.1		-28.7	-20	2535	No stop
23 01 50	=1932+204	17 33 12	49.8	132.1	-2.0		-28.4	70	2558	23 00 21
23 01 50	J1927+1847	17 33 12	49.1	135.8	-1.9		-26.3	-22	2558	No stop
23 05 20	---	17 36 43	49.5	136.9	-1.9		-25.7	188	2612	23 01 51
23 06 00	J1935+2031	17 37 23	50.3	133.4	-2.0		-27.8	18	2612	23 06 00
23 07 00	=1932+204	17 38 23	50.4	133.8	-2.0		-27.6	60	2628	23 06 01
23 07 00	WR125	17 38 23	50.3	136.7	-1.8		-25.9	-21	2628	No stop
23 10 30	---	17 41 54	50.6	137.9	-1.8		-25.3	189	2682	23 07 01

Schedule for TORUN (Code Tr) Page 7

The gradual revival of synchrotron radiation from the massive binary WR1

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Fri 10 Jun 2022 Day 161 ---										
23 11 10	J1935+2031	17 42 34	50.9	135.1	-1.9		-26.9	20	2682	23 11 10
23 12 10	=1932+204	17 43 34	51.0	135.5	-1.9		-26.7	60	2697	23 11 11
23 12 10	WR125	17 43 34	50.8	138.5	-1.8		-25.0	-21	2697	No stop
23 15 40	---	17 47 05	51.1	139.7	-1.7		-24.4	189	2752	23 12 11
23 15 40	J1935+2031	17 47 05	51.3	136.6	-1.8		-26.1	-20	2752	No stop
23 17 10	=1932+204	17 48 35	51.5	137.2	-1.8		-25.9	70	2775	23 15 41
23 17 10	WR125	17 48 35	51.3	140.2	-1.7		-24.1	-21	2775	No stop
23 20 40	---	17 52 06	51.6	141.4	-1.6		-23.4	189	2829	23 17 11
23 21 20	J1935+2031	17 52 46	51.9	138.6	-1.7		-25.1	20	2829	23 21 20
23 22 20	=1932+204	17 53 46	52.0	138.9	-1.7		-24.9	60	2844	23 21 21
23 22 20	WR125	17 53 46	51.8	142.0	-1.6		-23.1	-21	2844	No stop
23 25 50	---	17 57 16	52.1	143.2	-1.5		-22.4	189	2898	23 22 21
23 25 50	J1935+2031	17 57 16	52.3	140.1	-1.6		-24.3	-20	2898	No stop
23 27 20	=1932+204	17 58 47	52.5	140.7	-1.6		-24.0	70	2922	23 25 51
23 27 20	J1927+1847	17 58 47	51.6	144.5	-1.5		-21.6	-23	2922	No stop
23 30 50	---	18 02 17	51.9	145.7	-1.4		-20.9	187	2976	23 27 21
23 31 30	J1935+2031	18 02 57	52.9	142.1	-1.6		-23.2	18	2976	23 31 30
23 32 30	=1932+204	18 03 57	53.0	142.5	-1.5		-23.0	60	2991	23 31 31
23 40 30	J2236+2828	18 11 59	36.5	89.6	-4.4		-43.1	357	2991	23 40 30
23 44 00	=2234+282	18 15 29	37.0	90.3	-4.4		-43.1	210	3045	23 40 31
23 47 00	J1935+2031	18 18 30	54.2	147.8	-1.3		-20.0	51	3045	23 47 00
23 48 30	=1932+204	18 20 00	54.3	148.4	-1.3		-19.6	90	3068	23 47 01
23 48 30	WR125	18 20 00	53.9	151.6	-1.2		-17.7	-21	3068	No stop
23 52 00	---	18 23 31	54.2	152.9	-1.1		-16.9	189	3123	23 48 31
23 52 40	J1935+2031	18 24 11	54.7	150.0	-1.2		-18.7	19	3123	23 52 40
23 53 40	=1932+204	18 25 11	54.7	150.4	-1.2		-18.5	60	3138	23 52 41
23 53 40	WR125	18 25 11	54.3	153.6	-1.1		-16.5	-21	3138	No stop
23 57 10	---	18 28 42	54.5	154.9	-1.0		-15.7	189	3192	23 53 41
23 57 10	J1935+2031	18 28 42	55.0	151.7	-1.1		-17.7	-21	3192	No stop
23 58 40	=1932+204	18 30 12	55.1	152.3	-1.1		-17.3	69	3215	23 57 11

Schedule for TORUN (Code Tr) Page 8

The gradual revival of synchrotron radiation from the massive binary WR1

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

--- Start: Fri 10 Jun 2022 Day 161 -- Stop: Sat 11 Jun 2022 Day 162 ---

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
23 58 40	WR125	18 30 12	54.6	155.5	-1.0		-15.3	-21	3215	No stop
00 02 10	---	18 33 42	54.8	156.9	-0.9		-14.5	189	3269	23 58 41
00 02 50	J1935+2031	18 34 22	55.4	154.0	-1.0		-16.3	19	3269	00 02 50
00 03 50	=1932+204	18 35 23	55.4	154.4	-1.0		-16.1	60	3285	00 02 51
00 03 50	WR125	18 35 23	54.9	157.6	-0.9		-14.1	-21	3285	No stop
00 07 20	---	18 38 53	55.1	159.0	-0.8		-13.2	189	3339	00 03 51
00 07 20	J1935+2031	18 38 53	55.7	155.8	-1.0		-15.3	-21	3339	No stop
00 08 50	=1932+204	18 40 23	55.8	156.4	-0.9		-14.9	69	3362	00 07 21
00 08 50	J1927+1847	18 40 23	54.5	160.1	-0.8		-12.4	-23	3362	No stop
00 12 20	---	18 43 54	54.7	161.5	-0.7		-11.6	187	3416	00 08 51
00 13 00	J1935+2031	18 44 34	56.0	158.1	-0.9		-13.9	18	3416	00 13 00
00 14 00	=1932+204	18 45 34	56.1	158.5	-0.8		-13.6	60	3432	00 13 01
00 14 00	WR125	18 45 34	55.5	161.7	-0.7		-11.6	-21	3432	No stop
00 17 30	---	18 49 05	55.6	163.1	-0.7		-10.7	189	3486	00 14 01
00 18 10	J1935+2031	18 49 45	56.3	160.2	-0.8		-12.6	19	3486	00 18 10
00 19 10	=1932+204	18 50 45	56.3	160.6	-0.8		-12.3	60	3501	00 18 11
00 19 10	WR125	18 50 45	55.7	163.8	-0.6		-10.3	-21	3501	No stop
00 22 40	---	18 54 16	55.8	165.2	-0.6		-9.4	189	3555	00 19 11
00 22 40	J1935+2031	18 54 16	56.5	162.0	-0.7		-11.4	-21	3555	No stop
00 24 10	=1932+204	18 55 46	56.6	162.7	-0.7		-11.0	69	3579	00 22 41
00 24 10	WR125	18 55 46	55.9	165.8	-0.6		-9.0	-21	3579	No stop
00 27 40	---	18 59 17	56.0	167.3	-0.5		-8.1	189	3633	00 24 11
00 28 20	J1935+2031	18 59 57	56.7	164.4	-0.6		-9.9	19	3633	00 28 20
00 29 20	=1932+204	19 00 57	56.8	164.8	-0.6		-9.7	60	3648	00 28 21
00 29 20	WR125	19 00 57	56.1	168.0	-0.5		-7.6	-21	3648	No stop
00 32 50	---	19 04 27	56.2	169.5	-0.4		-6.7	189	3702	00 29 21
00 32 50	J1935+2031	19 04 27	56.9	166.3	-0.5		-8.7	-21	3702	No stop
00 34 20	=1932+204	19 05 58	57.0	167.0	-0.5		-8.3	69	3725	00 32 51
00 34 20	J1927+1847	19 05 58	55.5	170.6	-0.4		-6.0	-22	3725	No stop
00 37 50	---	19 09 28	55.5	172.0	-0.3		-5.1	188	3780	00 34 21

Schedule for TORUN (Code Tr) Page 9

The gradual revival of synchrotron radiation from the massive binary WR1

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Sat 11 Jun 2022 Day 162 ---										
00 38 30	J1935+2031	19 10 08	57.1	168.7	-0.4		-7.2	18	3780	00 38 30
00 39 30	=1932+204	19 11 08	57.1	169.2	-0.4		-6.9	60	3795	00 38 31
00 39 30	WR125	19 11 08	56.3	172.3	-0.3		-4.9	-21	3795	No stop
00 43 00	---	19 14 39	56.4	173.8	-0.2		-4.0	189	3849	00 39 31
00 43 40	J1935+2031	19 15 19	57.2	171.0	-0.3		-5.8	20	3849	00 43 40
00 44 40	=1932+204	19 16 19	57.3	171.4	-0.3		-5.5	60	3865	00 43 41
00 44 40	WR125	19 16 19	56.4	174.5	-0.2		-3.5	-21	3865	No stop
00 48 10	---	19 19 50	56.5	176.0	-0.2		-2.6	189	3919	00 44 41
00 48 10	J1935+2031	19 19 50	57.3	172.9	-0.3		-4.5	-20	3919	No stop
00 49 40	=1932+204	19 21 20	57.4	173.6	-0.2		-4.1	70	3942	00 48 11
00 49 40	WR125	19 21 20	56.5	176.6	-0.1		-2.2	-21	3942	No stop
00 53 10	---	19 24 51	56.5	178.1	-0.1		-1.2	189	3996	00 49 41
00 53 50	J1935+2031	19 25 31	57.4	175.4	-0.2		-3.0	20	3996	00 53 50
00 54 50	=1932+204	19 26 31	57.4	175.8	-0.2		-2.7	60	4011	00 53 51
00 54 50	WR125	19 26 31	56.5	178.8	-0.0		-0.7	-21	4011	No stop
00 58 20	---	19 30 02	56.5	180.3	0.0		0.2	189	4066	00 54 51
00 58 20	J1935+2031	19 30 02	57.5	177.3	-0.1		-1.7	-20	4066	No stop
00 59 50	=1932+204	19 31 32	57.5	178.0	-0.1		-1.3	70	4089	00 58 21
00 59 50	J1927+1847	19 31 32	55.7	181.3	0.0		0.8	-21	4089	No stop
01 03 20	---	19 35 02	55.7	182.7	0.1		1.7	189	4143	00 59 51
01 04 00	J1935+2031	19 35 43	57.5	179.8	-0.0		-0.1	19	4143	01 04 00
01 05 00	=1932+204	19 36 43	57.5	180.2	0.0		0.2	60	4158	01 04 01
01 05 00	WR125	19 36 43	56.5	183.2	0.1		2.0	-21	4158	No stop
01 08 30	---	19 40 13	56.4	184.7	0.2		3.0	189	4212	01 05 01
01 09 10	J1935+2031	19 40 53	57.5	182.1	0.1		1.3	20	4212	01 09 10
01 10 10	=1932+204	19 41 54	57.5	182.5	0.1		1.6	60	4228	01 09 11
01 10 10	WR125	19 41 54	56.4	185.4	0.2		3.4	-20	4228	No stop
01 13 40	---	19 45 24	56.4	186.9	0.3		4.4	190	4282	01 10 11
01 13 40	J1935+2031	19 45 24	57.4	184.0	0.2		2.6	-20	4282	No stop
01 15 10	=1932+204	19 46 54	57.4	184.7	0.2		3.0	70	4305	01 13 41

Schedule for TORUN (Code Tr) Page 10

The gradual revival of synchrotron radiation from the massive binary WR1

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	LST	Start / Stop EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Sat 11 Jun 2022 Day 162 ---										
01 15 10	WR125	19 46 54	56.3	187.5	0.3		4.8	-20	4305	No stop
01 18 40	---	19 50 25	56.3	189.0	0.4		5.7	190	4359	01 15 11
01 19 20	J1935+2031	19 51 05	57.4	186.5	0.2		4.2	20	4359	01 19 20
01 20 20	=1932+204	19 52 05	57.3	186.9	0.3		4.4	60	4375	01 19 21
01 20 20	WR125	19 52 05	56.2	189.7	0.4		6.2	-20	4375	No stop
01 23 50	---	19 55 36	56.1	191.2	0.4		7.1	190	4429	01 20 21
01 23 50	J1935+2031	19 55 36	57.3	188.4	0.3		5.4	-20	4429	No stop
01 25 20	=1932+204	19 57 06	57.2	189.1	0.3		5.8	70	4452	01 23 51
01 25 20	J1927+1847	19 57 06	55.3	191.9	0.5		7.5	-21	4452	No stop
01 28 50	---	20 00 37	55.2	193.4	0.5		8.4	189	4506	01 25 21
01 29 30	J1935+2031	20 01 17	57.1	190.9	0.4		7.0	19	4506	01 29 30
01 30 30	=1932+204	20 02 17	57.1	191.3	0.4		7.2	60	4522	01 29 31
01 30 30	WR125	20 02 17	55.9	194.0	0.6		8.8	-20	4522	No stop
01 34 00	---	20 05 47	55.8	195.4	0.6		9.8	190	4576	01 30 31
01 34 40	J1935+2031	20 06 28	57.0	193.1	0.5		8.3	21	4576	01 34 40
01 35 40	=1932+204	20 07 28	56.9	193.5	0.5		8.6	60	4591	01 34 41
01 35 40	WR125	20 07 28	55.7	196.1	0.6		10.2	-20	4591	No stop
01 39 10	---	20 10 58	55.5	197.5	0.7		11.1	190	4645	01 35 41
01 39 10	J1935+2031	20 10 58	56.8	195.0	0.6		9.6	-19	4645	No stop
01 40 40	=1932+204	20 12 29	56.7	195.6	0.6		9.9	71	4668	01 39 11
01 40 40	WR125	20 12 29	55.5	198.2	0.7		11.5	-20	4668	No stop
01 44 10	---	20 15 59	55.3	199.6	0.8		12.3	190	4723	01 40 41
01 44 50	J1935+2031	20 16 39	56.6	197.4	0.7		11.0	21	4723	01 44 50
01 45 50	=1932+204	20 17 39	56.5	197.8	0.7		11.3	60	4738	01 44 51
01 45 50	WR125	20 17 39	55.2	200.3	0.8		12.7	-19	4738	No stop
01 49 20	---	20 21 10	55.0	201.7	0.9		13.6	191	4792	01 45 51
01 49 20	J1935+2031	20 21 10	56.3	199.2	0.8		12.2	-19	4792	No stop
01 50 50	=1932+204	20 22 40	56.3	199.9	0.8		12.6	71	4815	01 49 21
01 50 50	J1927+1847	20 22 40	54.2	202.2	0.9		13.9	-22	4815	No stop
01 54 20	---	20 26 11	54.0	203.6	1.0		14.7	188	4869	01 50 51

Schedule for TORUN (Code Tr) Page 11

The gradual revival of synchrotron radiation from the massive binary WR1

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Sat 11 Jun 2022 Day 162 ---										
01 55 00	J1935+2031	20 26 51	56.1	201.6	0.8		13.6	18	4869	01 55 00
01 56 00	=1932+204	20 27 51	56.0	202.0	0.9		13.9	60	4885	01 55 01
01 56 00	WR125	20 27 51	54.6	204.3	1.0		15.2	-19	4885	No stop
01 59 30	---	20 31 22	54.4	205.7	1.0		16.0	191	4939	01 56 01
02 00 10	J1935+2031	20 32 02	55.8	203.7	0.9		14.9	22	4939	02 00 10
02 01 10	=1932+204	20 33 02	55.7	204.1	0.9		15.2	60	4954	02 00 11
02 01 10	WR125	20 33 02	54.3	206.3	1.1		16.4	-19	4954	No stop
02 04 40	---	20 36 32	54.1	207.7	1.1		17.2	191	5008	02 01 11
02 04 40	J1935+2031	20 36 32	55.5	205.5	1.0		16.0	-19	5008	No stop
02 06 10	=1932+204	20 38 03	55.4	206.1	1.0		16.4	71	5032	02 04 41
02 06 10	WR125	20 38 03	54.0	208.3	1.1		17.6	-19	5032	No stop
02 09 40	---	20 41 33	53.7	209.6	1.2		18.3	191	5086	02 06 11
02 10 20	J1935+2031	20 42 13	55.1	207.7	1.1		17.4	21	5086	02 10 20
02 11 20	=1932+204	20 43 14	55.0	208.1	1.1		17.6	60	5101	02 10 21
02 11 20	WR125	20 43 14	53.6	210.2	1.2		18.7	-19	5101	No stop
02 14 50	---	20 46 44	53.3	211.5	1.3		19.5	191	5155	02 11 21
02 14 50	J1935+2031	20 46 44	54.8	209.5	1.2		18.4	-19	5155	No stop
02 16 20	=1932+204	20 48 14	54.7	210.0	1.2		18.7	71	5179	02 14 51
02 16 20	J1927+1847	20 48 14	52.4	211.9	1.3		19.6	-22	5179	No stop
02 19 50	---	20 51 45	52.1	213.2	1.4		20.3	188	5233	02 16 21
02 20 30	J1935+2031	20 52 25	54.3	211.6	1.3		19.7	18	5233	02 20 30
02 21 30	=1932+204	20 53 25	54.3	212.0	1.3		19.9	60	5248	02 20 31
02 21 30	WR125	20 53 25	52.8	214.0	1.4		20.9	-19	5248	No stop
02 25 00	---	20 56 56	52.5	215.3	1.5		21.6	191	5302	02 21 31
02 25 40	J1935+2031	20 57 36	53.9	213.6	1.4		20.8	21	5302	02 25 40
02 26 40	=1932+204	20 58 36	53.8	213.9	1.4		21.0	60	5318	02 25 41
02 26 40	WR125	20 58 36	52.3	215.9	1.5		21.9	-19	5318	No stop
02 30 10	---	21 02 07	52.0	217.1	1.5		22.6	191	5372	02 26 41
02 30 10	J1935+2031	21 02 07	53.5	215.2	1.4		21.7	-19	5372	No stop
02 31 40	=1932+204	21 03 37	53.4	215.8	1.5		22.0	71	5395	02 30 11

```
Schedule for TORUN     (Code Tr )                                  Page  12
              The gradual revival of synchrotron radiation from the massive binary WR1
  UP:  D => Below limits;  H => Below horizon mask;  W => still slewing at end;  blank => Up.
  Early: Seconds between end of slew and start.   Dwell: On source seconds.
  Disk: GBytes recorded to this point.
  TPStart:  Recording start time.  Frequencies are LO sum (band edge).
  SYNC: Time correlator is expected to sync up.
-----------------------------------------------------------------------------------------
Start UT  Source               Start / Stop                 Early    Disk   TPStart
Stop UT                  LST      EL    AZ   HA  UP   ParA  Dwell   GBytes    SYNC
-----------------------------------------------------------------------------------------

 --- Sat  11 Jun 2022   Day 162 ---

02 31 40  WR125        21 03 37  51.9 217.6  1.6      22.9   -19     5395   No stop
02 35 10  ---          21 07 07  51.5 218.9  1.6      23.6   191     5449   02 31 41

02 35 50  J1935+2031   21 07 48  53.0 217.3  1.5      22.9    21     5449   02 35 50
02 36 50  =1932+204    21 08 48  52.9 217.7  1.5      23.1    60     5465   02 35 51

02 36 50  WR125        21 08 48  51.4 219.4  1.7      23.9   -19     5465   No stop
02 40 20  ---          21 12 18  51.1 220.6  1.7      24.5   191     5519   02 36 51

02 40 20  J1935+2031   21 12 18  52.6 218.9  1.6      23.8   -19     5519   No stop
02 41 50  =1932+204    21 13 49  52.5 219.4  1.6      24.0    71     5542   02 40 21

02 41 50  J1927+1847   21 13 49  50.1 220.9  1.8      24.5   -23     5542   No stop
02 45 20  ---          21 17 19  49.8 222.1  1.8      25.2   187     5596   02 41 51

02 46 00  J1935+2031   21 17 59  52.1 220.9  1.7      24.8    17     5596   02 46 00
02 47 00  =1932+204    21 18 59  52.0 221.2  1.7      25.0    60     5611   02 46 01

02 47 00  WR125        21 18 59  50.4 222.9  1.8      25.7   -20     5611   No stop
02 50 30  ---          21 22 30  50.0 224.1  1.9      26.3   190     5665   02 47 01

02 50 30  J1935+2031   21 22 30  51.6 222.4  1.8      25.6   -19     5665   No stop
02 52 30  =1932+204    21 24 30  51.4 223.1  1.8      26.0   101     5696   02 50 31

02 55 00  J2236+2828   21 27 01  62.3 145.2 -1.2     -23.0   -21     5696   02 55 00
03 00 00  =2234+282    21 32 02  62.7 147.4 -1.1     -21.6   279     5774   02 55 01



SETUP FILE INFORMATION:
   NOTE: If DOPPLER, FREQ, or BW were used, see the individual scans for the final BBC settings.


 ======== Setup file: sess222.C2048

   Setup group:    8         Station: TORUN            Total bit rate:  2048
   Format: VDIF              Bits per sample: 2        Sample rate: 64.000
   Number of channels: 16    DBE type: DBBC_DDC        Speedup factor:   1.00

   Disk used to record data.
```

```
  1st LO=   4200.00   4200.00   4200.00   4200.00   4200.00   4200.00   4200.00   4200.00
            4200.00   4200.00   4200.00   4200.00   4200.00   4200.00   4200.00   4200.00
  Net SB=         L         L         U         U         L         L         U         U
                  L         L         U         U         L         L         U         U
  IF SB =         U         U         U         U         U         U         U         U
                  U         U         U         U         U         U         U         U
  Pol.  =       RCP       LCP       RCP       LCP       RCP       LCP       RCP       LCP
                RCP       LCP       RCP       LCP       RCP       LCP       RCP       LCP
  BBC   =         1         9         1         9         2        10         2        10
                  3        11         3        11         4        12         4        12
  BBC SB=         L         L         U         U         L         L         U         U
                  L         L         U         U         L         L         U         U
  IF    =        A1        B1        A1        B1        A1        B1        A1        B1
                 A1        B1        A1        B1        A1        B1        A1        B1

 The following frequency sets based on these setups were used.

  Frequency Set:   9  Setup file default.  Used with PCAL = off
  LO sum=   4830.49  4830.49  4830.49  4830.49  4894.49  4894.49  4894.49  4894.49
            4958.49  4958.49  4958.49  4958.49  5022.49  5022.49  5022.49  5022.49
  BBC fr=    630.49   630.49   630.49   630.49   694.49   694.49   694.49   694.49
             758.49   758.49   758.49   758.49   822.49   822.49   822.49   822.49
  Bandwd=     32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00
              32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00
   Matching frequency sets:   9

  Track assignments are:
   track1=   1,  2,  3,  4,  5,  6,  7,  8,  9, 10, 11, 12, 13, 14, 15, 16
   barrel=roll_off



POSITIONS OF SOURCES USED IN RECORDING SCANS

  Source                        Source position (RA/Dec)                      Error
                       (B1950)            (J2000)            (Date)            (mas)

* WR125             19 26 03.798445   * 19 28 15.614408     19 29 15.175409       0.00
                    19 27 09.51644    * 19 33 21.52787      19 35 59.38806        0.00

* J1927+1847        19 25 19.589242   * 19 27 32.312400     19 28 32.274087       0.00
                    18 40 58.85115    * 18 47 07.90100      18 49 44.61087        0.00

  1611+343          16 11 47.914252   * 16 13 41.064243     16 14 32.872380       0.13
* J1613+3412        34 20 19.83388    * 34 12 47.90890      34 09 27.15391        0.16
  J1613+34          /home/guest/rmc/SCHED/sched11.6/catalogs/sources.gsfc
                    GSFC 2016a X/S astro solution, 162031 observations.

  1932+204          19 32 59.558260   * 19 35 10.472913     19 36 09.612663       0.04
* J1935+2031        20 25 14.21757    * 20 31 54.15434      20 34 44.06107        0.05
  J1935+20          /home/guest/rmc/SCHED/sched11.6/catalogs/sources.gsfc
                    GSFC 2016a X/S astro solution,   1143 observations.

  2234+282          22 34 01.728802   * 22 36 22.470847     22 37 25.021757       0.34
* J2236+2828        28 13 23.21045    * 28 28 57.41317      28 35 40.10888        0.31
  J2236+28          /home/guest/rmc/SCHED/sched11.6/catalogs/sources.gsfc
                    GSFC 2016a X/S astro solution,  91001 observations.
```

ew029dtr

Monitoring the old, discovering the new; mas-scale radio emission I

PI: *Dr David Williams*

```
Address:  Jodrell Band Centre for Astrophysics

Observing mode:

Schedule for TORUN     (Code Tr )                                   Page   2
               Monitoring the old, discovering the new; mas-scale radio emission in M82
  UP:  D => Below limits;  H => Below horizon mask;  W => still slewing at end;  blank => Up.
  Early: Seconds between end of slew and start.   Dwell: On source seconds.
  Disk: GBytes recorded to this point.
  TPStart:  Recording start time.  Frequencies are LO sum (band edge).
  SYNC: Time correlator is expected to sync up.
-------------------------------------------------------------------------------------------
Start UT  Source               Start / Stop                 Early    Disk   TPStart
Stop UT                  LST      EL    AZ   HA  UP   ParA  Dwell   GBytes    SYNC
-------------------------------------------------------------------------------------------
 --- Sat  11 Jun 2022   Day 162 ---
 Next scan frequencies:  4958.49  4958.49  4958.49  4958.49  5022.49  5022.49  5022.49  5022.49
 Next BBC frequencies:    758.49   758.49   758.49   758.49   822.49   822.49   822.49   822.49
 Next scan bandwidths:     32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00

06 00 00  3C84         00 32 31  59.7  95.1 -2.8     -53.1     0        0   06 00 00
06 06 00  ---          00 38 32  60.6  96.4 -2.7     -52.9   360       46   06 00 01

06 12 00  J0958+65     00 44 33  32.6  18.9 -9.3     -27.9   189       46   06 12 00
06 18 00  ---          00 50 34  32.9  19.5 -9.2     -28.9   360       93   06 12 01

06 18 40  J0958+65     00 51 14  33.0  19.6 -9.2     -29.0    34       93   06 18 40
06 20 30  ---          00 53 05  33.1  19.8 -9.1     -29.3   110      107   06 18 41

06 20 30  M82          00 53 05  36.7  17.6 -9.1     -31.3   -28      107   No stop
06 25 00  ---          00 57 35  37.0  18.0 -9.0     -32.1   242      142   06 20 31

06 25 00  J0958+65     00 57 35  33.3  20.3 -9.0     -30.1   -28      142   No stop
06 27 30  ---          01 00 06  33.4  20.6 -9.0     -30.5   122      161   06 25 01

06 27 30  M82          01 00 06  37.1  18.2 -9.0     -32.5   -28      161   No stop
06 32 00  ---          01 04 36  37.3  18.6 -8.9     -33.3   242      196   06 27 31

06 32 40  J0958+65     01 05 17  33.7  21.1 -8.9     -31.4    13      196   06 32 40
06 34 30  ---          01 07 07  33.8  21.3 -8.9     -31.7   110      210   06 32 41

06 34 30  M82          01 07 07  37.4  18.9 -8.8     -33.8   -27      210   No stop
06 39 00  ---          01 11 38  37.6  19.3 -8.8     -34.6   243      245   06 34 31

06 39 40  J0958+65     01 12 18  34.1  21.9 -8.8     -32.6    13      245   06 39 40
06 41 30  ---          01 14 08  34.2  22.1 -8.8     -32.9   110      259   06 39 41

06 41 30  M82          01 14 08  37.8  19.5 -8.7     -35.0   -27      259   No stop
06 46 00  ---          01 18 39  38.0  19.9 -8.7     -35.9   243      294   06 41 31

06 46 00  J0958+65     01 18 39  34.4  22.5 -8.7     -33.6   -27      294   No stop
06 48 30  ---          01 21 09  34.6  22.8 -8.7     -34.1   123      313   06 46 01

06 48 30  M82          01 21 09  38.1  20.1 -8.6     -36.3   -27      313   No stop
06 53 00  ---          01 25 40  38.3  20.5 -8.5     -37.1   243      348   06 48 31

06 53 40  J0958+65     01 26 20  34.9  23.3 -8.6     -34.9    13      348   06 53 40
06 55 30  ---          01 28 10  35.0  23.5 -8.5     -35.2   110      362   06 53 41
```

Schedule for TORUN (Code Tr) Page 3

Monitoring the old, discovering the new; mas-scale radio emission in M82

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT	Source	Start / Stop						Early	Disk	TPStart
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC
--- Sat 11 Jun 2022 Day 162 ---										
06 55 30	M82	01 28 10	38.5	20.7	-8.5		-37.6	-27	362	No stop
07 00 00	---	01 32 41	38.7	21.1	-8.4		-38.4	243	397	06 55 31
07 00 40	J0958+65	01 33 21	35.3	24.1	-8.5		-36.1	13	397	07 00 40
07 02 30	---	01 35 11	35.4	24.2	-8.4		-36.4	110	411	07 00 41
07 02 30	M82	01 35 11	38.9	21.4	-8.4		-38.8	-27	411	No stop
07 07 00	---	01 39 42	39.1	21.8	-8.3		-39.6	243	446	07 02 31
07 07 00	J0958+65	01 39 42	35.7	24.7	-8.3		-37.2	-27	446	No stop
07 09 30	---	01 42 13	35.9	25.0	-8.3		-37.6	123	465	07 07 01
07 09 30	M82	01 42 13	39.2	22.0	-8.3		-40.1	-27	465	No stop
07 14 00	---	01 46 43	39.5	22.4	-8.2		-40.9	243	500	07 09 31
07 14 40	J0958+65	01 47 23	36.2	25.5	-8.2		-38.5	14	500	07 14 40
07 16 30	---	01 49 14	36.3	25.7	-8.2		-38.8	110	514	07 14 41
07 16 30	M82	01 49 14	39.6	22.6	-8.1		-41.3	-26	514	No stop
07 21 00	---	01 53 44	39.9	23.0	-8.1		-42.2	244	549	07 16 31
07 21 40	J0958+65	01 54 25	36.7	26.2	-8.1		-39.7	14	549	07 21 40
07 23 30	---	01 56 15	36.8	26.4	-8.1		-40.0	110	563	07 21 41
07 23 30	M82	01 56 15	40.1	23.2	-8.0		-42.6	-26	563	No stop
07 28 00	---	02 00 46	40.3	23.5	-7.9		-43.4	244	598	07 23 31
07 28 00	J0958+65	02 00 46	37.1	26.8	-8.0		-40.7	-26	598	No stop
07 30 30	---	02 03 16	37.3	27.1	-8.0		-41.1	124	617	07 28 01
07 30 30	M82	02 03 16	40.5	23.7	-7.9		-43.9	-26	617	No stop
07 35 00	---	02 07 47	40.7	24.1	-7.8		-44.7	244	652	07 30 31
07 35 40	J0958+65	02 08 27	37.6	27.6	-7.9		-42.0	14	652	07 35 40
07 37 30	---	02 10 17	37.7	27.8	-7.8		-42.3	110	666	07 35 41
07 37 30	M82	02 10 17	40.9	24.3	-7.8		-45.1	-26	666	No stop
07 42 00	---	02 14 48	41.2	24.7	-7.7		-46.0	244	701	07 37 31
07 42 40	J0958+65	02 15 28	38.1	28.3	-7.7		-43.2	14	701	07 42 40
07 44 30	---	02 17 18	38.2	28.4	-7.7		-43.5	110	715	07 42 41
07 44 30	M82	02 17 18	41.3	24.9	-7.7		-46.4	-26	715	No stop
07 49 00	---	02 21 49	41.6	25.3	-7.6		-47.2	244	750	07 44 31
07 49 00	J0958+65	02 21 49	38.6	28.9	-7.6		-44.3	-25	750	No stop
07 51 30	---	02 24 19	38.7	29.1	-7.6		-44.7	125	769	07 49 01

Schedule for TORUN (Code Tr) Page 4

Monitoring the old, discovering the new; mas-scale radio emission in M82

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Sat 11 Jun 2022 Day 162 ---										
07 51 30	M82	02 24 19	41.8	25.4	-7.6		-47.7	-25	769	No stop
07 56 00	---	02 28 50	42.1	25.8	-7.5		-48.5	245	804	07 51 31
07 56 40	J0958+65	02 29 30	39.1	29.6	-7.5		-45.6	15	804	07 56 40
07 58 30	---	02 31 21	39.3	29.8	-7.5		-45.9	110	818	07 56 41
07 58 30	M82	02 31 21	42.2	26.0	-7.4		-49.0	-25	818	No stop
08 03 00	---	02 35 51	42.5	26.3	-7.4		-49.8	245	853	07 58 31
08 03 40	J0958+65	02 36 31	39.7	30.2	-7.4		-46.7	15	853	08 03 40
08 05 30	---	02 38 22	39.8	30.4	-7.4		-47.0	110	867	08 03 41
08 05 30	M82	02 38 22	42.7	26.5	-7.3		-50.2	-25	867	No stop
08 10 00	---	02 42 52	43.0	26.9	-7.2		-51.1	245	902	08 05 31
08 10 00	J0958+65	02 42 52	40.1	30.8	-7.3		-47.8	-25	902	No stop
08 12 30	---	02 45 23	40.3	31.0	-7.3		-48.2	125	921	08 10 01
08 12 30	M82	02 45 23	43.2	27.1	-7.2		-51.5	-25	921	No stop
08 17 00	---	02 49 54	43.5	27.4	-7.1		-52.4	245	956	08 12 31
08 17 40	J0958+65	02 50 34	40.7	31.5	-7.2		-49.1	16	956	08 17 40
08 19 30	---	02 52 24	40.9	31.7	-7.1		-49.4	110	970	08 17 41
08 19 30	M82	02 52 24	43.7	27.6	-7.1		-52.8	-24	970	No stop
08 24 00	---	02 56 55	44.0	27.9	-7.0		-53.7	246	1005	08 19 31
08 24 40	J0958+65	02 57 35	41.3	32.1	-7.0		-50.3	16	1005	08 24 40
08 26 30	---	02 59 25	41.4	32.3	-7.0		-50.6	110	1019	08 24 41
08 26 30	M82	02 59 25	44.2	28.1	-7.0		-54.1	-24	1019	No stop
08 31 00	---	03 03 56	44.5	28.4	-6.9		-55.0	246	1054	08 26 31
08 31 00	J0958+65	03 03 56	41.8	32.7	-6.9		-51.4	-24	1054	No stop
08 33 30	---	03 06 26	42.0	32.9	-6.9		-51.8	126	1073	08 31 01
08 33 30	M82	03 06 26	44.7	28.6	-6.9		-55.4	-24	1073	No stop
08 38 00	---	03 10 57	45.0	28.9	-6.8		-56.3	246	1108	08 33 31
08 38 40	J0958+65	03 11 37	42.4	33.4	-6.8		-52.7	16	1108	08 38 40
08 40 30	---	03 13 28	42.6	33.5	-6.8		-53.0	110	1122	08 38 41
08 40 30	M82	03 13 28	45.2	29.1	-6.7		-56.7	-24	1122	No stop
08 45 00	---	03 17 58	45.5	29.4	-6.7		-57.6	246	1157	08 40 31

Schedule for TORUN (Code Tr) Page 5

Monitoring the old, discovering the new; mas-scale radio emission in M82

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Sat 11 Jun 2022 Day 162 ---										
08 45 40	J0958+65	03 18 38	43.0	34.0	-6.7		-53.9	16	1157	08 45 40
08 47 30	---	03 20 29	43.2	34.1	-6.7		-54.2	110	1171	08 45 41
08 47 30	M82	03 20 29	45.7	29.5	-6.6		-58.0	-24	1171	No stop
08 52 00	---	03 24 59	46.0	29.8	-6.5		-58.9	246	1206	08 47 31
08 52 00	J0958+65	03 24 59	43.6	34.5	-6.6		-54.9	-24	1206	No stop
08 54 30	---	03 27 30	43.8	34.7	-6.5		-55.4	126	1225	08 52 01
08 54 30	M82	03 27 30	46.2	30.0	-6.5		-59.3	-24	1225	No stop
08 59 00	---	03 32 01	46.6	30.3	-6.4		-60.2	246	1260	08 54 31
08 59 40	J0958+65	03 32 41	44.2	35.1	-6.5		-56.3	15	1260	08 59 40
09 01 30	---	03 34 31	44.4	35.3	-6.4		-56.6	110	1274	08 59 41
09 01 30	M82	03 34 31	46.7	30.4	-6.4		-60.7	-25	1274	No stop
09 06 00	---	03 39 02	47.1	30.7	-6.3		-61.5	245	1309	09 01 31
09 06 40	J0958+65	03 39 42	44.8	35.7	-6.3		-57.5	15	1309	09 06 40
09 08 30	---	03 41 32	45.0	35.8	-6.3		-57.8	110	1323	09 06 41
09 08 30	M82	03 41 32	47.3	30.9	-6.3		-62.0	-25	1323	No stop
09 13 00	---	03 46 03	47.6	31.1	-6.2		-62.9	245	1358	09 08 31
09 13 00	J0958+65	03 46 03	45.4	36.2	-6.2		-58.6	-25	1358	No stop
09 15 30	---	03 48 33	45.6	36.4	-6.2		-59.0	125	1377	09 13 01
09 15 30	M82	03 48 33	47.8	31.3	-6.2		-63.3	-25	1377	No stop
09 20 00	---	03 53 04	48.2	31.5	-6.1		-64.2	245	1412	09 15 31
09 20 40	J0958+65	03 53 44	46.1	36.7	-6.1		-59.9	15	1412	09 20 40
09 22 30	---	03 55 34	46.2	36.9	-6.1		-60.2	110	1426	09 20 41
09 22 30	M82	03 55 34	48.4	31.7	-6.0		-64.7	-25	1426	No stop
09 27 00	---	04 00 05	48.7	31.9	-6.0		-65.5	245	1461	09 22 31
09 27 40	J0958+65	04 00 45	46.7	37.3	-6.0		-61.1	14	1461	09 27 40
09 29 30	---	04 02 36	46.9	37.4	-6.0		-61.4	110	1475	09 27 41
09 29 30	M82	04 02 36	48.9	32.1	-5.9		-66.0	-26	1475	No stop
09 34 00	---	04 07 06	49.3	32.3	-5.8		-66.9	244	1510	09 29 31
09 34 00	J0958+65	04 07 06	47.3	37.7	-5.9		-62.2	-26	1510	No stop
09 36 30	---	04 09 37	47.5	37.9	-5.8		-62.7	124	1529	09 34 01

Schedule for TORUN (Code Tr) Page 6

Monitoring the old, discovering the new; mas-scale radio emission in M82

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT	Source	Start / Stop						Early	Disk	TPStart
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC
--- Sat 11 Jun 2022 Day 162 ---										
09 36 30	M82	04 09 37	49.5	32.4	-5.8		-67.4	-26	1529	No stop
09 41 00	---	04 14 07	49.9	32.7	-5.7		-68.3	244	1564	09 36 31
09 41 40	J0958+65	04 14 48	48.0	38.3	-5.8		-63.6	14	1564	09 41 40
09 43 30	---	04 16 38	48.2	38.4	-5.7		-63.9	110	1578	09 41 41
09 43 30	M82	04 16 38	50.1	32.8	-5.7		-68.8	-26	1578	No stop
09 48 00	---	04 21 09	50.4	33.0	-5.6		-69.7	244	1613	09 43 31
09 48 00	J0958+65	04 21 09	48.6	38.7	-5.7		-64.7	-26	1613	No stop
09 50 00	---	04 23 09	48.8	38.8	-5.6		-65.0	94	1628	09 48 01
09 50 20	J0958+65	04 23 29	48.8	38.9	-5.6		-65.1	14	1628	09 50 20
09 51 40	---	04 24 49	48.9	38.9	-5.6		-65.3	80	1639	09 50 21
09 51 40	M82	04 24 49	50.7	33.2	-5.5		-70.4	-26	1639	No stop
09 56 10	---	04 29 20	51.1	33.4	-5.5		-71.3	244	1673	09 51 41
09 56 30	J0958+65	04 29 40	49.4	39.3	-5.5		-66.2	-7	1673	09 56 30
09 58 00	---	04 31 10	49.5	39.4	-5.5		-66.5	83	1685	09 56 31
09 58 50	J0958+65	04 32 00	49.6	39.4	-5.5		-66.6	44	1685	09 58 50
10 00 30	---	04 33 41	49.8	39.5	-5.4		-66.9	100	1698	09 58 51
10 00 30	M82	04 33 41	51.5	33.6	-5.4		-72.2	-27	1698	No stop
10 05 00	---	04 38 11	51.8	33.8	-5.3		-73.1	243	1733	10 00 31
10 05 00	J0958+65	04 38 11	50.2	39.8	-5.4		-67.7	-27	1733	No stop
10 07 30	---	04 40 42	50.4	39.9	-5.3		-68.2	123	1752	10 05 01
10 07 30	M82	04 40 42	52.0	33.9	-5.3		-73.6	-27	1752	No stop
10 12 00	---	04 45 13	52.4	34.0	-5.2		-74.5	243	1787	10 07 31
10 12 50	J0958+65	04 46 03	51.0	40.3	-5.2		-69.2	23	1787	10 12 50
10 14 30	---	04 47 43	51.1	40.4	-5.2		-69.5	100	1800	10 12 51
10 14 30	M82	04 47 43	52.6	34.1	-5.2		-75.0	-27	1800	No stop
10 19 00	---	04 52 14	53.0	34.3	-5.1		-75.9	243	1834	10 14 31
10 19 50	J0958+65	04 53 04	51.6	40.7	-5.1		-70.4	22	1834	10 19 50
10 21 30	---	04 54 44	51.8	40.8	-5.1		-70.7	100	1847	10 19 51
10 21 30	M82	04 54 44	53.2	34.4	-5.0		-76.4	-28	1847	No stop
10 26 00	---	04 59 15	53.6	34.5	-5.0		-77.4	242	1882	10 21 31

Schedule for TORUN (Code Tr) Page 7

Monitoring the old, discovering the new; mas-scale radio emission in M82

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Sat 11 Jun 2022 Day 162 ---										
10 26 00	J0958+65	04 59 15	52.3	41.0	-5.0		-71.6	-28	1882	No stop
10 28 30	---	05 01 45	52.5	41.1	-5.0		-72.0	122	1901	10 26 01
10 28 30	M82	05 01 45	53.8	34.6	-4.9		-77.9	-28	1901	No stop
10 33 00	---	05 06 16	54.2	34.8	-4.9		-78.9	242	1936	10 28 31
10 33 50	J0958+65	05 07 06	53.0	41.4	-4.9		-73.0	22	1936	10 33 50
10 35 30	---	05 08 46	53.2	41.5	-4.9		-73.4	100	1949	10 33 51
10 35 30	M82	05 08 46	54.4	34.8	-4.8		-79.4	-28	1949	No stop
10 40 00	---	05 13 17	54.8	34.9	-4.7		-80.3	242	1984	10 35 31
10 40 50	J0958+65	05 14 07	53.7	41.8	-4.8		-74.4	21	1984	10 40 50
10 42 30	---	05 15 48	53.9	41.8	-4.7		-74.7	100	1997	10 40 51
10 42 30	M82	05 15 48	55.0	35.0	-4.7		-80.9	-29	1997	No stop
10 47 00	---	05 20 18	55.4	35.1	-4.6		-81.9	241	2031	10 42 31
10 47 00	J0958+65	05 20 18	54.3	42.0	-4.7		-75.5	-29	2031	No stop
10 49 30	---	05 22 49	54.6	42.1	-4.6		-76.0	121	2051	10 47 01
10 49 30	M82	05 22 49	55.6	35.2	-4.6		-82.4	-29	2051	No stop
10 54 00	---	05 27 19	56.0	35.3	-4.5		-83.4	241	2086	10 49 31
10 54 50	J0958+65	05 28 10	55.1	42.4	-4.5		-77.1	21	2086	10 54 50
10 56 30	---	05 29 50	55.3	42.4	-4.5		-77.4	100	2098	10 54 51
10 56 30	M82	05 29 50	56.2	35.3	-4.5		-83.9	-29	2098	No stop
11 01 00	---	05 34 21	56.6	35.4	-4.4		-84.9	241	2133	10 56 31
11 01 50	J0958+65	05 35 11	55.9	42.6	-4.4		-78.4	20	2133	11 01 50
11 03 30	---	05 36 51	56.0	42.7	-4.4		-78.8	100	2146	11 01 51
11 03 30	M82	05 36 51	56.9	35.4	-4.3		-85.5	-30	2146	No stop
11 08 00	---	05 41 22	57.2	35.5	-4.3		-86.5	240	2181	11 03 31
11 08 00	J0958+65	05 41 22	56.5	42.9	-4.3		-79.6	-30	2181	No stop
11 10 30	---	05 43 52	56.7	42.9	-4.3		-80.1	120	2200	11 08 01
11 10 30	M82	05 43 52	57.5	35.5	-4.2		-87.1	-30	2200	No stop
11 15 00	---	05 48 23	57.9	35.5	-4.2		-88.1	240	2235	11 10 31
11 15 50	J0958+65	05 49 13	57.3	43.1	-4.2		-81.2	20	2235	11 15 50
11 17 30	---	05 50 53	57.5	43.2	-4.2		-81.6	100	2248	11 15 51

Schedule for TORUN (Code Tr) Page 8

Monitoring the old, discovering the new; mas-scale radio emission in M82

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT	Source	Start / Stop						Early	Disk	TPStart
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC
--- Sat 11 Jun 2022 Day 162 ---										
11 17 30	M82	05 50 53	58.1	35.5	-4.1		-88.7	-30	2248	No stop
11 22 00	---	05 55 24	58.5	35.5	-4.0		-89.7	240	2283	11 17 31
11 22 50	J0958+65	05 56 14	58.0	43.3	-4.1		-82.7	19	2283	11 22 50
11 24 30	---	05 57 54	58.2	43.3	-4.0		-83.0	100	2296	11 22 51
11 24 30	M82	05 57 54	58.7	35.5	-4.0		-90.3	-31	2296	No stop
11 29 00	---	06 02 25	59.1	35.5	-3.9		-91.4	239	2330	11 24 31
11 29 00	J0958+65	06 02 25	58.6	43.4	-4.0		-83.9	-31	2330	No stop
11 31 30	---	06 04 56	58.9	43.5	-3.9		-84.5	119	2350	11 29 01
11 31 30	M82	06 04 56	59.3	35.5	-3.9		-92.0	-31	2350	No stop
11 36 00	---	06 09 26	59.7	35.5	-3.8		-93.1	239	2384	11 31 31
11 36 50	J0958+65	06 10 16	59.5	43.6	-3.8		-85.6	19	2384	11 36 50
11 38 30	---	06 11 57	59.6	43.6	-3.8		-86.0	100	2397	11 36 51
11 38 30	M82	06 11 57	59.9	35.4	-3.8		-93.7	-31	2397	No stop
11 43 00	---	06 16 27	60.3	35.4	-3.7		-94.8	239	2432	11 38 31
11 43 50	J0958+65	06 17 18	60.2	43.7	-3.7		-87.1	18	2432	11 43 50
11 45 30	---	06 18 58	60.4	43.7	-3.7		-87.5	100	2445	11 43 51
11 45 30	M82	06 18 58	60.5	35.3	-3.6		-95.4	-32	2445	No stop
11 50 00	---	06 23 29	60.9	35.3	-3.6		-96.5	238	2480	11 45 31
11 50 00	J0958+65	06 23 29	60.8	43.7	-3.6		-88.5	-32	2480	No stop
11 52 30	---	06 25 59	61.1	43.7	-3.6		-89.0	118	2499	11 50 01
11 52 30	M82	06 25 59	61.1	35.2	-3.5		-97.2	-32	2499	No stop
11 57 00	---	06 30 30	61.5	35.1	-3.5		-98.3	238	2534	11 52 31
11 57 50	J0958+65	06 31 20	61.6	43.8	-3.5		-90.3	18	2534	11 57 50
11 59 30	---	06 33 00	61.8	43.8	-3.5		-90.6	100	2547	11 57 51
11 59 30	M82	06 33 00	61.7	35.0	-3.4		-99.0	-32	2547	No stop
12 04 00	---	06 37 31	62.1	34.9	-3.3		-100.2	238	2582	11 59 31
12 04 50	J0958+65	06 38 21	62.4	43.7	-3.4		-91.9	17	2582	12 04 50
12 06 30	---	06 40 01	62.5	43.7	-3.3		-92.3	100	2594	12 04 51
12 06 30	M82	06 40 01	62.3	34.8	-3.3		-100.8	-33	2594	No stop
12 11 00	---	06 44 32	62.7	34.6	-3.2		-102.0	237	2629	12 06 31

Schedule for TORUN (Code Tr) Page 9

Monitoring the old, discovering the new; mas-scale radio emission in M82

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Sat 11 Jun 2022 Day 162 ---										
12 11 00	J0958+65	06 44 32	63.0	43.7	-3.3		-93.3	-33	2629	No stop
12 13 30	---	06 47 02	63.3	43.6	-3.2		-93.9	117	2649	12 11 01
12 13 30	M82	06 47 02	62.9	34.5	-3.2		-102.7	-33	2649	No stop
12 18 00	---	06 51 33	63.3	34.3	-3.1		-103.9	237	2683	12 13 31
12 18 50	J0958+65	06 52 23	63.8	43.5	-3.1		-95.2	17	2683	12 18 50
12 20 30	---	06 54 04	64.0	43.5	-3.1		-95.7	100	2696	12 18 51
12 20 30	M82	06 54 04	63.5	34.2	-3.1		-104.6	-34	2696	No stop
12 25 00	---	06 58 34	63.9	34.0	-3.0		-105.9	236	2731	12 20 31
12 25 50	J0958+65	06 59 25	64.5	43.3	-3.0		-97.0	16	2731	12 25 50
12 27 30	---	07 01 05	64.7	43.3	-3.0		-97.4	100	2744	12 25 51
12 27 30	M82	07 01 05	64.1	33.8	-2.9		-106.6	-34	2744	No stop
12 32 00	---	07 05 36	64.5	33.6	-2.9		-107.9	236	2779	12 27 31
12 32 00	J0958+65	07 05 36	65.2	43.1	-2.9		-98.6	-34	2779	No stop
12 34 30	---	07 08 06	65.4	43.0	-2.9		-99.3	116	2798	12 32 01
12 34 30	M82	07 08 06	64.7	33.4	-2.8		-108.6	-34	2798	No stop
12 39 00	---	07 12 37	65.1	33.1	-2.8		-110.0	236	2833	12 34 31
12 39 50	J0958+65	07 13 27	66.0	42.8	-2.8		-100.7	16	2833	12 39 50
12 41 30	---	07 15 07	66.2	42.7	-2.8		-101.1	100	2846	12 39 51
12 41 30	M82	07 15 07	65.3	32.9	-2.7		-110.7	-35	2846	No stop
12 46 00	---	07 19 38	65.6	32.6	-2.6		-112.1	235	2880	12 41 31
12 46 50	J0958+65	07 20 28	66.7	42.4	-2.7		-102.6	15	2880	12 46 50
12 48 30	---	07 22 08	66.9	42.3	-2.6		-103.1	100	2893	12 46 51
12 48 30	M82	07 22 08	65.9	32.4	-2.6		-112.9	-35	2893	No stop
12 53 00	---	07 26 39	66.2	32.0	-2.5		-114.3	235	2928	12 48 31
12 53 00	J0958+65	07 26 39	67.3	42.1	-2.6		-104.4	-35	2928	No stop
12 55 30	---	07 29 09	67.6	41.9	-2.5		-105.1	115	2947	12 53 01
12 55 30	M82	07 29 09	66.4	31.8	-2.5		-115.1	-35	2947	No stop
13 00 00	---	07 33 40	66.8	31.3	-2.4		-116.5	235	2982	12 55 31
13 00 50	J0958+65	07 34 30	68.1	41.5	-2.4		-106.7	15	2982	13 00 50
13 02 30	---	07 36 11	68.3	41.3	-2.4		-107.2	100	2995	13 00 51

Schedule for TORUN (Code Tr) Page 10

Monitoring the old, discovering the new; mas-scale radio emission in M82

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT	Source	Start / Stop						Early	Disk	TPStart
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC
--- Sat 11 Jun 2022 Day 162 ---										
13 02 30	M82	07 36 11	67.0	31.1	-2.4		-117.4	-36	2995	No stop
13 07 00	---	07 40 41	67.3	30.6	-2.3		-118.9	234	3030	13 02 31
13 07 50	J0958+65	07 41 31	68.8	40.9	-2.3		-108.9	14	3030	13 07 50
13 09 30	---	07 43 12	69.0	40.7	-2.3		-109.4	100	3043	13 07 51
13 09 30	M82	07 43 12	67.5	30.3	-2.2		-119.7	-36	3043	No stop
13 14 00	---	07 47 42	67.8	29.8	-2.2		-121.2	234	3077	13 09 31
13 14 00	J0958+65	07 47 42	69.4	40.3	-2.2		-110.8	-36	3077	No stop
13 16 30	---	07 50 13	69.7	40.0	-2.2		-111.7	114	3097	13 14 01
13 16 30	M82	07 50 13	68.0	29.5	-2.1		-122.1	-36	3097	No stop
13 21 00	---	07 54 44	68.4	28.9	-2.0		-123.7	234	3132	13 16 31
13 21 50	J0958+65	07 55 34	70.2	39.4	-2.1		-113.5	14	3132	13 21 50
13 23 30	---	07 57 14	70.3	39.2	-2.1		-114.0	100	3144	13 21 51
13 23 30	M82	07 57 14	68.5	28.6	-2.0		-124.6	-36	3144	No stop
13 28 00	---	08 01 45	68.9	27.9	-1.9		-126.2	234	3179	13 23 31
13 28 50	J0958+65	08 02 35	70.8	38.5	-2.0		-115.9	14	3179	13 28 50
13 30 30	---	08 04 15	71.0	38.2	-1.9		-116.5	100	3192	13 28 51
13 30 30	M82	08 04 15	69.0	27.6	-1.9		-127.2	-36	3192	No stop
13 35 00	---	08 08 46	69.3	26.9	-1.8		-128.9	234	3227	13 30 31
13 35 00	J0958+65	08 08 46	71.4	37.6	-1.9		-118.2	-36	3227	No stop
13 37 30	---	08 11 16	71.6	37.2	-1.8		-119.1	114	3246	13 35 01
13 37 30	M82	08 11 16	69.5	26.5	-1.8		-129.8	-36	3246	No stop
13 42 00	---	08 15 47	69.8	25.8	-1.7		-131.6	234	3281	13 37 31
13 42 50	J0958+65	08 16 37	72.1	36.3	-1.7		-121.2	14	3281	13 42 50
13 44 30	---	08 18 17	72.3	36.0	-1.7		-121.8	100	3294	13 42 51
13 44 30	M82	08 18 17	70.0	25.3	-1.7		-132.6	-36	3294	No stop
13 49 00	---	08 22 48	70.3	24.5	-1.6		-134.4	234	3329	13 44 31
13 49 00	J0958+65	08 22 48	72.6	35.1	-1.6		-123.7	-36	3329	No stop
13 51 00	---	08 24 49	72.8	34.7	-1.6		-124.5	84	3344	13 49 01
13 53 00	J0927+39	08 26 49	72.3	137.1	-1.0		-31.7	-101	3344	13 53 00
13 59 00	---	08 32 50	72.9	140.5	-0.9		-29.4	259	3391	13 53 01

Schedule for TORUN (Code Tr) Page 11

Monitoring the old, discovering the new; mas-scale radio emission in M82

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Sat 11 Jun 2022 Day 162 ---										
14 01 00	J0958+65	08 34 50	73.7	32.6	-1.4		-128.8	-112	3391	14 01 00
14 03 00	---	08 36 50	73.8	32.1	-1.4		-129.8	8	3406	14 01 01
14 03 00	M82	08 36 50	71.1	21.8	-1.3		-140.2	-36	3406	No stop
14 07 30	---	08 41 21	71.3	20.9	-1.3		-142.2	234	3441	14 03 01
14 07 50	J0958+65	08 41 41	74.2	30.9	-1.3		-132.0	-15	3441	14 07 50
14 09 00	---	08 42 51	74.3	30.6	-1.3		-132.6	55	3450	14 07 51
14 09 50	J0958+65	08 43 42	74.4	30.4	-1.3		-133.0	44	3450	14 09 50
14 11 30	---	08 45 22	74.5	30.0	-1.3		-133.8	100	3463	14 09 51
14 11 30	M82	08 45 22	71.5	20.0	-1.2		-144.0	-35	3463	No stop
14 16 00	---	08 49 53	71.8	19.0	-1.1		-146.0	235	3497	14 11 31
14 16 00	J0958+65	08 49 53	74.8	28.7	-1.2		-136.0	-34	3497	No stop
14 18 30	---	08 52 23	75.0	28.0	-1.1		-137.3	116	3517	14 16 01
14 18 30	M82	08 52 23	71.9	18.4	-1.1		-147.1	-34	3517	No stop
14 23 00	---	08 56 54	72.1	17.3	-1.0		-149.2	236	3552	14 18 31
14 23 50	J0958+65	08 57 44	75.4	26.4	-1.0		-140.1	17	3552	14 23 50
14 25 30	---	08 59 24	75.5	25.8	-1.0		-141.0	100	3564	14 23 51
14 25 30	M82	08 59 24	72.2	16.7	-1.0		-150.4	-34	3564	No stop
14 30 00	---	09 03 55	72.4	15.5	-0.9		-152.5	236	3599	14 25 31
14 30 50	J0958+65	09 04 45	75.8	24.1	-0.9		-143.9	18	3599	14 30 50
14 32 30	---	09 06 25	75.9	23.5	-0.9		-144.8	100	3612	14 30 51
14 32 30	M82	09 06 25	72.5	14.9	-0.9		-153.7	-32	3612	No stop
14 37 00	---	09 10 56	72.7	13.7	-0.8		-155.9	238	3647	14 32 31
14 37 00	J0958+65	09 10 56	76.2	21.9	-0.8		-147.4	-31	3647	No stop
14 39 30	---	09 13 26	76.3	20.9	-0.8		-148.9	119	3666	14 37 01
14 39 30	M82	09 13 26	72.7	13.0	-0.7		-157.2	-31	3666	No stop
14 44 00	---	09 17 57	72.9	11.8	-0.7		-159.4	239	3701	14 39 31
14 44 50	J0958+65	09 18 47	76.6	18.9	-0.7		-152.1	21	3701	14 44 50
14 46 30	---	09 20 28	76.7	18.2	-0.7		-153.1	100	3714	14 44 51
14 46 30	M82	09 20 28	73.0	11.1	-0.6		-160.7	-29	3714	No stop
14 51 00	---	09 24 58	73.1	9.8	-0.5		-162.9	241	3749	14 46 31

Schedule for TORUN (Code Tr) Page 12

Monitoring the old, discovering the new; mas-scale radio emission in M82

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Sat 11 Jun 2022 Day 162 ---										
14 51 50	J0958+65	09 25 49	76.9	16.0	-0.6		-156.5	22	3749	14 51 50
14 53 30	---	09 27 29	77.0	15.3	-0.5		-157.6	100	3762	14 51 51
14 53 30	M82	09 27 29	73.2	9.1	-0.5		-164.2	-28	3762	No stop
14 58 00	---	09 32 00	73.3	7.8	-0.4		-166.5	242	3796	14 53 31
14 58 00	J0958+65	09 32 00	77.1	13.4	-0.5		-160.5	-28	3796	No stop
15 00 30	---	09 34 30	77.2	12.2	-0.4		-162.1	122	3816	14 58 01
15 00 30	M82	09 34 30	73.3	7.0	-0.4		-167.8	-29	3816	No stop
15 05 00	---	09 39 01	73.4	5.7	-0.3		-170.2	241	3850	15 00 31
15 05 50	J0958+65	09 39 51	77.4	9.8	-0.3		-165.7	21	3850	15 05 50
15 07 30	---	09 41 31	77.4	9.0	-0.3		-166.9	100	3863	15 05 51
15 07 30	M82	09 41 31	73.4	4.9	-0.3		-171.5	-29	3863	No stop
15 12 00	---	09 46 02	73.5	3.6	-0.2		-173.9	241	3898	15 07 31
15 12 50	J0958+65	09 46 52	77.5	6.5	-0.2		-170.5	21	3898	15 12 50
15 14 30	---	09 48 32	77.5	5.7	-0.2		-171.7	100	3911	15 12 51
15 14 30	M82	09 48 32	73.5	2.8	-0.2		-175.2	-29	3911	No stop
15 19 00	---	09 53 03	73.5	1.4	-0.1		-177.6	241	3946	15 14 31
15 19 00	J0958+65	09 53 03	77.6	3.6	-0.1		-174.8	-29	3946	No stop
15 21 30	---	09 55 33	77.6	2.4	-0.1		-176.6	121	3965	15 19 01
15 21 30	M82	09 55 33	73.5	0.6	-0.0		-178.9	-29	3965	No stop
15 26 00	---	10 00 04	73.5	-0.7	0.0		178.7	241	4000	15 21 31
15 26 50	J0958+65	10 00 54	77.6	-0.2	0.0		179.7	21	4000	15 26 50
15 28 30	---	10 02 35	77.6	-1.0	0.0		178.5	100	4013	15 26 51
15 28 30	M82	10 02 35	73.5	-1.5	0.1		177.4	-29	4013	No stop
15 33 00	---	10 07 05	73.5	-2.9	0.2		175.0	241	4048	15 28 31
15 33 50	J0958+65	10 07 55	77.6	-3.6	0.1		174.8	21	4048	15 33 50
15 35 30	---	10 09 36	77.6	-4.4	0.2		173.6	100	4060	15 33 51
15 35 30	M82	10 09 36	73.5	-3.7	0.2		173.7	-29	4060	No stop
15 40 00	---	10 14 06	73.4	-5.0	0.3		171.3	241	4095	15 35 31
15 40 00	J0958+65	10 14 06	77.5	-6.6	0.2		170.5	-29	4095	No stop
15 42 30	---	10 16 37	77.5	-7.7	0.3		168.8	121	4114	15 40 01

Schedule for TORUN (Code Tr) Page 13

Monitoring the old, discovering the new; mas-scale radio emission in M82

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Sat 11 Jun 2022 Day 162 ---										
15 42 30	M82	10 16 37	73.4	-5.8	0.3		170.0	-29	4114	No stop
15 47 00	---	10 21 08	73.3	-7.1	0.4		167.7	241	4149	15 42 31
15 47 50	J0958+65	10 21 58	77.3	-10.2	0.4		165.1	21	4149	15 47 50
15 49 30	---	10 23 38	77.3	-11.0	0.4		164.0	100	4162	15 47 51
15 49 30	M82	10 23 38	73.2	-7.9	0.4		166.4	-29	4162	No stop
15 54 00	---	10 28 09	73.1	-9.2	0.5		164.1	241	4197	15 49 31
15 54 50	J0958+65	10 28 59	77.1	-13.4	0.5		160.5	21	4197	15 54 50
15 56 30	---	10 30 39	77.1	-14.1	0.5		159.4	100	4210	15 54 51
15 56 30	M82	10 30 39	73.1	-9.9	0.6		162.8	-29	4210	No stop
16 01 00	---	10 35 10	73.0	-11.2	0.6		160.5	241	4245	15 56 31
16 01 00	J0958+65	10 35 10	76.9	-16.0	0.6		156.5	-29	4245	No stop
16 03 30	---	10 37 40	76.8	-17.1	0.6		154.9	121	4264	16 01 01
16 03 30	M82	10 37 40	72.9	-11.9	0.7		159.2	-29	4264	No stop
16 08 00	---	10 42 11	72.7	-13.1	0.7		157.0	241	4299	16 03 31
16 08 50	J0958+65	10 43 01	76.5	-19.2	0.7		151.6	22	4299	16 08 50
16 10 30	---	10 44 41	76.4	-19.9	0.7		150.6	100	4312	16 08 51
16 10 30	M82	10 44 41	72.7	-13.8	0.8		155.8	-28	4312	No stop
16 15 00	---	10 49 12	72.5	-15.0	0.9		153.6	242	4346	16 10 31
16 15 50	J0958+65	10 50 02	76.2	-21.9	0.8		147.4	22	4346	16 15 50
16 17 30	---	10 51 43	76.1	-22.5	0.9		146.4	100	4359	16 15 51
16 17 30	M82	10 51 43	72.4	-15.6	0.9		152.4	-29	4359	No stop
16 22 00	---	10 56 13	72.2	-16.8	1.0		150.2	241	4394	16 17 31
16 22 00	J0958+65	10 56 13	75.8	-24.1	0.9		143.9	-30	4394	No stop
16 24 30	---	10 58 44	75.6	-24.9	1.0		142.5	120	4413	16 22 01
16 24 30	M82	10 58 44	72.1	-17.4	1.0		149.1	-30	4413	No stop
16 29 00	---	11 03 14	71.9	-18.5	1.1		147.0	240	4448	16 24 31
16 29 50	J0958+65	11 04 05	75.3	-26.6	1.1		139.6	19	4448	16 29 50
16 31 30	---	11 05 45	75.2	-27.1	1.1		138.7	100	4461	16 29 51
16 31 30	M82	11 05 45	71.8	-19.0	1.1		145.8	-31	4461	No stop
16 36 00	---	11 10 16	71.5	-20.1	1.2		143.8	239	4496	16 31 31

Schedule for TORUN (Code Tr) Page 14

Monitoring the old, discovering the new; mas-scale radio emission in M82

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Sat 11 Jun 2022 Day 162 ---										
16 36 50	J0958+65	11 11 06	74.8	-28.7	1.2		136.0	18	4496	16 36 50
16 38 30	---	11 12 46	74.7	-29.2	1.2		135.1	100	4509	16 36 51
16 38 30	M82	11 12 46	71.4	-20.6	1.3		142.7	-32	4509	No stop
16 43 00	---	11 17 17	71.2	-21.6	1.3		140.7	238	4543	16 38 31
16 43 00	J0958+65	11 17 17	74.3	-30.4	1.3		132.9	-33	4543	No stop
16 45 30	---	11 19 47	74.2	-31.1	1.3		131.7	117	4563	16 43 01
16 45 30	M82	11 19 47	71.0	-22.1	1.4		139.7	-33	4563	No stop
16 50 00	---	11 24 18	70.8	-23.0	1.4		137.7	237	4598	16 45 31
16 50 50	J0958+65	11 25 08	73.7	-32.4	1.4		129.3	16	4598	16 50 50
16 52 30	---	11 26 48	73.6	-32.8	1.4		128.5	100	4610	16 50 51
16 52 30	M82	11 26 48	70.6	-23.5	1.5		136.7	-33	4610	No stop
16 57 00	---	11 31 19	70.3	-24.3	1.6		134.8	237	4645	16 52 31
16 57 50	J0958+65	11 32 09	73.2	-33.9	1.5		126.2	16	4645	16 57 50
16 59 30	---	11 33 49	73.0	-34.3	1.6		125.5	100	4658	16 57 51
16 59 30	M82	11 33 49	70.2	-24.8	1.6		133.8	-34	4658	No stop
17 04 00	---	11 38 20	69.9	-25.6	1.7		132.0	236	4693	16 59 31
17 04 00	J0958+65	11 38 20	72.6	-35.2	1.6		123.6	-34	4693	No stop
17 06 30	---	11 40 51	72.4	-35.7	1.7		122.6	116	4712	17 04 01
17 06 30	M82	11 40 51	69.7	-26.0	1.7		131.1	-34	4712	No stop
17 11 00	---	11 45 21	69.4	-26.7	1.8		129.3	236	4747	17 06 31
17 11 50	J0958+65	11 46 12	71.9	-36.6	1.8		120.4	15	4747	17 11 50
17 13 30	---	11 47 52	71.8	-36.9	1.8		119.8	100	4760	17 11 51
17 13 30	M82	11 47 52	69.3	-27.1	1.8		128.4	-34	4760	No stop
17 18 00	---	11 52 23	68.9	-27.8	1.9		126.7	236	4795	17 13 31
17 18 50	J0958+65	11 53 13	71.3	-37.7	1.9		117.8	15	4795	17 18 50
17 20 30	---	11 54 53	71.1	-38.0	1.9		117.2	100	4808	17 18 51
17 20 30	M82	11 54 53	68.8	-28.1	2.0		125.8	-35	4808	No stop
17 25 00	---	11 59 24	68.4	-28.8	2.0		124.1	235	4842	17 20 31
17 25 00	J0958+65	11 59 24	70.7	-38.6	2.0		115.5	-35	4842	No stop
17 27 30	---	12 01 54	70.5	-38.9	2.0		114.7	115	4862	17 25 01

```
Schedule for TORUN     (Code Tr )                                  Page  15
              Monitoring the old, discovering the new; mas-scale radio emission in M82
  UP:  D => Below limits;  H => Below horizon mask;  W => still slewing at end;  blank => Up.
  Early: Seconds between end of slew and start.   Dwell: On source seconds.
  Disk: GBytes recorded to this point.
  TPStart:  Recording start time.  Frequencies are LO sum (band edge).
  SYNC: Time correlator is expected to sync up.
-----------------------------------------------------------------------------------------
Start UT  Source               Start / Stop                 Early    Disk   TPStart
Stop UT                  LST      EL    AZ   HA  UP   ParA  Dwell   GBytes    SYNC
-----------------------------------------------------------------------------------------

 --- Sat  11 Jun 2022   Day 162 ---

17 27 30  M82          12 01 54  68.3 -29.1  2.1     123.2   -35     4862   No stop
17 32 00  ---          12 06 25  67.9 -29.6  2.1     121.7   235     4896   17 27 31

17 32 50  J0958+65     12 07 15  70.0 -39.6  2.1     112.8    15     4896   17 32 50
17 34 30  ---          12 08 55  69.8 -39.8  2.1     112.3   100     4909   17 32 51

17 34 30  M82          12 08 55  67.7 -29.9  2.2     120.8   -35     4909   No stop
17 39 00  ---          12 13 26  67.4 -30.5  2.3     119.3   235     4944   17 34 31

17 39 00  J0958+65     12 13 26  69.4 -40.3  2.2     110.8   -35     4944   No stop
17 41 30  ---          12 15 56  69.1 -40.5  2.3     110.0   115     4963   17 39 01

17 41 30  M82          12 15 56  67.2 -30.7  2.3     118.4   -35     4963   No stop
17 46 00  ---          12 20 27  66.9 -31.2  2.4     116.9   235     4998   17 41 31

17 47 00  J0958+65     12 21 27  68.6 -41.1  2.3     108.2    25     4998   17 47 00
17 49 00  ---          12 23 28  68.4 -41.2  2.4     107.6   120     5014   17 47 01

17 52 00  DA193        12 26 28  26.9 -58.7  6.5      41.9    11     5014   17 52 00
18 00 00  ---          12 34 29  25.9 -57.4  6.6      41.2   480     5075   17 52 01



SETUP FILE INFORMATION:
   NOTE: If DOPPLER, FREQ, or BW were used, see the individual scans for the final BBC settings.


 ======== Setup file: sess222.C1024

   Setup group:    8         Station: TORUN            Total bit rate:  1024
   Format: VDIF              Bits per sample: 2        Sample rate: 64.000
   Number of channels:  8    DBE type: DBBC_DDC        Speedup factor:   1.00

   Disk used to record data.
```

```
  1st LO=   4200.00   4200.00   4200.00   4200.00   4200.00   4200.00   4200.00   4200.00
  Net SB=         L         L         U         U         L         L         U         U
  IF SB =         U         U         U         U         U         U         U         U
  Pol.  =       RCP       LCP       RCP       LCP       RCP       LCP       RCP       LCP
  BBC   =         1         9         1         9         2        10         2        10
  BBC SB=         L         L         U         U         L         L         U         U
  IF    =        A1        B1        A1        B1        A1        B1        A1        B1

 The following frequency sets based on these setups were used.

  Frequency Set:   9  Setup file default.  Used with PCAL = off
  LO sum=   4958.49  4958.49  4958.49  4958.49  5022.49  5022.49  5022.49  5022.49
  BBC fr=    758.49   758.49   758.49   758.49   822.49   822.49   822.49   822.49
  Bandwd=     32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00
   Matching frequency sets:   9

  Track assignments are:
   track1=   1,  2,  3,  4,  5,  6,  7,  8
   barrel=roll_off



POSITIONS OF SOURCES USED IN RECORDING SCANS

  Source                          Source position (RA/Dec)                        Error
                       (B1950)             (J2000)             (Date)             (mas)

* M82                09 51 41.952886   * 09 55 50.690000     09 57 39.113169       0.00
                     69 54 57.45661    * 69 40 43.76000      69 34 42.02433        0.00

* 3C84               03 16 29.567265   * 03 19 48.160096     03 21 14.714869       1.50
  J0319+4130         41 19 51.91692    * 41 30 42.10404      41 35 23.12310        2.86
  0316+413           /home/guest/rmc/SCHED/sched11.6/catalogs/sources.gsfc
  J0319+41           GSFC 2016a X/S astro solution,  10291 observations.

  0552+398           05 52 01.407168   * 05 55 30.805611     05 57 01.915560       0.00
  J0555+3948         39 48 21.94581    * 39 48 49.16496      39 49 02.52754        0.00
* DA193              /home/guest/rmc/SCHED/sched11.6/catalogs/sources.gsfc
  J0555+39           GSFC 2016a X/S astro solution, 415688 observations.

  4C39.25            09 23 55.319216   * 09 27 03.013937     09 28 25.351142       0.31
  J0927+3902         39 15 23.56644    * 39 02 20.85185      38 56 44.38745        0.16
  0923+392           /home/guest/rmc/SCHED/sched11.6/catalogs/sources.gsfc
* J0927+39           GSFC 2016a X/S astro solution, 250526 observations.

  0954+658           09 54 57.847924   * 09 58 47.245105     10 00 27.538350       0.02
  J0958+6533         65 48 15.53888    * 65 33 54.81807      65 27 49.67547        0.01
* J0958+65           /home/guest/rmc/SCHED/sched11.6/catalogs/sources.gsfc
                     GSFC 2016a X/S astro solution,  15018 observations.
```

ec086atr

LSR J1835 FOLLOW-UP OBSERVATIONS

PI: *Juan B. Climent*

Address: Dpto. Astronomia, Univ. Valencia

Observing mode: Phase-referencing at 6cm (4 Gbps)

```
Schedule for TORUN     (Code Tr )                                  Page   2
               LSR J1835 follow-up observations
  UP:  D => Below limits;  H => Below horizon mask;  W => still slewing at end;  blank => Up.
  Early: Seconds between end of slew and start.   Dwell: On source seconds.
  Disk: GBytes recorded to this point.
  TPStart:  Recording start time.  Frequencies are LO sum (band edge).
  SYNC: Time correlator is expected to sync up.
-----------------------------------------------------------------------------------------
Start UT  Source               Start / Stop                 Early    Disk   TPStart
Stop UT                  LST      EL    AZ   HA  UP   ParA  Dwell   GBytes    SYNC
-----------------------------------------------------------------------------------------
 --- Sat  11 Jun 2022   Day 162 ---
 Next scan frequencies:  4632.00  4632.00  4632.00  4632.00  4696.00  4696.00  4696.00  4696.00
                         4760.00  4760.00  4760.00  4760.00  4824.00  4824.00  4824.00  4824.00
                         4888.00  4888.00  4888.00  4888.00  4952.00  4952.00  4952.00  4952.00
                         5016.00  5016.00  5016.00  5016.00  5080.00  5080.00  5080.00  5080.00
 Next BBC frequencies:    544.00   544.00   544.00   544.00   608.00   608.00   608.00   608.00
                          672.00   672.00   672.00   672.00   736.00   736.00   736.00   736.00
                          800.00   800.00   800.00   800.00   864.00   864.00   864.00   864.00
                          928.00   928.00   928.00   928.00   992.00   992.00   992.00   992.00
 Next scan bandwidths:     32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00
                           32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00
                           32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00
                           32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00

21 00 00  1830+285     15 34 59  49.2 108.9 -3.0     -40.3     0        0   21 00 00
21 04 00  ---          15 39 00  49.8 110.0 -2.9     -40.0   240      124   21 00 01

21 04 50  J1848+3219   15 39 50  50.5 102.4 -3.2     -44.0    20      124   21 04 50
21 06 50  =1846+322    15 41 50  50.8 102.9 -3.1     -43.9   120      185   21 04 51

21 06 50 LSRJ1835+325  15 41 50  53.1 105.3 -2.9     -43.7   -23      185   No stop
21 10 50  ---          15 45 51  53.7 106.3 -2.8     -43.4   217      309   21 06 51

21 11 30  J1848+3219   15 46 31  51.5 104.0 -3.0     -43.6    18      309   21 11 30
21 12 50  =1846+322    15 47 51  51.7 104.3 -3.0     -43.5    80      350   21 11 31

21 12 50 LSRJ1835+325  15 47 51  54.0 106.8 -2.8     -43.3   -23      350   No stop
21 16 50  ---          15 51 52  54.6 107.8 -2.7     -43.0   217      474   21 12 51

21 17 30  J1848+3219   15 52 32  52.3 105.5 -2.9     -43.2    18      474   21 17 30
21 18 50  =1846+322    15 53 52  52.5 105.8 -2.9     -43.1    80      515   21 17 31

21 18 50 LSRJ1835+325  15 53 52  54.9 108.4 -2.7     -42.8   -23      515   No stop
21 22 50  ---          15 57 53  55.4 109.5 -2.6     -42.5   217      639   21 18 51

21 23 30  J1848+3219   15 58 33  53.2 107.0 -2.8     -42.8    18      639   21 23 30
21 24 50  =1846+322    15 59 53  53.4 107.4 -2.8     -42.7    80      680   21 23 31

21 24 50 LSRJ1835+325  15 59 53  55.7 110.0 -2.6     -42.3   -23      680   No stop
21 28 50  ---          16 03 54  56.3 111.1 -2.5     -41.9   217      804   21 24 51

21 29 30  J1848+3219   16 04 34  54.1 108.6 -2.7     -42.3    18      804   21 29 30
21 30 50  =1846+322    16 05 54  54.3 109.0 -2.7     -42.2    80      845   21 29 31
```

Schedule for TORUN (Code Tr) Page 3

LSR J1835 follow-up observations

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Sat 11 Jun 2022 Day 162 ---										
21 30 50	LSRJ1835+325	16 05 54	56.6	111.7	-2.5		-41.7	-23	845	No stop
21 34 50	---	16 09 55	57.1	112.8	-2.4		-41.3	217	969	21 30 51
21 35 30	J1848+3219	16 10 35	54.9	110.2	-2.6		-41.8	18	969	21 35 30
21 36 50	=1846+322	16 11 55	55.1	110.6	-2.6		-41.7	80	1010	21 35 31
21 36 50	J1834+3205	16 11 55	56.8	114.8	-2.4		-40.1	-23	1010	No stop
21 38 50	---	16 13 55	57.1	115.4	-2.4		-39.8	97	1072	21 36 51
21 38 50	J1848+3219	16 13 55	55.4	111.2	-2.6		-41.5	-23	1072	No stop
21 40 50	=1846+322	16 15 56	55.7	111.7	-2.6		-41.3	97	1134	21 38 51
21 40 50	LSRJ1835+325	16 15 56	57.9	114.6	-2.3		-40.6	-23	1134	No stop
21 44 50	---	16 19 56	58.5	115.8	-2.3		-40.1	217	1257	21 40 51
21 45 30	J1848+3219	16 20 36	56.3	113.1	-2.5		-40.8	18	1257	21 45 30
21 46 50	=1846+322	16 21 57	56.5	113.4	-2.5		-40.7	80	1298	21 45 31
21 46 50	LSRJ1835+325	16 21 57	58.8	116.5	-2.2		-39.9	-22	1298	No stop
21 50 50	---	16 25 57	59.3	117.7	-2.2		-39.3	218	1422	21 46 51
21 51 30	J1848+3219	16 26 37	57.1	114.8	-2.4		-40.2	18	1422	21 51 30
21 52 50	=1846+322	16 27 58	57.3	115.2	-2.4		-40.0	80	1463	21 51 31
21 52 50	LSRJ1835+325	16 27 58	59.6	118.4	-2.1		-39.1	-22	1463	No stop
21 56 50	---	16 31 58	60.1	119.7	-2.1		-38.5	218	1587	21 52 51
21 57 30	J1848+3219	16 32 38	58.0	116.6	-2.3		-39.4	18	1587	21 57 30
21 58 50	=1846+322	16 33 59	58.1	117.1	-2.3		-39.3	80	1628	21 57 31
21 58 50	LSRJ1835+325	16 33 59	60.3	120.3	-2.0		-38.2	-22	1628	No stop
22 02 50	---	16 37 59	60.9	121.7	-2.0		-37.5	218	1752	21 58 51
22 03 30	J1848+3219	16 38 39	58.8	118.5	-2.2		-38.6	18	1752	22 03 30
22 04 50	=1846+322	16 40 00	58.9	118.9	-2.2		-38.5	80	1793	22 03 31
22 04 50	LSRJ1835+325	16 40 00	61.1	122.4	-1.9		-37.2	-22	1793	No stop
22 08 50	---	16 44 00	61.6	123.8	-1.9		-36.5	218	1917	22 04 51
22 09 30	J1848+3219	16 44 40	59.5	120.5	-2.1		-37.8	18	1917	22 09 30
22 10 50	=1846+322	16 46 01	59.7	120.9	-2.1		-37.6	80	1958	22 09 31
22 10 50	J1834+3205	16 46 01	61.2	125.9	-1.8		-35.1	-25	1958	No stop
22 12 50	---	16 48 01	61.5	126.6	-1.8		-34.7	95	2020	22 10 51
22 12 50	J1848+3219	16 48 01	60.0	121.6	-2.0		-37.3	-25	2020	No stop
22 14 50	=1846+322	16 50 01	60.2	122.3	-2.0		-36.9	95	2082	22 12 51

Schedule for TORUN (Code Tr) Page 4

LSR J1835 follow-up observations

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT	Source	Start / Stop						Early	Disk	TPStart
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC
--- Sat 11 Jun 2022 Day 162 ---										
22 14 50	LSRJ1835+325	16 50 01	62.4	125.9	-1.8		-35.4	-22	2082	No stop
22 18 50	---	16 54 02	62.8	127.4	-1.7		-34.7	218	2205	22 14 51
22 19 30	J1848+3219	16 54 42	60.8	123.9	-1.9		-36.2	18	2205	22 19 30
22 20 50	=1846+322	16 56 02	61.0	124.3	-1.9		-35.9	80	2247	22 19 31
22 20 50	LSRJ1835+325	16 56 02	63.1	128.2	-1.7		-34.2	-23	2247	No stop
22 24 50	---	17 00 03	63.5	129.8	-1.6		-33.4	217	2370	22 20 51
22 25 30	J1848+3219	17 00 43	61.6	126.0	-1.8		-35.1	17	2370	22 25 30
22 26 50	=1846+322	17 02 03	61.7	126.5	-1.8		-34.8	80	2411	22 25 31
22 26 50	LSRJ1835+325	17 02 03	63.8	130.5	-1.6		-33.0	-23	2411	No stop
22 30 50	---	17 06 04	64.2	132.2	-1.5		-32.1	217	2535	22 26 51
22 31 30	J1848+3219	17 06 44	62.3	128.2	-1.7		-33.9	17	2535	22 31 30
22 32 50	=1846+322	17 08 04	62.4	128.7	-1.7		-33.7	80	2576	22 31 31
22 32 50	LSRJ1835+325	17 08 04	64.5	133.0	-1.5		-31.6	-24	2576	No stop
22 36 50	---	17 12 05	64.9	134.7	-1.4		-30.6	216	2700	22 32 51
22 37 30	J1848+3219	17 12 45	63.0	130.6	-1.6		-32.7	17	2700	22 37 30
22 38 50	=1846+322	17 14 05	63.1	131.1	-1.6		-32.4	80	2741	22 37 31
22 38 50	LSRJ1835+325	17 14 05	65.1	135.5	-1.4		-30.1	-24	2741	No stop
22 42 50	---	17 18 06	65.5	137.3	-1.3		-29.1	216	2865	22 38 51
22 43 30	J1848+3219	17 18 46	63.6	133.0	-1.5		-31.3	16	2865	22 43 30
22 44 50	=1846+322	17 20 06	63.8	133.5	-1.5		-31.0	80	2906	22 43 31
22 44 50	J1834+3205	17 20 06	65.0	139.5	-1.3		-27.4	-27	2906	No stop
22 46 50	---	17 22 07	65.2	140.4	-1.2		-26.8	93	2968	22 44 51
22 46 50	J1848+3219	17 22 07	64.0	134.3	-1.5		-30.6	-27	2968	No stop
22 48 50	=1846+322	17 24 07	64.2	135.2	-1.4		-30.1	93	3030	22 46 51
22 48 50	LSRJ1835+325	17 24 07	66.1	140.0	-1.2		-27.4	-25	3030	No stop
22 52 50	---	17 28 08	66.5	141.9	-1.1		-26.3	215	3153	22 48 51
22 53 30	J1848+3219	17 28 48	64.7	137.2	-1.3		-28.9	15	3153	22 53 30
22 54 50	=1846+322	17 30 08	64.8	137.7	-1.3		-28.6	80	3195	22 53 31
22 54 50	LSRJ1835+325	17 30 08	66.7	142.8	-1.1		-25.7	-25	3195	No stop
22 58 50	---	17 34 09	67.0	144.7	-1.0		-24.4	215	3318	22 54 51

Schedule for TORUN (Code Tr) Page 5

LSR J1835 follow-up observations

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT	Source	Start / Stop						Early	Disk	TPStart
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC
--- Sat 11 Jun 2022 Day 162 ---										
22 59 30	J1848+3219	17 34 49	65.3	139.8	-1.2		-27.3	15	3318	22 59 30
23 00 50	=1846+322	17 36 09	65.4	140.4	-1.2		-26.9	80	3360	22 59 31
23 00 50	LSRJ1835+325	17 36 09	67.2	145.7	-1.0		-23.8	-26	3360	No stop
23 04 50	---	17 40 09	67.5	147.7	-0.9		-22.5	214	3483	23 00 51
23 05 30	J1848+3219	17 40 50	65.9	142.6	-1.1		-25.6	14	3483	23 05 30
23 06 50	=1846+322	17 42 10	66.0	143.2	-1.1		-25.2	80	3524	23 05 31
23 06 50	LSRJ1835+325	17 42 10	67.7	148.8	-0.9		-21.8	-27	3524	No stop
23 10 50	---	17 46 10	68.0	150.8	-0.8		-20.4	213	3648	23 06 51
23 11 30	J1848+3219	17 46 51	66.4	145.4	-1.0		-23.8	14	3648	23 11 30
23 12 50	=1846+322	17 48 11	66.5	146.1	-1.0		-23.4	80	3689	23 11 31
23 12 50	LSRJ1835+325	17 48 11	68.1	151.9	-0.8		-19.7	-27	3689	No stop
23 16 50	---	17 52 11	68.4	154.0	-0.7		-18.3	213	3813	23 12 51
23 17 30	J1848+3219	17 52 52	66.9	148.4	-0.9		-21.9	13	3813	23 17 30
23 18 50	=1846+322	17 54 12	67.0	149.0	-0.9		-21.4	80	3854	23 17 31
23 18 50	J1834+3205	17 54 12	67.7	156.3	-0.7		-16.6	-30	3854	No stop
23 20 50	---	17 56 12	67.8	157.4	-0.7		-15.8	90	3916	23 18 51
23 20 50	J1848+3219	17 56 12	67.2	150.1	-0.9		-20.8	-29	3916	No stop
23 22 50	=1846+322	17 58 12	67.3	151.1	-0.9		-20.1	91	3978	23 20 51
23 22 50	LSRJ1835+325	17 58 12	68.8	157.4	-0.6		-16.0	-28	3978	No stop
23 26 50	---	18 02 13	69.0	159.6	-0.6		-14.5	212	4102	23 22 51
23 27 30	J1848+3219	18 02 53	67.6	153.5	-0.8		-18.5	13	4102	23 27 30
23 28 50	=1846+322	18 04 13	67.7	154.2	-0.7		-18.0	80	4143	23 27 31
23 28 50	LSRJ1835+325	18 04 13	69.1	160.7	-0.5		-13.7	-28	4143	No stop
23 32 50	---	18 08 14	69.3	163.1	-0.5		-12.0	212	4266	23 28 51
23 33 30	J1848+3219	18 08 54	68.0	156.7	-0.7		-16.3	12	4266	23 33 30
23 34 50	=1846+322	18 10 14	68.1	157.5	-0.6		-15.8	80	4308	23 33 31
23 34 50	LSRJ1835+325	18 10 14	69.4	164.2	-0.4		-11.2	-29	4308	No stop
23 38 50	---	18 14 15	69.5	166.6	-0.4		-9.6	211	4431	23 34 51
23 39 30	J1848+3219	18 14 55	68.3	160.0	-0.6		-14.0	12	4431	23 39 30
23 40 50	=1846+322	18 16 15	68.4	160.8	-0.5		-13.5	80	4473	23 39 31

Schedule for TORUN (Code Tr) Page 6

LSR J1835 follow-up observations

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT	Source	Start / Stop						Early	Disk	TPStart
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC
--- Sat 11 Jun 2022 Day 162 ---										
23 40 50	LSRJ1835+325	18 16 15	69.6	167.8	-0.3		-8.7	-29	4473	No stop
23 44 50	---	18 20 16	69.7	170.2	-0.3		-7.0	211	4596	23 40 51
23 45 30	J1848+3219	18 20 56	68.6	163.4	-0.5		-11.7	11	4596	23 45 30
23 46 50	=1846+322	18 22 16	68.7	164.2	-0.4		-11.2	80	4637	23 45 31
23 46 50	LSRJ1835+325	18 22 16	69.8	171.4	-0.2		-6.2	-30	4637	No stop
23 50 50	---	18 26 17	69.8	173.8	-0.2		-4.4	210	4761	23 46 51
23 51 30	J1848+3219	18 26 57	68.9	166.9	-0.4		-9.3	11	4761	23 51 30
23 52 50	=1846+322	18 28 17	68.9	167.6	-0.3		-8.8	80	4802	23 51 31
23 52 50	J1834+3205	18 28 17	69.0	175.6	-0.1		-3.1	-32	4802	No stop
23 54 50	---	18 30 18	69.0	176.8	-0.1		-2.3	88	4864	23 52 51
23 54 50	J1848+3219	18 30 18	69.0	168.8	-0.3		-7.9	-31	4864	No stop
23 56 50	=1846+322	18 32 18	69.0	170.0	-0.3		-7.1	89	4926	23 54 51
--- Start: Sat 11 Jun 2022 Day 162 -- Stop: Sun 12 Jun 2022 Day 163 ---										
23 56 50	LSRJ1835+325	18 32 18	69.9	177.5	-0.1		-1.8	-30	4926	No stop
00 00 50	---	18 36 19	69.9	179.9	-0.0		-0.1	210	5050	23 56 51
00 01 40	J1848+3219	18 37 09	69.1	172.8	-0.2		-5.1	20	5050	00 01 40
00 02 50	=1846+322	18 38 19	69.2	173.5	-0.2		-4.6	70	5086	00 01 41
00 02 50	LSRJ1835+325	18 38 19	69.9	181.1	0.0		0.8	-31	5086	No stop
00 06 50	---	18 42 20	69.9	183.6	0.1		2.6	209	5209	00 02 51
00 07 40	J1848+3219	18 43 10	69.2	176.4	-0.1		-2.6	20	5209	00 07 40
00 08 50	=1846+322	18 44 20	69.2	177.1	-0.1		-2.1	70	5246	00 07 41
00 09 30	1830+285	18 45 00	65.4	186.0	0.2		4.1	7	5246	00 09 30
00 13 30	---	18 49 01	65.3	188.1	0.3		5.5	240	5369	00 09 31
00 14 20	J1848+3219	18 49 51	69.2	180.4	0.0		0.3	19	5369	00 14 20
00 15 30	=1846+322	18 51 01	69.2	181.1	0.0		0.8	70	5405	00 14 21
00 15 30	LSRJ1835+325	18 51 01	69.8	188.8	0.2		6.3	-31	5405	No stop
00 19 30	---	18 55 02	69.6	191.2	0.3		8.0	209	5529	00 15 31
00 20 20	J1848+3219	18 55 52	69.2	184.0	0.1		2.8	20	5529	00 20 20
00 21 30	=1846+322	18 57 02	69.2	184.7	0.1		3.3	70	5565	00 20 21

Schedule for TORUN (Code Tr) Page 7

LSR J1835 follow-up observations

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT	Source	Start / Stop						Early	Disk	TPStart
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC
--- Sun 12 Jun 2022 Day 163 ---										
00 21 30	LSRJ1835+325	18 57 02	69.6	192.4	0.3		8.9	-31	5565	No stop
00 25 30	---	19 01 03	69.4	194.8	0.4		10.5	209	5689	00 21 31
00 26 20	J1848+3219	19 01 53	69.1	187.5	0.2		5.3	20	5689	00 26 20
00 27 30	=1846+322	19 03 03	69.1	188.2	0.2		5.8	70	5725	00 26 21
00 27 30	LSRJ1835+325	19 03 03	69.4	196.0	0.4		11.4	-31	5725	No stop
00 31 30	---	19 07 04	69.2	198.3	0.5		13.0	209	5848	00 27 31
00 32 20	J1848+3219	19 07 54	69.0	191.1	0.3		7.8	20	5848	00 32 20
00 33 30	=1846+322	19 09 04	68.9	191.7	0.3		8.3	70	5884	00 32 21
00 33 30	LSRJ1835+325	19 09 04	69.1	199.4	0.5		13.8	-31	5884	No stop
00 37 30	---	19 13 05	68.9	201.7	0.6		15.4	209	6008	00 33 31
00 38 20	J1848+3219	19 13 55	68.8	194.5	0.4		10.3	20	6008	00 38 20
00 39 30	=1846+322	19 15 05	68.7	195.2	0.4		10.7	70	6044	00 38 21
00 39 30	LSRJ1835+325	19 15 05	68.8	202.8	0.6		16.1	-31	6044	No stop
00 43 30	---	19 19 06	68.5	205.0	0.7		17.6	209	6168	00 39 31
00 44 20	J1848+3219	19 19 56	68.5	198.0	0.5		12.7	20	6168	00 44 20
00 45 30	=1846+322	19 21 06	68.5	198.6	0.5		13.1	70	6204	00 44 21
00 45 30	J1834+3205	19 21 06	67.5	205.8	0.8		18.0	-30	6204	No stop
00 47 30	---	19 23 06	67.3	206.9	0.8		18.7	90	6266	00 45 31
00 47 30	J1848+3219	19 23 06	68.4	199.7	0.6		13.9	-29	6266	No stop
00 49 30	=1846+322	19 25 07	68.3	200.8	0.6		14.6	91	6328	00 47 31
00 49 30	LSRJ1835+325	19 25 07	68.1	208.3	0.8		19.8	-30	6328	No stop
00 53 30	---	19 29 07	67.8	210.4	0.9		21.2	210	6451	00 49 31
00 54 20	J1848+3219	19 29 57	68.0	203.5	0.7		16.5	21	6451	00 54 20
00 55 30	=1846+322	19 31 08	67.9	204.1	0.7		16.9	70	6487	00 54 21
00 55 30	LSRJ1835+325	19 31 08	67.7	211.4	0.9		21.9	-30	6487	No stop
00 59 30	---	19 35 08	67.3	213.4	1.0		23.2	210	6611	00 55 31
01 00 20	J1848+3219	19 35 58	67.6	206.7	0.8		18.6	21	6611	01 00 20
01 01 30	=1846+322	19 37 09	67.5	207.3	0.8		19.0	70	6647	01 00 21
01 01 30	LSRJ1835+325	19 37 09	67.2	214.4	1.0		23.9	-30	6647	No stop
01 05 30	---	19 41 09	66.8	216.4	1.1		25.1	210	6771	01 01 31

Schedule for TORUN (Code Tr) Page 8

LSR J1835 follow-up observations

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	LST	Start / Stop EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Sun 12 Jun 2022 Day 163 ---										
01 06 20	J1848+3219	19 41 59	67.2	209.8	0.9		20.7	21	6771	01 06 20
01 07 30	=1846+322	19 43 10	67.1	210.4	0.9		21.1	70	6807	01 06 21
01 07 30	LSRJ1835+325	19 43 10	66.6	217.4	1.1		25.8	-29	6807	No stop
01 11 30	---	19 47 10	66.3	219.2	1.2		26.9	211	6930	01 07 31
01 12 20	J1848+3219	19 48 00	66.7	212.8	1.0		22.7	22	6930	01 12 20
01 13 30	=1846+322	19 49 11	66.6	213.4	1.0		23.0	70	6967	01 12 21
01 13 30	LSRJ1835+325	19 49 11	66.1	220.2	1.2		27.5	-29	6967	No stop
01 17 30	---	19 53 11	65.7	222.0	1.3		28.6	211	7090	01 13 31
01 18 20	J1848+3219	19 54 01	66.2	215.7	1.1		24.5	22	7090	01 18 20
01 19 30	=1846+322	19 55 12	66.1	216.3	1.1		24.9	70	7126	01 18 21
01 19 30	J1834+3205	19 55 12	64.6	222.2	1.3		28.4	-27	7126	No stop
01 21 30	---	19 57 12	64.4	223.1	1.4		28.9	93	7188	01 19 31
01 21 30	J1848+3219	19 57 12	65.9	217.2	1.1		25.5	-26	7188	No stop
01 23 30	=1846+322	19 59 12	65.7	218.2	1.2		26.1	94	7250	01 21 31
01 23 30	LSRJ1835+325	19 59 12	65.1	224.6	1.4		30.2	-28	7250	No stop
01 27 30	---	20 03 13	64.6	226.3	1.4		31.2	212	7374	01 23 31
01 28 20	J1848+3219	20 04 03	65.3	220.4	1.2		27.4	23	7374	01 28 20
01 29 30	=1846+322	20 05 13	65.2	220.9	1.3		27.7	70	7410	01 28 21
01 29 30	LSRJ1835+325	20 05 13	64.4	227.2	1.5		31.7	-28	7410	No stop
01 33 30	---	20 09 14	64.0	228.8	1.5		32.6	212	7533	01 29 31
01 34 20	J1848+3219	20 10 04	64.7	223.0	1.3		29.0	23	7533	01 34 20
01 35 30	=1846+322	20 11 14	64.6	223.5	1.4		29.3	70	7569	01 34 21
01 35 30	LSRJ1835+325	20 11 14	63.7	229.6	1.6		33.0	-27	7569	No stop
01 39 30	---	20 15 15	63.3	231.2	1.6		33.9	213	7693	01 35 31
01 40 20	J1848+3219	20 16 05	64.0	225.6	1.4		30.5	23	7693	01 40 20
01 41 30	=1846+322	20 17 15	63.9	226.1	1.5		30.8	70	7729	01 40 21
01 41 30	LSRJ1835+325	20 17 15	63.0	231.9	1.7		34.3	-27	7729	No stop
01 45 30	---	20 21 16	62.6	233.4	1.7		35.1	213	7853	01 41 31
01 46 20	J1848+3219	20 22 06	63.4	228.0	1.5		31.9	24	7853	01 46 20
01 47 30	=1846+322	20 23 16	63.3	228.5	1.6		32.2	70	7889	01 46 21

Schedule for TORUN (Code Tr) Page 9

LSR J1835 follow-up observations

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Sun 12 Jun 2022 Day 163 ---										
01 47 30	LSRJ1835+325	20 23 16	62.3	234.2	1.8		35.5	-27	7889	No stop
01 51 30	---	20 27 17	61.8	235.6	1.8		36.2	213	8013	01 47 31
01 52 20	J1848+3219	20 28 07	62.7	230.4	1.6		33.2	24	8013	01 52 20
01 53 30	=1846+322	20 29 17	62.6	230.8	1.7		33.4	70	8049	01 52 21
01 53 30	J1834+3205	20 29 17	60.7	235.5	1.9		35.8	-25	8049	No stop
01 55 30	---	20 31 18	60.5	236.2	1.9		36.1	95	8110	01 53 31
01 55 30	J1848+3219	20 31 18	62.3	231.6	1.7		33.8	-24	8110	No stop
01 57 30	=1846+322	20 33 18	62.1	232.4	1.7		34.2	96	8172	01 55 31
01 57 30	LSRJ1835+325	20 33 18	61.1	237.8	1.9		37.3	-26	8172	No stop
02 01 30	---	20 37 19	60.6	239.1	2.0		37.9	214	8296	01 57 31
02 02 20	J1848+3219	20 38 09	61.5	234.1	1.8		35.2	25	8296	02 02 20
02 03 30	=1846+322	20 39 19	61.4	234.6	1.8		35.4	70	8332	02 02 21
02 03 30	LSRJ1835+325	20 39 19	60.3	239.8	2.0		38.2	-26	8332	No stop
02 07 30	---	20 43 20	59.8	241.1	2.1		38.8	214	8456	02 03 31
02 08 20	J1848+3219	20 44 10	60.8	236.3	1.9		36.2	25	8456	02 08 20
02 09 30	=1846+322	20 45 20	60.6	236.7	1.9		36.4	70	8492	02 08 21
02 09 30	LSRJ1835+325	20 45 20	59.5	241.8	2.1		39.1	-25	8492	No stop
02 13 30	---	20 49 20	59.0	243.0	2.2		39.7	215	8615	02 09 31
02 14 20	J1848+3219	20 50 11	60.0	238.3	2.0		37.2	25	8615	02 14 20
02 15 30	=1846+322	20 51 21	59.9	238.7	2.0		37.4	70	8651	02 14 21
02 15 30	LSRJ1835+325	20 51 21	58.7	243.7	2.2		39.9	-25	8651	No stop
02 19 30	---	20 55 21	58.2	244.9	2.3		40.4	215	8775	02 15 31
02 20 20	J1848+3219	20 56 12	59.2	240.3	2.1		38.1	26	8775	02 20 20
02 21 30	=1846+322	20 57 22	59.1	240.7	2.1		38.3	70	8811	02 20 21
02 21 30	LSRJ1835+325	20 57 22	57.9	245.5	2.3		40.7	-25	8811	No stop
02 25 30	---	21 01 22	57.3	246.7	2.4		41.1	215	8935	02 21 31
02 26 20	J1848+3219	21 02 13	58.4	242.2	2.2		39.0	26	8935	02 26 20
02 27 30	=1846+322	21 03 23	58.3	242.6	2.2		39.1	70	8971	02 26 21
02 27 30	J1834+3205	21 03 23	56.3	246.4	2.5		40.5	-23	8971	No stop
02 29 30	---	21 05 23	56.0	247.0	2.5		40.7	97	9033	02 27 31

```
Schedule for TORUN     (Code Tr )                                Page  10
              LSR J1835 follow-up observations
  UP:  D => Below limits;  H => Below horizon mask;  W => still slewing at end;  blank => Up.
  Early: Seconds between end of slew and start.   Dwell: On source seconds.
  Disk: GBytes recorded to this point.
  TPStart:  Recording start time.  Frequencies are LO sum (band edge).
  SYNC: Time correlator is expected to sync up.
-----------------------------------------------------------------------------------------
Start UT  Source               Start / Stop                 Early    Disk   TPStart
Stop UT                  LST      EL    AZ   HA  UP   ParA  Dwell   GBytes    SYNC
-----------------------------------------------------------------------------------------

 --- Sun  12 Jun 2022   Day 163 ---

02 29 30  J1848+3219   21 05 23  58.0 243.2  2.3      39.4   -22     9033   No stop
02 31 30  =1846+322    21 07 23  57.7 243.8  2.3      39.6    98     9095   02 29 31

02 31 30 LSRJ1835+325  21 07 23  56.5 248.4  2.5      41.7   -24     9095   No stop
02 35 30  ---          21 11 24  55.9 249.5  2.6      42.1   216     9218   02 31 31

02 36 20  J1848+3219   21 12 14  57.1 245.3  2.4      40.2    26     9218   02 36 20
02 37 30  =1846+322    21 13 24  56.9 245.6  2.4      40.4    70     9254   02 36 21

02 37 30 LSRJ1835+325  21 13 24  55.7 250.1  2.6      42.3   -24     9254   No stop
02 41 30  ---          21 17 25  55.1 251.2  2.7      42.7   216     9378   02 37 31

02 42 20  J1848+3219   21 18 15  56.3 247.1  2.5      40.9    27     9378   02 42 20
02 43 30  =1846+322    21 19 25  56.1 247.4  2.5      41.0    70     9414   02 42 21

02 43 30 LSRJ1835+325  21 19 25  54.8 251.7  2.7      42.8   -24     9414   No stop
02 47 30  ---          21 23 26  54.2 252.8  2.8      43.2   216     9538   02 43 31

02 48 20  J1848+3219   21 24 16  55.4 248.8  2.6      41.5    27     9538   02 48 20
02 49 30  =1846+322    21 25 26  55.3 249.1  2.6      41.6    70     9574   02 48 21

02 49 30 LSRJ1835+325  21 25 26  53.9 253.3  2.8      43.3   -24     9574   No stop
02 53 30  ---          21 29 27  53.4 254.3  2.9      43.6   216     9698   02 49 31

02 54 20  J1848+3219   21 30 17  54.6 250.4  2.7      42.0    27     9698   02 54 20
02 55 30  =1846+322    21 31 27  54.4 250.7  2.7      42.1    70     9734   02 54 21

02 56 00  1830+285     21 31 57  49.3 250.9  3.0      40.3    -3     9734   02 56 00
03 00 00  ---          21 35 58  48.7 251.9  3.0      40.5   237     9857   02 56 01



SETUP FILE INFORMATION:
   NOTE: If DOPPLER, FREQ, or BW were used, see the individual scans for the final BBC settings.


 ======== Setup file: sess222.C4096

   Setup group:    8         Station: TORUN            Total bit rate:  4096
   Format: VDIF              Bits per sample: 2        Sample rate: 64.000
   Number of channels: 32    DBE type: DBBC_DDC        Speedup factor:   1.00

   Disk used to record data.
```

```
 1st LO=   4088.00   4088.00   4088.00   4088.00   4088.00   4088.00   4088.00   4088.00
           4088.00   4088.00   4088.00   4088.00   4088.00   4088.00   4088.00   4088.00
           4088.00   4088.00   4088.00   4088.00   4088.00   4088.00   4088.00   4088.00
           4088.00   4088.00   4088.00   4088.00   4088.00   4088.00   4088.00   4088.00
 Net SB=         L         L         U         U         L         L         U         U
                 L         L         U         U         L         L         U         U
                 L         L         U         U         L         L         U         U
                 L         L         U         U         L         L         U         U
 IF SB =         U         U         U         U         U         U         U         U
                 U         U         U         U         U         U         U         U
                 U         U         U         U         U         U         U         U
                 U         U         U         U         U         U         U         U
 Pol.  =       RCP       LCP       RCP       LCP       RCP       LCP       RCP       LCP
               RCP       LCP       RCP       LCP       RCP       LCP       RCP       LCP
               RCP       LCP       RCP       LCP       RCP       LCP       RCP       LCP
               RCP       LCP       RCP       LCP       RCP       LCP       RCP       LCP
 BBC   =         1         9         1         9         2        10         2        10
                 3        11         3        11         4        12         4        12
                 5        13         5        13         6        14         6        14
                 7        15         7        15         8        16         8        16
 BBC SB=         L         L         U         U         L         L         U         U
                 L         L         U         U         L         L         U         U
                 L         L         U         U         L         L         U         U
                 L         L         U         U         L         L         U         U
 IF    =        A1        B1        A1        B1        A1        B1        A1        B1
                A1        B1        A1        B1        A1        B1        A1        B1
                A1        B1        A1        B1        A1        B1        A1        B1
                A1        B1        A1        B1        A1        B1        A1        B1

 The following frequency sets based on these setups were used.

 Frequency Set:   9  Setup file default.  Used with PCAL = off
 LO sum=   4632.00  4632.00  4632.00  4632.00  4696.00  4696.00  4696.00  4696.00
           4760.00  4760.00  4760.00  4760.00  4824.00  4824.00  4824.00  4824.00
           4888.00  4888.00  4888.00  4888.00  4952.00  4952.00  4952.00  4952.00
           5016.00  5016.00  5016.00  5016.00  5080.00  5080.00  5080.00  5080.00
 BBC fr=    544.00   544.00   544.00   544.00   608.00   608.00   608.00   608.00
            672.00   672.00   672.00   672.00   736.00   736.00   736.00   736.00
            800.00   800.00   800.00   800.00   864.00   864.00   864.00   864.00
            928.00   928.00   928.00   928.00   992.00   992.00   992.00   992.00
 Bandwd=     32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00
             32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00
             32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00
             32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00
  Matching frequency sets:   9

 Track assignments are:
  track1=   1,  2,  3,  4,  5,  6,  7,  8,  9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 2
  barrel=roll_off



POSITIONS OF SOURCES USED IN RECORDING SCANS

 Source                        Source position (RA/Dec)                        Error
                     (B1950)            (J2000)            (Date)             (mas)

* LSRJ1835+325      18 33 46.940176   * 18 35 37.880357     18 36 28.528618       0.00
                    32 57 22.09729    * 32 59 53.31134      33 00 53.21128        0.00

* J1834+3205        18 32 56.698696   * 18 34 49.087200     18 35 40.366177       0.00
```

```
                    32 02 57.74164    * 32 05 25.38800      32 06 23.84466        0.00

* 1830+285          18 30 52.379792   * 18 32 50.185623     18 33 43.823335       0.03
  J1832+2833        28 31 17.07914    * 28 33 35.95525      28 34 31.00582        0.04
  J1832+28          /home/guest/rmc/SCHED/sched11.6/catalogs/sources.gsfc
                    GSFC 2016a X/S astro solution,   1329 observations.

  1846+322          18 46 29.612030   * 18 48 22.088573     18 49 13.364554       0.00
* J1848+3219        32 15 36.66044    * 32 19 02.60384      32 20 26.32180        0.00
                    /home/guest/rmc/SCHED/sched11.6/catalogs/sources.gsfc
                    GSFC 2016a X/S astro solution,  38727 observations.
```

ec073btr

Three steep-spectrum High-z quasars

PI: *Hongmin Cao*

```
Address:  Shangqiu Normal University

Observing mode: phase-referencing at 6cm (2Gb/s)

Schedule for TORUN     (Code Tr )                                  Page   2
               Three steep-spectrum High-z quasars
  UP:  D => Below limits;  H => Below horizon mask;  W => still slewing at end;  blank => Up.
  Early: Seconds between end of slew and start.   Dwell: On source seconds.
  Disk: GBytes recorded to this point.
  TPStart:  Recording start time.  Frequencies are LO sum (band edge).
  SYNC: Time correlator is expected to sync up.
-------------------------------------------------------------------------------------------
Start UT  Source               Start / Stop                 Early    Disk   TPStart
Stop UT                  LST      EL    AZ   HA  UP   ParA  Dwell   GBytes    SYNC
-------------------------------------------------------------------------------------------
 --- Sun  12 Jun 2022   Day 163 ---
 Next scan frequencies:  4830.49  4830.49  4830.49  4830.49  4894.49  4894.49  4894.49  4894.49
                         4958.49  4958.49  4958.49  4958.49  5022.49  5022.49  5022.49  5022.49
 Next BBC frequencies:    630.49   630.49   630.49   630.49   694.49   694.49   694.49   694.49
                          758.49   758.49   758.49   758.49   822.49   822.49   822.49   822.49
 Next scan bandwidths:     32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00
                           32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00

10 30 00  J1229+6335   05 07 12  38.3  32.2 -7.4     -45.7     0        0   10 30 00
10 32 00  ---          05 09 12  38.5  32.4 -7.3     -46.1   120       31   10 30 01

10 32 00  J1237+6517   05 09 12  39.1  30.0 -7.5     -45.7   -19       31   No stop
10 35 30  ---          05 12 43  39.3  30.3 -7.4     -46.3   191       85   10 32 01

10 35 30  J1229+6335   05 12 43  38.8  32.7 -7.3     -46.6   -19       85   No stop
10 37 00  ---          05 14 13  38.9  32.9 -7.3     -46.9    71      108   10 35 31

10 37 00  J1237+6517   05 14 13  39.4  30.5 -7.4     -46.5   -19      108   No stop
10 40 30  ---          05 17 44  39.7  30.8 -7.3     -47.1   191      162   10 37 01

10 41 00  J1229+6335   05 18 14  39.2  33.3 -7.2     -47.5    11      162   10 41 00
10 42 30  ---          05 19 44  39.4  33.4 -7.2     -47.8    90      185   10 41 01

10 42 30  J1237+6517   05 19 44  39.9  31.0 -7.3     -47.4   -19      185   No stop
10 46 00  ---          05 23 15  40.1  31.3 -7.3     -48.0   191      240   10 42 31

10 46 00  J1229+6335   05 23 15  39.7  33.8 -7.1     -48.3   -19      240   No stop
10 47 30  ---          05 24 45  39.8  33.9 -7.1     -48.6    71      263   10 46 01

10 47 30  J1237+6517   05 24 45  40.2  31.5 -7.2     -48.3   -19      263   No stop
10 51 00  ---          05 28 15  40.5  31.8 -7.2     -48.9   191      317   10 47 31

10 51 30  J1229+6335   05 28 46  40.1  34.3 -7.0     -49.2    11      317   10 51 30
10 53 00  ---          05 30 16  40.3  34.4 -7.0     -49.5    90      340   10 51 31

10 53 00  J1237+6517   05 30 16  40.7  32.0 -7.1     -49.2   -19      340   No stop
10 56 30  ---          05 33 46  41.0  32.3 -7.1     -49.8   191      394   10 53 01

10 56 30  J1229+6335   05 33 46  40.5  34.8 -6.9     -50.0   -19      394   No stop
10 58 00  ---          05 35 17  40.7  34.9 -6.9     -50.3    71      417   10 56 31

10 58 00  J1237+6517   05 35 17  41.1  32.4 -7.1     -50.0   -19      417   No stop
11 01 30  ---          05 38 47  41.4  32.7 -7.0     -50.6   191      471   10 58 01
```

Schedule for TORUN (Code Tr) Page 3

Three steep-spectrum High-z quasars

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT	Source	Start / Stop						Early	Disk	TPStart
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC
--- Sun 12 Jun 2022 Day 163 ---										
11 02 00	J1229+6335	05 39 17	41.0	35.3	-6.8		-50.9	11	471	11 02 00
11 03 30	---	05 40 48	41.2	35.4	-6.8		-51.2	90	495	11 02 01
11 03 30	J1237+6517	05 40 48	41.5	32.9	-7.0		-51.0	-19	495	No stop
11 07 00	---	05 44 18	41.8	33.2	-6.9		-51.6	191	549	11 03 31
11 07 00	J1229+6335	05 44 18	41.5	35.7	-6.8		-51.8	-19	549	No stop
11 08 30	---	05 45 48	41.6	35.9	-6.7		-52.0	71	572	11 07 01
11 08 30	J1237+6517	05 45 48	41.9	33.3	-6.9		-51.8	-19	572	No stop
11 12 00	---	05 49 19	42.2	33.6	-6.8		-52.4	191	626	11 08 31
11 12 30	J1229+6335	05 49 49	41.9	36.3	-6.7		-52.6	11	626	11 12 30
11 14 00	---	05 51 19	42.1	36.4	-6.6		-52.9	90	649	11 12 31
11 14 00	J1237+6517	05 51 19	42.4	33.8	-6.8		-52.8	-19	649	No stop
11 17 30	---	05 54 50	42.7	34.1	-6.7		-53.3	191	703	11 14 01
11 17 30	J1229+6335	05 54 50	42.4	36.7	-6.6		-53.5	-19	703	No stop
11 19 00	---	05 56 20	42.5	36.8	-6.6		-53.7	71	727	11 17 31
11 19 00	J1237+6517	05 56 20	42.8	34.3	-6.7		-53.6	-19	727	No stop
11 22 30	---	05 59 51	43.1	34.5	-6.6		-54.2	191	781	11 19 01
11 23 00	J1229+6335	06 00 21	42.9	37.2	-6.5		-54.4	10	781	11 23 00
11 24 30	---	06 01 51	43.0	37.3	-6.5		-54.6	90	804	11 23 01
11 24 30	J1237+6517	06 01 51	43.3	34.7	-6.6		-54.5	-19	804	No stop
11 28 00	---	06 05 22	43.6	35.0	-6.6		-55.1	191	858	11 24 31
11 28 00	J1229+6335	06 05 22	43.4	37.6	-6.4		-55.2	-20	858	No stop
11 29 30	---	06 06 52	43.5	37.8	-6.4		-55.4	70	881	11 28 01
11 29 30	J1237+6517	06 06 52	43.7	35.1	-6.5		-55.4	-19	881	No stop
11 33 00	---	06 10 22	44.0	35.4	-6.5		-56.0	191	935	11 29 31
11 33 30	J1229+6335	06 10 52	43.9	38.1	-6.3		-56.1	10	935	11 33 30
11 35 00	---	06 12 23	44.0	38.3	-6.3		-56.3	90	958	11 33 31
11 35 00	J1237+6517	06 12 23	44.2	35.6	-6.4		-56.3	-20	958	No stop
11 38 30	---	06 15 53	44.5	35.9	-6.4		-56.9	190	1013	11 35 01
11 38 30	J1229+6335	06 15 53	44.3	38.6	-6.2		-56.9	-20	1013	No stop
11 40 00	---	06 17 24	44.5	38.7	-6.2		-57.2	70	1036	11 38 31
11 40 00	J1237+6517	06 17 24	44.6	36.0	-6.4		-57.2	-20	1036	No stop
11 43 30	---	06 20 54	44.9	36.3	-6.3		-57.8	190	1090	11 40 01

Schedule for TORUN (Code Tr) Page 4

Three steep-spectrum High-z quasars

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT	Source	Start / Stop						Early	Disk	TPStart
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC
--- Sun 12 Jun 2022 Day 163 ---										
11 44 00	J1229+6335	06 21 24	44.8	39.0	-6.1		-57.8	10	1090	11 44 00
11 45 30	---	06 22 54	45.0	39.1	-6.1		-58.1	90	1113	11 44 01
11 45 30	J1237+6517	06 22 54	45.1	36.4	-6.3		-58.1	-20	1113	No stop
11 49 00	---	06 26 25	45.4	36.7	-6.2		-58.7	190	1167	11 45 31
11 49 00	J1229+6335	06 26 25	45.3	39.4	-6.1		-58.6	-20	1167	No stop
11 50 30	---	06 27 55	45.5	39.6	-6.0		-58.9	70	1190	11 49 01
11 50 30	J1237+6517	06 27 55	45.6	36.8	-6.2		-59.0	-20	1190	No stop
11 54 00	---	06 31 26	45.9	37.1	-6.1		-59.6	190	1244	11 50 31
11 54 30	J1229+6335	06 31 56	45.8	39.9	-6.0		-59.5	10	1244	11 54 30
11 56 00	---	06 33 26	46.0	40.0	-5.9		-59.8	90	1268	11 54 31
11 56 00	J1237+6517	06 33 26	46.1	37.2	-6.1		-59.9	-20	1268	No stop
11 59 30	---	06 36 57	46.4	37.5	-6.0		-60.5	190	1322	11 56 01
11 59 30	J1229+6335	06 36 57	46.3	40.3	-5.9		-60.4	-20	1322	No stop
12 01 00	---	06 38 27	46.5	40.4	-5.9		-60.6	70	1345	11 59 31
12 01 00	J1237+6517	06 38 27	46.5	37.6	-6.0		-60.8	-20	1345	No stop
12 04 30	---	06 41 58	46.9	37.9	-5.9		-61.4	190	1399	12 01 01
12 05 00	J1229+6335	06 42 28	46.9	40.7	-5.8		-61.3	10	1399	12 05 00
12 06 30	---	06 43 58	47.0	40.9	-5.8		-61.5	90	1422	12 05 01
12 06 30	J1237+6517	06 43 58	47.0	38.0	-5.9		-61.7	-20	1422	No stop
12 10 00	---	06 47 28	47.4	38.3	-5.8		-62.4	190	1476	12 06 31
12 10 00	J1229+6335	06 47 28	47.4	41.1	-5.7		-62.1	-20	1476	No stop
12 11 30	---	06 48 59	47.5	41.2	-5.7		-62.4	70	1499	12 10 01
12 11 30	J1237+6517	06 48 59	47.5	38.4	-5.8		-62.6	-20	1499	No stop
12 15 00	---	06 52 29	47.8	38.6	-5.8		-63.2	190	1554	12 11 31
12 15 30	J1229+6335	06 52 59	47.9	41.5	-5.6		-63.1	10	1554	12 15 30
12 17 00	---	06 54 30	48.1	41.7	-5.6		-63.3	90	1577	12 15 31
12 17 00	J1237+6517	06 54 30	48.0	38.8	-5.7		-63.6	-20	1577	No stop
12 20 30	---	06 58 00	48.4	39.0	-5.7		-64.2	190	1631	12 17 01
12 20 30	J1229+6335	06 58 00	48.4	41.9	-5.5		-63.9	-20	1631	No stop
12 22 00	---	06 59 30	48.6	42.0	-5.5		-64.1	70	1654	12 20 31

Schedule for TORUN (Code Tr) Page 5

Three steep-spectrum High-z quasars

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Sun 12 Jun 2022 Day 163 ---										
12 22 00	J1237+6517	06 59 30	48.5	39.1	-5.6		-64.5	-20	1654	No stop
12 25 30	---	07 03 01	48.8	39.4	-5.6		-65.1	190	1708	12 22 01
12 26 00	J1229+6335	07 03 31	49.0	42.3	-5.4		-64.8	10	1708	12 26 00
12 27 30	---	07 05 01	49.1	42.4	-5.4		-65.1	90	1731	12 26 01
12 27 30	J1237+6517	07 05 01	49.0	39.5	-5.6		-65.4	-20	1731	No stop
12 31 00	---	07 08 32	49.4	39.7	-5.5		-66.1	190	1785	12 27 31
12 31 00	J1229+6335	07 08 32	49.5	42.7	-5.4		-65.7	-20	1785	No stop
12 32 30	---	07 10 02	49.6	42.8	-5.3		-65.9	70	1809	12 31 01
12 32 30	J1237+6517	07 10 02	49.5	39.8	-5.5		-66.3	-20	1809	No stop
12 36 00	---	07 13 33	49.8	40.0	-5.4		-66.9	190	1863	12 32 31
12 36 30	J1229+6335	07 14 03	50.0	43.1	-5.3		-66.6	9	1863	12 36 30
12 38 00	---	07 15 33	50.2	43.2	-5.2		-66.9	90	1886	12 36 31
12 38 00	J1237+6517	07 15 33	50.0	40.2	-5.4		-67.3	-20	1886	No stop
12 41 30	---	07 19 04	50.4	40.4	-5.3		-67.9	190	1940	12 38 01
12 41 30	J1229+6335	07 19 04	50.6	43.4	-5.2		-67.5	-21	1940	No stop
12 43 00	---	07 20 34	50.7	43.5	-5.2		-67.7	69	1963	12 41 31
12 43 00	J1237+6517	07 20 34	50.5	40.5	-5.3		-68.2	-21	1963	No stop
12 46 30	---	07 24 04	50.9	40.7	-5.2		-68.8	189	2017	12 43 01
12 47 00	J1229+6335	07 24 35	51.1	43.8	-5.1		-68.4	9	2017	12 47 00
12 48 30	---	07 26 05	51.3	43.9	-5.1		-68.7	90	2040	12 47 01
12 48 30	J1237+6517	07 26 05	51.1	40.8	-5.2		-69.2	-21	2040	No stop
12 52 00	---	07 29 35	51.4	41.0	-5.1		-69.8	189	2095	12 48 31
12 52 00	J1229+6335	07 29 35	51.6	44.1	-5.0		-69.3	-21	2095	No stop
12 53 30	---	07 31 06	51.8	44.2	-5.0		-69.6	69	2118	12 52 01
12 53 30	J1237+6517	07 31 06	51.6	41.1	-5.1		-70.1	-21	2118	No stop
12 57 00	---	07 34 36	51.9	41.3	-5.1		-70.7	189	2172	12 53 31
12 57 30	J1229+6335	07 35 06	52.2	44.4	-4.9		-70.3	9	2172	12 57 30
12 59 00	---	07 36 37	52.4	44.5	-4.9		-70.5	90	2195	12 57 31
12 59 00	J1237+6517	07 36 37	52.1	41.4	-5.0		-71.1	-21	2195	No stop
13 02 30	---	07 40 07	52.4	41.6	-5.0		-71.8	189	2249	12 59 01

Schedule for TORUN (Code Tr) Page 6

Three steep-spectrum High-z quasars

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT	Source	Start / Stop						Early	Disk	TPStart
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC
--- Sun 12 Jun 2022 Day 163 ---										
13 02 30	J1229+6335	07 40 07	52.8	44.7	-4.8		-71.1	-21	2249	No stop
13 04 00	---	07 41 37	52.9	44.8	-4.8		-71.4	69	2272	13 02 31
13 04 00	J1237+6517	07 41 37	52.6	41.7	-4.9		-72.0	-21	2272	No stop
13 07 30	---	07 45 08	52.9	41.9	-4.9		-72.7	189	2326	13 04 01
13 08 00	J1229+6335	07 45 38	53.3	45.1	-4.7		-72.1	9	2326	13 08 00
13 09 30	---	07 47 08	53.5	45.2	-4.7		-72.4	90	2350	13 08 01
13 09 30	J1237+6517	07 47 08	53.1	42.0	-4.9		-73.1	-21	2350	No stop
13 13 00	---	07 50 39	53.5	42.2	-4.8		-73.7	189	2404	13 09 31
13 13 00	J1229+6335	07 50 39	53.9	45.4	-4.7		-73.0	-21	2404	No stop
13 14 30	---	07 52 09	54.0	45.4	-4.6		-73.3	69	2427	13 13 01
13 14 30	J1237+6517	07 52 09	53.7	42.2	-4.8		-74.0	-21	2427	No stop
13 18 00	---	07 55 40	54.0	42.4	-4.7		-74.7	189	2481	13 14 31
13 18 30	J1229+6335	07 56 10	54.5	45.7	-4.6		-74.0	9	2481	13 18 30
13 20 00	---	07 57 40	54.6	45.7	-4.5		-74.3	90	2504	13 18 31
13 20 00	J1237+6517	07 57 40	54.2	42.5	-4.7		-75.0	-21	2504	No stop
13 23 30	---	08 01 11	54.6	42.7	-4.6		-75.7	189	2558	13 20 01
13 23 30	J1229+6335	08 01 11	55.0	45.9	-4.5		-74.9	-21	2558	No stop
13 25 00	---	08 02 41	55.2	46.0	-4.5		-75.2	69	2582	13 23 31
13 25 00	J1237+6517	08 02 41	54.7	42.7	-4.6		-76.0	-21	2582	No stop
13 28 30	---	08 06 11	55.1	42.9	-4.5		-76.7	189	2636	13 25 01
13 29 00	J1229+6335	08 06 41	55.6	46.2	-4.4		-75.9	9	2636	13 29 00
13 30 30	---	08 08 12	55.8	46.3	-4.4		-76.2	90	2659	13 29 01
13 30 30	J1237+6517	08 08 12	55.3	43.0	-4.5		-77.0	-21	2659	No stop
13 33 00	---	08 10 42	55.5	43.1	-4.5		-77.5	129	2697	13 30 31
13 33 00	J1229+6335	08 10 42	56.0	46.4	-4.3		-76.7	-21	2697	No stop
13 34 30	---	08 12 12	56.2	46.4	-4.3		-76.9	69	2721	13 33 01
13 34 30	J1237+6517	08 12 12	55.7	43.1	-4.4		-77.8	-21	2721	No stop
13 37 00	---	08 14 43	56.0	43.2	-4.4		-78.3	129	2759	13 34 31
13 37 30	J1229+6335	08 15 13	56.5	46.6	-4.2		-77.5	9	2759	13 37 30
13 39 00	---	08 16 43	56.7	46.6	-4.2		-77.8	90	2782	13 37 31

Schedule for TORUN (Code Tr) Page 7

Three steep-spectrum High-z quasars

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Sun 12 Jun 2022 Day 163 ---										
13 39 00	J1237+6517	08 16 43	56.2	43.3	-4.4		-78.7	-21	2782	No stop
13 41 30	---	08 19 14	56.4	43.4	-4.3		-79.2	129	2821	13 39 01
13 41 30	J1229+6335	08 19 14	57.0	46.7	-4.2		-78.2	-21	2821	No stop
13 43 00	---	08 20 44	57.1	46.8	-4.2		-78.5	69	2844	13 41 31
13 44 30	J1128+5925	08 22 14	63.8	57.5	-3.1		-82.9	51	2844	13 44 30
13 49 30	---	08 27 15	64.5	57.7	-3.0		-83.8	300	2922	13 44 31
13 50 00	J1203+4510	08 27 45	54.5	80.6	-3.6		-57.0	-31	2922	13 50 00
13 52 00	---	08 29 45	54.8	80.9	-3.6		-57.1	89	2953	13 50 01
13 52 00	J1156+4443	08 29 45	55.6	82.8	-3.5		-56.8	-18	2953	No stop
13 55 30	---	08 33 16	56.2	83.5	-3.4		-56.9	192	3007	13 52 01
13 56 00	J1203+4510	08 33 46	55.4	81.6	-3.5		-57.2	13	3007	13 56 00
13 57 30	---	08 35 16	55.6	81.8	-3.5		-57.3	90	3030	13 56 01
13 57 30	J1156+4443	08 35 16	56.5	83.8	-3.4		-57.0	-18	3030	No stop
14 01 00	---	08 38 47	57.0	84.4	-3.3		-57.1	192	3084	13 57 31
14 01 00	J1203+4510	08 38 47	56.1	82.4	-3.4		-57.4	-17	3084	No stop
14 02 30	---	08 40 17	56.3	82.7	-3.4		-57.5	73	3107	14 01 01
14 02 30	J1156+4443	08 40 17	57.2	84.7	-3.3		-57.1	-18	3107	No stop
14 06 00	---	08 43 48	57.7	85.3	-3.2		-57.2	192	3161	14 02 31
14 06 30	J1203+4510	08 44 18	56.9	83.4	-3.3		-57.6	12	3161	14 06 30
14 08 00	---	08 45 48	57.2	83.7	-3.3		-57.7	90	3184	14 06 31
14 08 00	J1156+4443	08 45 48	58.0	85.7	-3.2		-57.3	-18	3184	No stop
14 11 30	---	08 49 18	58.6	86.3	-3.1		-57.3	192	3239	14 08 01
14 11 30	J1203+4510	08 49 18	57.7	84.3	-3.3		-57.8	-18	3239	No stop
14 13 00	---	08 50 49	57.9	84.5	-3.2		-57.8	72	3262	14 11 31
14 13 00	J1156+4443	08 50 49	58.8	86.6	-3.1		-57.4	-18	3262	No stop
14 16 30	---	08 54 19	59.3	87.3	-3.0		-57.4	192	3316	14 13 01
14 17 00	J1203+4510	08 54 49	58.5	85.2	-3.2		-57.9	12	3316	14 17 00
14 18 30	---	08 56 20	58.7	85.5	-3.1		-57.9	90	3339	14 17 01
14 18 30	J1156+4443	08 56 20	59.6	87.6	-3.0		-57.4	-18	3339	No stop
14 22 00	---	08 59 50	60.1	88.3	-3.0		-57.5	192	3393	14 18 31

Schedule for TORUN (Code Tr) Page 8

Three steep-spectrum High-z quasars

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Sun 12 Jun 2022 Day 163 ---										
14 22 00	J1203+4510	08 59 50	59.3	86.2	-3.1		-58.0	-18	3393	No stop
14 23 30	---	09 01 20	59.5	86.4	-3.1		-58.0	72	3416	14 22 01
14 23 30	J1156+4443	09 01 20	60.4	88.6	-2.9		-57.5	-18	3416	No stop
14 27 00	---	09 04 51	60.9	89.3	-2.9		-57.5	192	3470	14 23 31
14 27 30	J1203+4510	09 05 21	60.1	87.2	-3.0		-58.1	12	3470	14 27 30
14 29 00	---	09 06 51	60.3	87.5	-3.0		-58.1	90	3494	14 27 31
14 29 00	J1156+4443	09 06 51	61.2	89.7	-2.8		-57.5	-18	3494	No stop
14 32 30	---	09 10 22	61.7	90.4	-2.8		-57.5	192	3548	14 29 01
14 32 30	J1203+4510	09 10 22	60.8	88.1	-2.9		-58.2	-18	3548	No stop
14 34 00	---	09 11 52	61.1	88.4	-2.9		-58.2	72	3571	14 32 31
14 34 00	J1156+4443	09 11 52	61.9	90.7	-2.8		-57.5	-19	3571	No stop
14 37 30	---	09 15 23	62.5	91.4	-2.7		-57.5	191	3625	14 34 01
14 38 00	J1203+4510	09 15 53	61.7	89.2	-2.8		-58.2	12	3625	14 38 00
14 39 30	---	09 17 23	61.9	89.5	-2.8		-58.2	90	3648	14 38 01
14 39 30	J1156+4443	09 17 23	62.8	91.8	-2.7		-57.5	-19	3648	No stop
14 43 00	---	09 20 54	63.3	92.6	-2.6		-57.4	191	3702	14 39 31
14 43 00	J1203+4510	09 20 54	62.4	90.2	-2.7		-58.2	-19	3702	No stop
14 44 30	---	09 22 24	62.6	90.5	-2.7		-58.2	71	3725	14 43 01
14 44 30	J1156+4443	09 22 24	63.5	92.9	-2.6		-57.4	-19	3725	No stop
14 48 00	---	09 25 54	64.1	93.6	-2.5		-57.3	191	3780	14 44 31
14 48 30	J1203+4510	09 26 25	63.2	91.3	-2.6		-58.2	11	3780	14 48 30
14 50 00	---	09 27 55	63.5	91.6	-2.6		-58.2	90	3803	14 48 31
14 50 00	J1156+4443	09 27 55	64.4	94.1	-2.5		-57.3	-19	3803	No stop
14 53 30	---	09 31 25	64.9	94.9	-2.4		-57.2	191	3857	14 50 01
14 53 30	J1203+4510	09 31 25	64.0	92.4	-2.6		-58.1	-19	3857	No stop
14 55 00	---	09 32 56	64.2	92.7	-2.5		-58.1	71	3880	14 53 31
14 55 00	J1156+4443	09 32 56	65.1	95.2	-2.4		-57.1	-19	3880	No stop
14 58 30	---	09 36 26	65.6	96.0	-2.3		-57.0	191	3934	14 55 01
14 59 00	J1203+4510	09 36 56	64.8	93.6	-2.5		-58.0	11	3934	14 59 00
15 00 30	---	09 38 26	65.0	93.9	-2.4		-58.0	90	3957	14 59 01

Schedule for TORUN (Code Tr) Page 9

Three steep-spectrum High-z quasars

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Sun 12 Jun 2022 Day 163 ---										
15 00 30	J1156+4443	09 38 26	65.9	96.5	-2.3		-56.9	-20	3957	No stop
15 04 00	---	09 41 57	66.5	97.4	-2.3		-56.8	190	4011	15 00 31
15 04 00	J1203+4510	09 41 57	65.6	94.7	-2.4		-57.9	-20	4011	No stop
15 05 30	---	09 43 27	65.8	95.0	-2.4		-57.9	70	4035	15 04 01
15 05 30	J1156+4443	09 43 27	66.7	97.7	-2.2		-56.7	-20	4035	No stop
15 09 00	---	09 46 58	67.2	98.6	-2.2		-56.5	190	4089	15 05 31
15 09 30	J1203+4510	09 47 28	66.4	95.9	-2.3		-57.7	10	4089	15 09 30
15 11 00	---	09 48 58	66.6	96.3	-2.3		-57.7	90	4112	15 09 31
15 11 00	J1156+4443	09 48 58	67.5	99.1	-2.1		-56.4	-20	4112	No stop
15 14 30	---	09 52 29	68.0	100.0	-2.1		-56.2	190	4166	15 11 01
15 14 30	J1203+4510	09 52 29	67.1	97.1	-2.2		-57.5	-20	4166	No stop
15 16 00	---	09 53 59	67.4	97.5	-2.2		-57.4	70	4189	15 14 31
15 16 00	J1156+4443	09 53 59	68.2	100.4	-2.1		-56.1	-20	4189	No stop
15 19 30	---	09 57 30	68.8	101.4	-2.0		-55.8	190	4243	15 16 01
15 20 00	J1203+4510	09 58 00	68.0	98.5	-2.1		-57.2	10	4243	15 20 00
15 21 30	---	09 59 30	68.2	98.9	-2.1		-57.1	90	4266	15 20 01
15 21 30	J1156+4443	09 59 30	69.0	101.9	-2.0		-55.6	-21	4266	No stop
15 25 00	---	10 03 01	69.6	102.9	-1.9		-55.3	189	4321	15 21 31
15 25 00	J1203+4510	10 03 01	68.7	99.8	-2.0		-56.9	-21	4321	No stop
15 26 30	---	10 04 31	68.9	100.2	-2.0		-56.8	69	4344	15 25 01
15 26 30	J1156+4443	10 04 31	69.8	103.4	-1.9		-55.1	-21	4344	No stop
15 30 00	---	10 08 01	70.3	104.4	-1.8		-54.8	189	4398	15 26 31
15 30 30	J1203+4510	10 08 31	69.5	101.3	-1.9		-56.5	9	4398	15 30 30
15 32 00	---	10 10 02	69.7	101.8	-1.9		-56.3	90	4421	15 30 31
15 32 00	J1156+4443	10 10 02	70.6	105.1	-1.8		-54.5	-21	4421	No stop
15 35 30	---	10 13 32	71.1	106.2	-1.7		-54.1	189	4475	15 32 01
15 35 30	J1203+4510	10 13 32	70.3	102.8	-1.9		-56.0	-21	4475	No stop
15 37 00	---	10 15 02	70.5	103.2	-1.8		-55.9	69	4498	15 35 31
15 37 00	J1156+4443	10 15 02	71.3	106.7	-1.7		-53.9	-22	4498	No stop
15 40 30	---	10 18 33	71.8	107.8	-1.6		-53.4	188	4552	15 37 01

Schedule for TORUN (Code Tr) Page 10

Three steep-spectrum High-z quasars

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Sun 12 Jun 2022 Day 163 ---										
15 41 00	J1203+4510	10 19 03	71.1	104.4	-1.8		-55.4	8	4552	15 41 00
15 42 30	---	10 20 33	71.3	104.9	-1.7		-55.2	90	4576	15 41 01
15 44 00	J1146+3958	10 22 04	70.3	123.5	-1.4		-40.7	38	4576	15 44 00
15 49 00	---	10 27 04	70.9	125.7	-1.4		-39.4	300	4653	15 44 01
15 49 30	J1203+4510	10 27 35	72.3	107.2	-1.6		-54.3	-22	4653	15 49 30
15 51 30	---	10 29 35	72.6	107.9	-1.6		-54.0	98	4684	15 49 31
15 51 30	J1156+4443	10 29 35	73.4	111.8	-1.5		-51.5	-23	4684	No stop
15 55 00	---	10 33 05	73.9	113.2	-1.4		-50.8	187	4738	15 51 31
15 55 00	J1203+4510	10 33 05	73.1	109.1	-1.5		-53.4	-23	4738	No stop
15 56 30	---	10 34 36	73.3	109.6	-1.5		-53.2	67	4761	15 55 01
15 56 30	J1156+4443	10 34 36	74.1	113.8	-1.4		-50.5	-24	4761	No stop
16 00 00	---	10 38 06	74.5	115.3	-1.3		-49.7	186	4815	15 56 31
16 00 30	J1203+4510	10 38 36	73.9	111.2	-1.4		-52.4	7	4815	16 00 30
16 02 00	---	10 40 07	74.1	111.8	-1.4		-52.1	90	4838	16 00 31
16 02 00	J1156+4443	10 40 07	74.8	116.2	-1.3		-49.2	-24	4838	No stop
16 05 30	---	10 43 37	75.3	117.8	-1.2		-48.3	186	4893	16 02 01
16 05 30	J1203+4510	10 43 37	74.6	113.2	-1.4		-51.4	-24	4893	No stop
16 07 00	---	10 45 07	74.8	113.8	-1.3		-51.1	66	4916	16 05 31
16 07 00	J1156+4443	10 45 07	75.5	118.5	-1.2		-47.9	-25	4916	No stop
16 10 30	---	10 48 38	75.9	120.2	-1.1		-46.8	185	4970	16 07 01
16 11 00	J1203+4510	10 49 08	75.3	115.5	-1.3		-50.1	6	4970	16 11 00
16 12 30	---	10 50 38	75.5	116.2	-1.2		-49.7	90	4993	16 11 01
16 12 30	J1156+4443	10 50 38	76.2	121.2	-1.1		-46.2	-25	4993	No stop
16 16 00	---	10 54 09	76.6	123.1	-1.1		-45.0	185	5047	16 12 31
16 16 00	J1203+4510	10 54 09	76.0	117.9	-1.2		-48.7	-25	5047	No stop
16 17 30	---	10 55 39	76.2	118.6	-1.2		-48.3	65	5070	16 16 01
16 17 30	J1156+4443	10 55 39	76.8	123.9	-1.0		-44.4	-26	5070	No stop
16 21 00	---	10 59 10	77.3	125.9	-1.0		-43.1	184	5124	16 17 31
16 21 30	J1203+4510	10 59 40	76.7	120.6	-1.1		-47.0	4	5124	16 21 30
16 23 00	---	11 01 10	76.9	121.4	-1.1		-46.5	90	5148	16 21 31

Schedule for TORUN (Code Tr) Page 11

Three steep-spectrum High-z quasars

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Sun 12 Jun 2022 Day 163 ---										
16 23 00	J1156+4443	11 01 10	77.5	127.1	-0.9		-42.3	-27	5148	No stop
16 26 30	---	11 04 41	77.9	129.3	-0.9		-40.7	183	5202	16 23 01
16 26 30	J1203+4510	11 04 41	77.3	123.4	-1.0		-45.2	-27	5202	No stop
16 28 00	---	11 06 11	77.5	124.2	-1.0		-44.7	63	5225	16 26 31
16 28 00	J1156+4443	11 06 11	78.1	130.3	-0.9		-40.0	-28	5225	No stop
16 31 30	---	11 09 41	78.5	132.7	-0.8		-38.3	182	5279	16 28 01
16 32 00	J1203+4510	11 10 12	78.0	126.6	-0.9		-43.0	3	5279	16 32 00
16 33 30	---	11 11 42	78.2	127.6	-0.9		-42.3	90	5302	16 32 01
16 33 30	J1156+4443	11 11 42	78.7	134.1	-0.8		-37.3	-29	5302	No stop
16 37 00	---	11 15 12	79.1	136.7	-0.7		-35.3	181	5356	16 33 31
16 37 00	J1203+4510	11 15 12	78.6	129.9	-0.8		-40.7	-28	5356	No stop
16 38 30	---	11 16 43	78.8	130.9	-0.8		-40.0	62	5379	16 37 01
16 38 30	J1156+4443	11 16 43	79.2	137.9	-0.7		-34.4	-30	5379	No stop
16 42 00	---	11 20 13	79.6	140.7	-0.6		-32.3	180	5434	16 38 31
16 42 30	J1203+4510	11 20 43	79.2	133.8	-0.7		-37.8	1	5434	16 42 30
16 44 00	---	11 22 13	79.4	135.0	-0.7		-37.0	90	5457	16 42 31
16 44 00	J1156+4443	11 22 13	79.8	142.4	-0.6		-30.9	-31	5457	No stop
16 47 30	---	11 25 44	80.1	145.5	-0.5		-28.5	179	5511	16 44 01
16 47 30	J1203+4510	11 25 44	79.8	137.7	-0.6		-34.9	-30	5511	No stop
16 49 00	---	11 27 14	79.9	139.0	-0.6		-33.9	60	5534	16 47 31
16 49 00	J1156+4443	11 27 14	80.2	146.9	-0.5		-27.4	-32	5534	No stop
16 52 30	---	11 30 45	80.5	150.3	-0.4		-24.7	178	5588	16 49 01
16 53 00	J1203+4510	11 31 15	80.3	142.5	-0.6		-31.2	-1	5588	16 53 00
16 54 30	---	11 32 45	80.4	143.8	-0.5		-30.1	89	5611	16 53 01
16 54 30	J1156+4443	11 32 45	80.6	152.2	-0.4		-23.1	-33	5611	No stop
16 57 00	---	11 35 16	80.8	154.8	-0.4		-21.0	117	5650	16 54 31
16 57 00	J1203+4510	11 35 16	80.6	146.2	-0.5		-28.3	-31	5650	No stop
16 58 30	---	11 36 46	80.8	147.6	-0.5		-27.1	59	5673	16 57 01
16 58 30	J1156+4443	11 36 46	80.9	156.4	-0.3		-19.8	-33	5673	No stop
17 01 00	---	11 39 16	81.0	159.1	-0.3		-17.5	117	5712	16 58 31

Schedule for TORUN (Code Tr) Page 12

Three steep-spectrum High-z quasars

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT	Source	Start / Stop						Early	Disk	TPStart
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC
--- Sun 12 Jun 2022 Day 163 ---										
17 01 30	J1203+4510	11 39 46	81.0	150.6	-0.4		-24.6	-2	5712	17 01 30
17 03 00	---	11 41 17	81.1	152.2	-0.4		-23.4	88	5735	17 01 31
17 03 00	J1156+4443	11 41 17	81.1	161.3	-0.3		-15.7	-34	5735	No stop
17 05 30	---	11 43 47	81.2	164.1	-0.2		-13.4	116	5774	17 03 01
17 05 30	J1203+4510	11 43 47	81.3	154.9	-0.3		-21.2	-32	5774	No stop
17 07 00	---	11 45 17	81.4	156.5	-0.3		-19.8	58	5797	17 05 31
17 07 00	J1156+4443	11 45 17	81.3	165.8	-0.2		-11.9	-35	5797	No stop
17 09 30	---	11 47 48	81.4	168.7	-0.2		-9.5	115	5836	17 07 01
17 10 00	J1203+4510	11 48 18	81.5	159.9	-0.3		-17.0	-3	5836	17 10 00
17 11 30	---	11 49 48	81.6	161.6	-0.2		-15.5	87	5859	17 10 01
17 11 30	J1156+4443	11 49 48	81.4	171.1	-0.1		-7.5	-35	5859	No stop
17 14 00	---	11 52 18	81.5	174.1	-0.1		-5.0	115	5897	17 11 31
17 14 00	J1203+4510	11 52 18	81.7	164.6	-0.2		-13.0	-33	5897	No stop
17 15 30	---	11 53 49	81.8	166.4	-0.2		-11.5	57	5921	17 14 01
17 15 30	J1156+4443	11 53 49	81.5	175.9	-0.1		-3.5	-35	5921	No stop
17 18 00	---	11 56 19	81.5	178.9	-0.0		-0.9	115	5959	17 15 31
17 18 30	J1203+4510	11 56 49	81.9	170.1	-0.1		-8.4	-3	5959	17 18 30
17 20 00	---	11 58 19	81.9	171.9	-0.1		-6.8	87	5982	17 18 31
17 20 00	J1156+4443	11 58 19	81.5	181.3	0.0		1.1	-35	5982	No stop
17 22 30	---	12 00 50	81.5	184.3	0.1		3.6	115	6021	17 20 01
17 23 00	J1203+4510	12 01 20	81.9	175.7	-0.1		-3.6	-2	6021	17 23 00
17 24 30	---	12 02 50	82.0	177.6	-0.0		-2.0	88	6044	17 23 01
17 26 30	J1606+2717	12 04 50	38.8	95.3	-4.1		-42.3	-59	6044	17 26 30
17 29 30	---	12 07 51	39.2	96.0	-4.0		-42.2	121	6091	17 26 31
17 29 30	J1605+2728	12 07 51	39.6	96.1	-4.0		-42.3	-12	6091	No stop
17 32 00	---	12 10 21	40.0	96.7	-3.9		-42.2	138	6129	17 29 31
17 32 30	J1606+2717	12 10 51	39.7	96.6	-4.0		-42.1	18	6129	17 32 30
17 34 00	---	12 12 22	39.9	96.9	-3.9		-42.1	90	6152	17 32 31
17 34 00	J1605+2728	12 12 22	40.3	97.1	-3.9		-42.2	-12	6152	No stop
17 37 30	---	12 15 52	40.8	97.9	-3.8		-42.1	198	6207	17 34 01

Schedule for TORUN (Code Tr) Page 13

Three steep-spectrum High-z quasars

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Sun 12 Jun 2022 Day 163 ---										
17 37 30	J1606+2717	12 15 52	40.4	97.7	-3.9		-42.0	-12	6207	No stop
17 39 00	---	12 17 23	40.7	98.0	-3.8		-42.0	78	6230	17 37 31
17 39 00	J1605+2728	12 17 23	41.0	98.2	-3.8		-42.0	-12	6230	No stop
17 42 30	---	12 20 53	41.6	99.0	-3.8		-41.9	198	6284	17 39 01
17 43 00	J1606+2717	12 21 23	41.3	98.9	-3.8		-41.8	18	6284	17 43 00
17 44 30	---	12 22 53	41.5	99.2	-3.8		-41.8	90	6307	17 43 01
17 44 30	J1605+2728	12 22 53	41.9	99.4	-3.7		-41.9	-12	6307	No stop
17 48 00	---	12 26 24	42.4	100.2	-3.7		-41.7	198	6361	17 44 31
17 48 00	J1606+2717	12 26 24	42.0	100.0	-3.7		-41.7	-12	6361	No stop
17 49 30	---	12 27 54	42.2	100.4	-3.7		-41.6	78	6384	17 48 01
17 49 30	J1605+2728	12 27 54	42.6	100.5	-3.6		-41.7	-12	6384	No stop
17 53 00	---	12 31 25	43.1	101.3	-3.6		-41.6	198	6438	17 49 31
17 53 30	J1606+2717	12 31 55	42.8	101.3	-3.6		-41.5	18	6438	17 53 30
17 55 00	---	12 33 25	43.0	101.6	-3.6		-41.4	90	6462	17 53 31
17 55 00	J1605+2728	12 33 25	43.4	101.8	-3.5		-41.5	-12	6462	No stop
17 58 30	---	12 36 56	43.9	102.6	-3.5		-41.3	198	6516	17 55 01
17 58 30	J1606+2717	12 36 56	43.6	102.4	-3.5		-41.3	-12	6516	No stop
18 00 00	---	12 38 26	43.8	102.8	-3.5		-41.2	78	6539	17 58 31
18 00 00	J1605+2728	12 38 26	44.1	102.9	-3.5		-41.3	-12	6539	No stop
18 03 30	---	12 41 57	44.7	103.7	-3.4		-41.1	198	6593	18 00 01
18 04 00	J1606+2717	12 42 27	44.4	103.7	-3.4		-41.0	18	6593	18 04 00
18 05 30	---	12 43 57	44.6	104.0	-3.4		-40.9	90	6616	18 04 01
18 05 30	J1605+2728	12 43 57	44.9	104.2	-3.4		-41.0	-12	6616	No stop
18 09 00	---	12 47 27	45.5	105.1	-3.3		-40.8	198	6670	18 05 31
18 09 00	J1606+2717	12 47 27	45.1	104.9	-3.3		-40.7	-12	6670	No stop
18 10 30	---	12 48 58	45.3	105.2	-3.3		-40.7	78	6693	18 09 01
18 10 30	J1605+2728	12 48 58	45.7	105.4	-3.3		-40.7	-12	6693	No stop
18 14 00	---	12 52 28	46.2	106.3	-3.2		-40.5	198	6748	18 10 31
18 14 30	J1606+2717	12 52 58	45.9	106.2	-3.2		-40.4	18	6748	18 14 30
18 16 00	---	12 54 29	46.1	106.6	-3.2		-40.3	90	6771	18 14 31

Schedule for TORUN (Code Tr) Page 14

Three steep-spectrum High-z quasars

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Sun 12 Jun 2022 Day 163 ---										
18 16 00	J1605+2728	12 54 29	46.5	106.8	-3.2		-40.4	-12	6771	No stop
18 19 30	---	12 57 59	47.0	107.6	-3.1		-40.1	198	6825	18 16 01
18 19 30	J1606+2717	12 57 59	46.6	107.4	-3.2		-40.1	-12	6825	No stop
18 21 00	---	12 59 29	46.8	107.8	-3.1		-40.0	78	6848	18 19 31
18 21 00	J1605+2728	12 59 29	47.2	108.0	-3.1		-40.0	-12	6848	No stop
18 24 30	---	13 03 00	47.7	108.9	-3.1		-39.8	198	6902	18 21 01
18 25 00	J1606+2717	13 03 30	47.4	108.8	-3.1		-39.7	18	6902	18 25 00
18 26 30	---	13 05 00	47.6	109.2	-3.0		-39.6	90	6925	18 25 01
18 26 30	J1605+2728	13 05 00	48.0	109.4	-3.0		-39.7	-12	6925	No stop
18 30 00	---	13 08 31	48.5	110.3	-3.0		-39.4	198	6979	18 26 31
18 30 00	J1606+2717	13 08 31	48.1	110.1	-3.0		-39.4	-12	6979	No stop
18 31 30	---	13 10 01	48.3	110.5	-3.0		-39.2	78	7003	18 30 01
18 31 30	J1605+2728	13 10 01	48.7	110.7	-2.9		-39.3	-12	7003	No stop
18 35 00	---	13 13 32	49.2	111.6	-2.9		-39.0	198	7057	18 31 31
18 35 30	J1606+2717	13 14 02	48.9	111.5	-2.9		-38.9	18	7057	18 35 30
18 37 00	---	13 15 32	49.1	111.9	-2.9		-38.8	90	7080	18 35 31
18 37 00	J1605+2728	13 15 32	49.5	112.1	-2.8		-38.8	-12	7080	No stop
18 40 30	---	13 19 03	49.9	113.1	-2.8		-38.5	198	7134	18 37 01
18 40 30	J1606+2717	13 19 03	49.6	112.9	-2.8		-38.5	-12	7134	No stop
18 42 00	---	13 20 33	49.8	113.3	-2.8		-38.3	78	7157	18 40 31
18 42 00	J1605+2728	13 20 33	50.1	113.5	-2.8		-38.4	-12	7157	No stop
18 45 30	---	13 24 03	50.6	114.4	-2.7		-38.0	198	7211	18 42 01
18 46 00	J1606+2717	13 24 34	50.3	114.4	-2.7		-38.0	18	7211	18 46 00
18 47 30	---	13 26 04	50.5	114.8	-2.7		-37.8	90	7234	18 46 01
18 47 30	J1605+2728	13 26 04	50.9	115.0	-2.7		-37.8	-12	7234	No stop
18 51 00	---	13 29 34	51.4	116.0	-2.6		-37.5	198	7289	18 47 31
18 51 00	J1606+2717	13 29 34	51.0	115.7	-2.6		-37.5	-12	7289	No stop
18 52 30	---	13 31 05	51.2	116.2	-2.6		-37.3	78	7312	18 51 01
18 52 30	J1605+2728	13 31 05	51.6	116.4	-2.6		-37.3	-12	7312	No stop
18 56 00	---	13 34 35	52.0	117.4	-2.5		-36.9	198	7366	18 52 31

Schedule for TORUN (Code Tr) Page 15

Three steep-spectrum High-z quasars

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Sun 12 Jun 2022 Day 163 ---										
18 56 30	J1606+2717	13 35 05	51.8	117.3	-2.5		-36.9	18	7366	18 56 30
18 58 00	---	13 36 35	52.0	117.7	-2.5		-36.7	90	7389	18 56 31
18 58 00	J1605+2728	13 36 35	52.3	118.0	-2.5		-36.7	-12	7389	No stop
19 01 30	---	13 40 06	52.8	119.0	-2.4		-36.3	198	7443	18 58 01
19 01 30	J1606+2717	13 40 06	52.4	118.8	-2.5		-36.3	-12	7443	No stop
19 03 00	---	13 41 36	52.6	119.2	-2.4		-36.1	78	7466	19 01 31
19 03 00	J1605+2728	13 41 36	53.0	119.5	-2.4		-36.1	-12	7466	No stop
19 06 30	---	13 45 07	53.4	120.5	-2.4		-35.6	198	7520	19 03 01
19 07 00	J1606+2717	13 45 37	53.1	120.4	-2.4		-35.6	18	7520	19 07 00
19 08 30	---	13 47 07	53.3	120.9	-2.3		-35.4	90	7544	19 07 01
19 08 30	J1605+2728	13 47 07	53.7	121.1	-2.3		-35.4	-12	7544	No stop
19 12 00	---	13 50 38	54.1	122.2	-2.3		-34.9	198	7598	19 08 31
19 12 00	J1606+2717	13 50 38	53.8	121.9	-2.3		-35.0	-12	7598	No stop
19 13 30	---	13 52 08	54.0	122.4	-2.3		-34.8	78	7621	19 12 01
19 13 30	J1605+2728	13 52 08	54.3	122.7	-2.2		-34.7	-12	7621	No stop
19 17 00	---	13 55 39	54.8	123.8	-2.2		-34.2	198	7675	19 13 31
19 17 30	J1606+2717	13 56 09	54.5	123.7	-2.2		-34.2	18	7675	19 17 30
19 19 00	---	13 57 39	54.7	124.1	-2.2		-34.0	90	7698	19 17 31
19 19 00	J1605+2728	13 57 39	55.0	124.4	-2.1		-33.9	-12	7698	No stop
19 22 30	---	14 01 10	55.5	125.6	-2.1		-33.4	198	7752	19 19 01
19 22 30	J1606+2717	14 01 10	55.1	125.3	-2.1		-33.5	-12	7752	No stop
19 24 00	---	14 02 40	55.3	125.8	-2.1		-33.2	78	7776	19 22 31
19 24 00	J1605+2728	14 02 40	55.6	126.1	-2.1		-33.2	-12	7776	No stop
19 27 30	---	14 06 10	56.1	127.2	-2.0		-32.6	198	7830	19 24 01
19 28 00	J1606+2717	14 06 40	55.8	127.1	-2.0		-32.6	18	7830	19 28 00
19 29 30	---	14 08 11	56.0	127.6	-2.0		-32.4	90	7853	19 28 01
19 29 30	J1605+2728	14 08 11	56.3	127.9	-2.0		-32.3	-12	7853	No stop
19 33 00	---	14 11 41	56.7	129.1	-1.9		-31.7	198	7907	19 29 31
19 33 00	J1606+2717	14 11 41	56.4	128.8	-1.9		-31.8	-12	7907	No stop
19 34 30	---	14 13 11	56.5	129.3	-1.9		-31.5	78	7930	19 33 01

Schedule for TORUN (Code Tr) Page 16

Three steep-spectrum High-z quasars

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Sun 12 Jun 2022 Day 163 ---										
19 34 30	J1605+2728	14 13 11	56.9	129.6	-1.9		-31.4	-12	7930	No stop
19 38 00	---	14 16 42	57.3	130.8	-1.8		-30.8	198	7984	19 34 31
19 38 30	J1606+2717	14 17 12	57.0	130.7	-1.8		-30.8	18	7984	19 38 30
19 40 00	---	14 18 42	57.2	131.2	-1.8		-30.5	90	8007	19 38 31
19 41 00	J1613+3412	14 19 43	62.2	121.5	-1.9		-38.2	25	8007	19 41 00
19 46 00	---	14 24 43	62.9	123.2	-1.8		-37.4	300	8085	19 41 01
19 46 30	J1606+2717	14 25 13	57.9	133.5	-1.7		-29.3	-6	8085	19 46 30
19 48 00	---	14 26 44	58.1	134.1	-1.7		-29.0	84	8108	19 46 31
19 48 00	J1605+2728	14 26 44	58.4	134.5	-1.7		-28.9	-12	8108	No stop
19 51 30	---	14 30 14	58.8	135.8	-1.6		-28.1	198	8162	19 48 01
19 51 30	J1606+2717	14 30 14	58.4	135.4	-1.6		-28.3	-12	8162	No stop
19 53 00	---	14 31 45	58.6	136.0	-1.6		-28.0	78	8185	19 51 31
19 53 00	J1605+2728	14 31 45	58.9	136.4	-1.6		-27.8	-12	8185	No stop
19 56 30	---	14 35 15	59.3	137.7	-1.5		-27.1	198	8239	19 53 01
19 57 00	J1606+2717	14 35 45	59.0	137.5	-1.5		-27.2	19	8239	19 57 00
19 58 30	---	14 37 15	59.2	138.1	-1.5		-26.8	90	8262	19 57 01
19 58 30	J1605+2728	14 37 15	59.5	138.5	-1.5		-26.6	-12	8262	No stop
20 02 00	---	14 40 46	59.8	139.9	-1.4		-25.9	198	8317	19 58 31
20 02 00	J1606+2717	14 40 46	59.5	139.4	-1.5		-26.0	-11	8317	No stop
20 03 30	---	14 42 16	59.6	140.0	-1.4		-25.7	79	8340	20 02 01
20 03 30	J1605+2728	14 42 16	60.0	140.5	-1.4		-25.5	-12	8340	No stop
20 07 00	---	14 45 47	60.3	141.9	-1.3		-24.7	198	8394	20 03 31
20 07 30	J1606+2717	14 46 17	60.0	141.6	-1.4		-24.8	19	8394	20 07 30
20 09 00	---	14 47 47	60.2	142.2	-1.3		-24.4	90	8417	20 07 31
20 09 00	J1605+2728	14 47 47	60.5	142.7	-1.3		-24.2	-12	8417	No stop
20 12 30	---	14 51 18	60.8	144.2	-1.3		-23.3	198	8471	20 09 01
20 12 30	J1606+2717	14 51 18	60.5	143.7	-1.3		-23.6	-11	8471	No stop
20 14 00	---	14 52 48	60.6	144.3	-1.3		-23.2	79	8494	20 12 31
20 14 00	J1605+2728	14 52 48	60.9	144.8	-1.2		-23.0	-12	8494	No stop
20 17 30	---	14 56 19	61.2	146.3	-1.2		-22.1	198	8548	20 14 01

```
Schedule for TORUN     (Code Tr )                                  Page  17
               Three steep-spectrum High-z quasars
  UP:  D => Below limits;  H => Below horizon mask;  W => still slewing at end;  blank => Up.
  Early: Seconds between end of slew and start.   Dwell: On source seconds.
  Disk: GBytes recorded to this point.
  TPStart:  Recording start time.  Frequencies are LO sum (band edge).
  SYNC: Time correlator is expected to sync up.
-----------------------------------------------------------------------------------------
Start UT  Source               Start / Stop                 Early    Disk   TPStart
Stop UT                  LST      EL    AZ   HA  UP   ParA  Dwell   GBytes    SYNC
-----------------------------------------------------------------------------------------

 --- Sun  12 Jun 2022   Day 163 ---

20 18 00  J1606+2717   14 56 49  61.0 146.0 -1.2     -22.2    19     8548   20 18 00
20 19 30  ---          14 58 19  61.1 146.6 -1.2     -21.8    90     8572   20 18 01

20 19 30  J1605+2728   14 58 19  61.4 147.1 -1.1     -21.5   -12     8572   No stop
20 23 00  ---          15 01 49  61.7 148.7 -1.1     -20.6   198     8626   20 19 31

20 23 00  J1606+2717   15 01 49  61.4 148.1 -1.1     -20.9   -11     8626   No stop
20 24 30  ---          15 03 20  61.5 148.8 -1.1     -20.5    79     8649   20 23 01

20 24 30  J1605+2728   15 03 20  61.8 149.3 -1.1     -20.2   -12     8649   No stop
20 28 00  ---          15 06 50  62.1 150.9 -1.0     -19.2   198     8703   20 24 31

20 28 30  J1606+2717   15 07 20  61.8 150.6 -1.0     -19.4    19     8703   20 28 30
20 30 00  ---          15 08 51  61.9 151.2 -1.0     -19.0    90     8726   20 28 31



SETUP FILE INFORMATION:
   NOTE: If DOPPLER, FREQ, or BW were used, see the individual scans for the final BBC settings.


 ======== Setup file: sess222.C2048

   Setup group:    8         Station: TORUN            Total bit rate:  2048
   Format: VDIF              Bits per sample: 2        Sample rate: 64.000
   Number of channels: 16    DBE type: DBBC_DDC        Speedup factor:   1.00

   Disk used to record data.
```

```
  1st LO=   4200.00   4200.00   4200.00   4200.00   4200.00   4200.00   4200.00   4200.00
            4200.00   4200.00   4200.00   4200.00   4200.00   4200.00   4200.00   4200.00
  Net SB=         L         L         U         U         L         L         U         U
                  L         L         U         U         L         L         U         U
  IF SB =         U         U         U         U         U         U         U         U
                  U         U         U         U         U         U         U         U
  Pol.  =       RCP       LCP       RCP       LCP       RCP       LCP       RCP       LCP
                RCP       LCP       RCP       LCP       RCP       LCP       RCP       LCP
  BBC   =         1         9         1         9         2        10         2        10
                  3        11         3        11         4        12         4        12
  BBC SB=         L         L         U         U         L         L         U         U
                  L         L         U         U         L         L         U         U
  IF    =        A1        B1        A1        B1        A1        B1        A1        B1
                 A1        B1        A1        B1        A1        B1        A1        B1

 The following frequency sets based on these setups were used.

  Frequency Set:   8  Setup file default.  Used with PCAL = off
  LO sum=   4830.49  4830.49  4830.49  4830.49  4894.49  4894.49  4894.49  4894.49
            4958.49  4958.49  4958.49  4958.49  5022.49  5022.49  5022.49  5022.49
  BBC fr=    630.49   630.49   630.49   630.49   694.49   694.49   694.49   694.49
             758.49   758.49   758.49   758.49   822.49   822.49   822.49   822.49
  Bandwd=     32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00
              32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00
   Matching frequency sets:   8

  Track assignments are:
   track1=   1,  2,  3,  4,  5,  6,  7,  8,  9, 10, 11, 12, 13, 14, 15, 16
   barrel=roll_off



POSITIONS OF SOURCES USED IN RECORDING SCANS

  Source                          Source position (RA/Dec)                        Error
                       (B1950)             (J2000)             (Date)             (mas)

* J1146+3958        11 44 21.020901   * 11 46 58.297913     11 48 08.264545       0.00
                    40 15 14.23945    * 39 58 34.30436      39 51 22.81831        0.00
                    Coordinates from http://astrogeo.org/sol/rfc/rfc_2021d/rfc_2021d_cat.html

* J1128+5925        11 25 23.181637   * 11 28 13.340662     11 29 28.897495       0.00
                    59 41 46.14380    * 59 25 14.79849      59 18 11.96299        0.00
                    Coordinates from http://astrogeo.org/sol/rfc/rfc_2021d/rfc_2021d_cat.html

* J1613+3412        16 11 47.914251   * 16 13 41.064242     16 14 32.871303       0.00
                    34 20 19.83385    * 34 12 47.90887      34 09 27.63138        0.00
                    Coordinates from http://astrogeo.org/sol/rfc/rfc_2021d/rfc_2021d_cat.html

* J1203+4510        12 01 02.318481   * 12 03 35.395501     12 04 43.686850       0.00
                    45 27 31.38572    * 45 10 49.56505      45 03 38.40499        0.00
                    Coordinates from http://astrogeo.org/sol/rfc/rfc_2021d/rfc_2021d_cat.html

* J1229+6335        12 26 48.728865   * 12 29 06.026113     12 30 08.045093       0.00
                    63 51 35.35059    * 63 35 00.98409      63 27 56.47284        0.00
                    Coordinates from http://astrogeo.org/sol/rfc/rfc_2021d/rfc_2021d_cat.html

* J1606+2717        16 04 54.881855   * 16 06 58.300327     16 07 54.519560       0.00
                    27 25 03.85195    * 27 17 05.58346      27 13 33.40109        0.00
                    Coordinates from http://astrogeo.org/sol/rfc/rfc_2021d/rfc_2021d_cat.html
```

```
* J1156+4443        11 53 30.176926   * 11 56 05.445000     11 57 14.633110       0.00
                    45 00 38.35680    * 44 43 56.74000      44 36 45.67626        0.00
                    Taken from VLA FIRST

* J1237+6517        12 35 15.553916   * 12 37 26.241319     12 38 25.562817       0.00
                    65 33 53.66589    * 65 17 24.43423      65 10 22.19342        0.00
                    Taken from GAIA EDR3

* J1605+2728        16 03 24.931333   * 16 05 28.202000     16 06 24.356371       0.00
                    27 36 58.68167    * 27 28 54.66000      27 25 20.01037        0.00
                    Taken from VLA FIRST
```

ec086btr

LSR J1835 FOLLOW-UP OBSERVATIONS

PI: *Juan B. Climent*

```
Address:  Dpto. Astronomia, Univ. Valencia

Observing mode: Phase-referencing at 6cm (4 Gbps)
Schedule for TORUN     (Code Tr )                                  Page   2
               LSR J1835 follow-up observations
  UP:  D => Below limits;  H => Below horizon mask;  W => still slewing at end;  blank => Up.
  Early: Seconds between end of slew and start.   Dwell: On source seconds.
  Disk: GBytes recorded to this point.
  TPStart:  Recording start time.  Frequencies are LO sum (band edge).
  SYNC: Time correlator is expected to sync up.
-----------------------------------------------------------------------------------------
Start UT  Source                Start / Stop                 Early    Disk   TPStart
Stop UT                  LST      EL    AZ   HA  UP   ParA  Dwell   GBytes    SYNC
-----------------------------------------------------------------------------------------
 --- Sun  12 Jun 2022   Day 163 ---
 Next scan frequencies:  4632.00  4632.00  4632.00  4632.00  4696.00  4696.00  4696.00  4696.00
                         4760.00  4760.00  4760.00  4760.00  4824.00  4824.00  4824.00  4824.00
                         4888.00  4888.00  4888.00  4888.00  4952.00  4952.00  4952.00  4952.00
                         5016.00  5016.00  5016.00  5016.00  5080.00  5080.00  5080.00  5080.00
 Next BBC frequencies:    544.00   544.00   544.00   544.00   608.00   608.00   608.00   608.00
                          672.00   672.00   672.00   672.00   736.00   736.00   736.00   736.00
                          800.00   800.00   800.00   800.00   864.00   864.00   864.00   864.00
                          928.00   928.00   928.00   928.00   992.00   992.00   992.00   992.00
 Next scan bandwidths:     32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00
                           32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00
                           32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00
                           32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00

21 00 00  1830+285     15 38 56  49.8 110.0 -2.9     -40.0     0        0   21 00 00
21 04 00  ---          15 42 56  50.4 111.0 -2.8     -39.7   240      124   21 00 01

21 04 50  J1848+3219   15 43 46  51.1 103.3 -3.1     -43.8    19      124   21 04 50
21 06 50  =1846+322    15 45 47  51.4 103.8 -3.1     -43.6   120      185   21 04 51

21 06 50 LSRJ1835+325  15 45 47  53.7 106.3 -2.8     -43.4   -23      185   No stop
21 10 50  ---          15 49 47  54.3 107.3 -2.8     -43.1   217      309   21 06 51

21 11 30  J1848+3219   15 50 27  52.0 105.0 -3.0     -43.4    18      309   21 11 30
21 12 50  =1846+322    15 51 48  52.2 105.3 -3.0     -43.3    80      350   21 11 31

21 12 50 LSRJ1835+325  15 51 48  54.6 107.8 -2.7     -43.0   -23      350   No stop
21 16 50  ---          15 55 48  55.1 108.9 -2.7     -42.6   217      474   21 12 51

21 17 30  J1848+3219   15 56 28  52.9 106.5 -2.9     -43.0    18      474   21 17 30
21 18 50  =1846+322    15 57 49  53.1 106.9 -2.9     -42.9    80      515   21 17 31

21 18 50 LSRJ1835+325  15 57 49  55.4 109.4 -2.6     -42.5   -23      515   No stop
21 22 50  ---          16 01 49  56.0 110.5 -2.6     -42.1   217      639   21 18 51

21 23 30  J1848+3219   16 02 29  53.8 108.1 -2.8     -42.5    18      639   21 23 30
21 24 50  =1846+322    16 03 50  54.0 108.4 -2.8     -42.4    80      680   21 23 31

21 24 50 LSRJ1835+325  16 03 50  56.3 111.1 -2.5     -41.9   -23      680   No stop
21 28 50  ---          16 07 50  56.8 112.2 -2.5     -41.5   217      804   21 24 51

21 29 30  J1848+3219   16 08 30  54.6 109.7 -2.7     -42.0    18      804   21 29 30
21 30 50  =1846+322    16 09 51  54.8 110.0 -2.7     -41.9    80      845   21 29 31
```

Schedule for TORUN (Code Tr) Page 3

LSR J1835 follow-up observations

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT	Source	Start / Stop						Early	Disk	TPStart
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC
--- Sun 12 Jun 2022 Day 163 ---										
21 30 50	LSRJ1835+325	16 09 51	57.1	112.8	-2.4		-41.3	-23	845	No stop
21 34 50	---	16 13 51	57.7	114.0	-2.4		-40.9	217	969	21 30 51
21 35 30	J1848+3219	16 14 31	55.5	111.3	-2.6		-41.5	18	969	21 35 30
21 36 50	=1846+322	16 15 52	55.7	111.7	-2.6		-41.3	80	1010	21 35 31
21 36 50	J1834+3205	16 15 52	57.3	115.9	-2.3		-39.6	-24	1010	No stop
21 38 50	---	16 17 52	57.6	116.5	-2.3		-39.4	96	1072	21 36 51
21 38 50	J1848+3219	16 17 52	55.9	112.3	-2.5		-41.1	-23	1072	No stop
21 40 50	=1846+322	16 19 52	56.2	112.8	-2.5		-40.9	97	1134	21 38 51
21 40 50	LSRJ1835+325	16 19 52	58.5	115.8	-2.3		-40.1	-22	1134	No stop
21 44 50	---	16 23 53	59.0	117.1	-2.2		-39.6	218	1257	21 40 51
21 45 30	J1848+3219	16 24 33	56.9	114.2	-2.4		-40.4	18	1257	21 45 30
21 46 50	=1846+322	16 25 53	57.0	114.6	-2.4		-40.3	80	1298	21 45 31
21 46 50	LSRJ1835+325	16 25 53	59.3	117.7	-2.2		-39.4	-22	1298	No stop
21 50 50	---	16 29 54	59.8	119.0	-2.1		-38.8	218	1422	21 46 51
21 51 30	J1848+3219	16 30 34	57.7	116.0	-2.3		-39.7	18	1422	21 51 30
21 52 50	=1846+322	16 31 54	57.9	116.4	-2.3		-39.5	80	1463	21 51 31
21 52 50	LSRJ1835+325	16 31 54	60.1	119.6	-2.1		-38.5	-22	1463	No stop
21 56 50	---	16 35 55	60.6	121.0	-2.0		-37.9	218	1587	21 52 51
21 57 30	J1848+3219	16 36 35	58.5	117.9	-2.2		-38.9	18	1587	21 57 30
21 58 50	=1846+322	16 37 55	58.7	118.3	-2.2		-38.7	80	1628	21 57 31
21 58 50	LSRJ1835+325	16 37 55	60.8	121.6	-2.0		-37.6	-22	1628	No stop
22 02 50	---	16 41 56	61.4	123.0	-1.9		-36.9	218	1752	21 58 51
22 03 30	J1848+3219	16 42 36	59.3	119.8	-2.1		-38.1	18	1752	22 03 30
22 04 50	=1846+322	16 43 56	59.4	120.2	-2.1		-37.9	80	1793	22 03 31
22 04 50	LSRJ1835+325	16 43 56	61.6	123.7	-1.9		-36.5	-22	1793	No stop
22 08 50	---	16 47 57	62.1	125.2	-1.8		-35.8	218	1917	22 04 51
22 09 30	J1848+3219	16 48 37	60.1	121.8	-2.0		-37.2	18	1917	22 09 30
22 10 50	=1846+322	16 49 57	60.2	122.2	-2.0		-37.0	80	1958	22 09 31
22 10 50	J1834+3205	16 49 57	61.7	127.3	-1.8		-34.3	-25	1958	No stop
22 12 50	---	16 51 58	61.9	128.1	-1.7		-33.9	95	2020	22 10 51
22 12 50	J1848+3219	16 51 58	60.5	122.9	-2.0		-36.6	-25	2020	No stop
22 14 50	=1846+322	16 53 58	60.7	123.6	-1.9		-36.3	95	2082	22 12 51

Schedule for TORUN (Code Tr) Page 4

LSR J1835 follow-up observations

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT	Source	Start / Stop						Early	Disk	TPStart
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC
--- Sun 12 Jun 2022 Day 163 ---										
22 14 50	LSRJ1835+325	16 53 58	62.8	127.4	-1.7		-34.7	-23	2082	No stop
22 18 50	---	16 57 58	63.3	128.9	-1.6		-33.8	217	2205	22 14 51
22 19 30	J1848+3219	16 58 39	61.3	125.3	-1.8		-35.5	18	2205	22 19 30
22 20 50	=1846+322	16 59 59	61.5	125.7	-1.8		-35.2	80	2247	22 19 31
22 20 50	LSRJ1835+325	16 59 59	63.5	129.7	-1.6		-33.4	-23	2247	No stop
22 24 50	---	17 03 59	64.0	131.3	-1.5		-32.5	217	2370	22 20 51
22 25 30	J1848+3219	17 04 40	62.0	127.5	-1.7		-34.3	17	2370	22 25 30
22 26 50	=1846+322	17 06 00	62.2	128.0	-1.7		-34.1	80	2411	22 25 31
22 26 50	LSRJ1835+325	17 06 00	64.2	132.1	-1.5		-32.1	-24	2411	No stop
22 30 50	---	17 10 00	64.7	133.8	-1.4		-31.1	216	2535	22 26 51
22 31 30	J1848+3219	17 10 41	62.7	129.7	-1.6		-33.1	17	2535	22 31 30
22 32 50	=1846+322	17 12 01	62.9	130.3	-1.6		-32.8	80	2576	22 31 31
22 32 50	LSRJ1835+325	17 12 01	64.9	134.6	-1.4		-30.6	-24	2576	No stop
22 36 50	---	17 16 01	65.3	136.4	-1.3		-29.6	216	2700	22 32 51
22 37 30	J1848+3219	17 16 42	63.4	132.1	-1.5		-31.8	16	2700	22 37 30
22 38 50	=1846+322	17 18 02	63.6	132.7	-1.5		-31.5	80	2741	22 37 31
22 38 50	LSRJ1835+325	17 18 02	65.5	137.2	-1.3		-29.1	-24	2741	No stop
22 42 50	---	17 22 02	65.9	139.0	-1.2		-28.0	216	2865	22 38 51
22 43 30	J1848+3219	17 22 43	64.1	134.6	-1.4		-30.4	16	2865	22 43 30
22 44 50	=1846+322	17 24 03	64.2	135.1	-1.4		-30.1	80	2906	22 43 31
22 44 50	J1834+3205	17 24 03	65.4	141.3	-1.2		-26.3	-28	2906	No stop
22 46 50	---	17 26 03	65.6	142.2	-1.2		-25.7	92	2968	22 44 51
22 46 50	J1848+3219	17 26 03	64.4	136.0	-1.4		-29.6	-27	2968	No stop
22 48 50	=1846+322	17 28 03	64.6	136.8	-1.4		-29.1	93	3030	22 46 51
22 48 50	LSRJ1835+325	17 28 03	66.5	141.8	-1.1		-26.3	-25	3030	No stop
22 52 50	---	17 32 04	66.8	143.7	-1.1		-25.1	215	3153	22 48 51
22 53 30	J1848+3219	17 32 44	65.1	138.9	-1.3		-27.9	15	3153	22 53 30
22 54 50	=1846+322	17 34 04	65.2	139.5	-1.3		-27.5	80	3195	22 53 31
22 54 50	LSRJ1835+325	17 34 04	67.0	144.7	-1.0		-24.4	-26	3195	No stop
22 58 50	---	17 38 05	67.4	146.7	-1.0		-23.2	214	3318	22 54 51

Schedule for TORUN (Code Tr) Page 5

LSR J1835 follow-up observations

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT	Source	Start / Stop						Early	Disk	TPStart
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC
--- Sun 12 Jun 2022 Day 163 ---										
22 59 30	J1848+3219	17 38 45	65.7	141.6	-1.2		-26.2	15	3318	22 59 30
23 00 50	=1846+322	17 40 05	65.8	142.2	-1.2		-25.8	80	3360	22 59 31
23 00 50	LSRJ1835+325	17 40 05	67.5	147.7	-0.9		-22.5	-26	3360	No stop
23 04 50	---	17 44 06	67.8	149.8	-0.9		-21.1	214	3483	23 00 51
23 05 30	J1848+3219	17 44 46	66.2	144.4	-1.1		-24.4	14	3483	23 05 30
23 06 50	=1846+322	17 46 06	66.3	145.1	-1.1		-24.0	80	3524	23 05 31
23 06 50	LSRJ1835+325	17 46 06	68.0	150.8	-0.8		-20.4	-27	3524	No stop
23 10 50	---	17 50 07	68.3	152.9	-0.8		-19.0	213	3648	23 06 51
23 11 30	J1848+3219	17 50 47	66.7	147.3	-1.0		-22.5	14	3648	23 11 30
23 12 50	=1846+322	17 52 07	66.8	148.0	-1.0		-22.1	80	3689	23 11 31
23 12 50	LSRJ1835+325	17 52 07	68.4	154.0	-0.7		-18.3	-27	3689	No stop
23 16 50	---	17 56 08	68.7	156.2	-0.7		-16.8	213	3813	23 12 51
23 17 30	J1848+3219	17 56 48	67.2	150.4	-0.9		-20.6	13	3813	23 17 30
23 18 50	=1846+322	17 58 08	67.3	151.1	-0.9		-20.1	80	3854	23 17 31
23 18 50	J1834+3205	17 58 08	67.9	158.4	-0.6		-15.1	-30	3854	No stop
23 20 50	---	18 00 09	68.1	159.5	-0.6		-14.4	90	3916	23 18 51
23 20 50	J1848+3219	18 00 09	67.4	152.1	-0.8		-19.4	-29	3916	No stop
23 22 50	=1846+322	18 02 09	67.6	153.1	-0.8		-18.7	91	3978	23 20 51
23 22 50	LSRJ1835+325	18 02 09	69.0	159.6	-0.6		-14.5	-28	3978	No stop
23 26 50	---	18 06 10	69.2	161.9	-0.5		-12.9	212	4102	23 22 51
23 27 30	J1848+3219	18 06 50	67.9	155.6	-0.7		-17.1	12	4102	23 27 30
23 28 50	=1846+322	18 08 10	68.0	156.3	-0.7		-16.6	80	4143	23 27 31
23 28 50	LSRJ1835+325	18 08 10	69.3	163.0	-0.5		-12.1	-29	4143	No stop
23 32 50	---	18 12 11	69.5	165.4	-0.4		-10.4	211	4266	23 28 51
23 33 30	J1848+3219	18 12 51	68.2	158.9	-0.6		-14.8	12	4266	23 33 30
23 34 50	=1846+322	18 14 11	68.3	159.6	-0.6		-14.3	80	4308	23 33 31
23 34 50	LSRJ1835+325	18 14 11	69.5	166.5	-0.4		-9.6	-29	4308	No stop
23 38 50	---	18 18 12	69.7	168.9	-0.3		-7.9	211	4431	23 34 51
23 39 30	J1848+3219	18 18 52	68.5	162.2	-0.5		-12.5	11	4431	23 39 30
23 40 50	=1846+322	18 20 12	68.6	163.0	-0.5		-12.0	80	4473	23 39 31

Schedule for TORUN (Code Tr) Page 6

LSR J1835 follow-up observations

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT	Source	Start / Stop						Early	Disk	TPStart
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC
--- Sun 12 Jun 2022 Day 163 ---										
23 40 50	LSRJ1835+325	18 20 12	69.7	170.1	-0.3		-7.1	-30	4473	No stop
23 44 50	---	18 24 13	69.8	172.5	-0.2		-5.3	210	4596	23 40 51
23 45 30	J1848+3219	18 24 53	68.8	165.7	-0.4		-10.1	11	4596	23 45 30
23 46 50	=1846+322	18 26 13	68.8	166.4	-0.4		-9.6	80	4637	23 45 31
23 46 50	LSRJ1835+325	18 26 13	69.8	173.8	-0.2		-4.5	-30	4637	No stop
23 50 50	---	18 30 14	69.9	176.2	-0.1		-2.7	210	4761	23 46 51
23 51 30	J1848+3219	18 30 54	69.0	169.2	-0.3		-7.7	11	4761	23 51 30
23 52 50	=1846+322	18 32 14	69.0	169.9	-0.3		-7.1	80	4802	23 51 31
23 52 50	J1834+3205	18 32 14	69.0	178.0	-0.1		-1.4	-32	4802	No stop
23 54 50	---	18 34 14	69.0	179.2	-0.0		-0.6	88	4864	23 52 51
23 54 50	J1848+3219	18 34 14	69.1	171.1	-0.2		-6.3	-31	4864	No stop
23 56 50	=1846+322	18 36 15	69.1	172.3	-0.2		-5.5	89	4926	23 54 51
--- Start: Sun 12 Jun 2022 Day 163 -- Stop: Mon 13 Jun 2022 Day 164 ---										
23 56 50	LSRJ1835+325	18 36 15	69.9	179.9	-0.0		-0.1	-31	4926	No stop
00 00 50	---	18 40 15	69.9	182.3	0.1		1.7	209	5050	23 56 51
00 01 40	J1848+3219	18 41 05	69.2	175.2	-0.1		-3.4	20	5050	00 01 40
00 02 50	=1846+322	18 42 16	69.2	175.9	-0.1		-2.9	70	5086	00 01 41
00 02 50	LSRJ1835+325	18 42 16	69.9	183.5	0.1		2.5	-31	5086	No stop
00 06 50	---	18 46 16	69.8	186.0	0.2		4.3	209	5209	00 02 51
00 07 40	J1848+3219	18 47 06	69.2	178.7	-0.0		-0.9	20	5209	00 07 40
00 08 50	=1846+322	18 48 17	69.2	179.4	-0.0		-0.4	70	5246	00 07 41
00 09 30	1830+285	18 48 57	65.3	188.0	0.3		5.5	8	5246	00 09 30
00 13 30	---	18 52 57	65.2	190.1	0.3		6.9	240	5369	00 09 31
00 14 20	J1848+3219	18 53 47	69.2	182.7	0.1		1.9	20	5369	00 14 20
00 15 30	=1846+322	18 54 58	69.2	183.4	0.1		2.4	70	5405	00 14 21
00 15 30	LSRJ1835+325	18 54 58	69.6	191.2	0.3		8.0	-31	5405	No stop
00 19 30	---	18 58 58	69.5	193.6	0.4		9.7	209	5529	00 15 31
00 20 20	J1848+3219	18 59 48	69.2	186.3	0.2		4.5	20	5529	00 20 20
00 21 30	=1846+322	19 00 59	69.1	187.0	0.2		5.0	70	5565	00 20 21

Schedule for TORUN (Code Tr) Page 7

LSR J1835 follow-up observations

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	LST	Start / Stop EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Mon 13 Jun 2022 Day 164 ---										
00 21 30	LSRJ1835+325	19 00 59	69.4	194.8	0.4		10.5	-31	5565	No stop
00 25 30	---	19 04 59	69.3	197.1	0.5		12.2	209	5689	00 21 31
00 26 20	J1848+3219	19 05 49	69.0	189.8	0.3		7.0	20	5689	00 26 20
00 27 30	=1846+322	19 07 00	69.0	190.5	0.3		7.5	70	5725	00 26 21
00 27 30	LSRJ1835+325	19 07 00	69.2	198.3	0.5		13.0	-31	5725	No stop
00 31 30	---	19 11 00	69.0	200.5	0.6		14.6	209	5848	00 27 31
00 32 20	J1848+3219	19 11 50	68.8	193.3	0.4		9.4	20	5848	00 32 20
00 33 30	=1846+322	19 13 01	68.8	194.0	0.4		9.9	70	5884	00 32 21
00 33 30	LSRJ1835+325	19 13 01	68.9	201.7	0.6		15.3	-31	5884	No stop
00 37 30	---	19 17 01	68.6	203.9	0.7		16.9	209	6008	00 33 31
00 38 20	J1848+3219	19 17 51	68.6	196.8	0.5		11.8	20	6008	00 38 20
00 39 30	=1846+322	19 19 02	68.6	197.4	0.5		12.3	70	6044	00 38 21
00 39 30	LSRJ1835+325	19 19 02	68.5	205.0	0.7		17.6	-31	6044	No stop
00 43 30	---	19 23 02	68.3	207.2	0.8		19.1	209	6168	00 39 31
00 44 20	J1848+3219	19 23 52	68.3	200.2	0.6		14.2	20	6168	00 44 20
00 45 30	=1846+322	19 25 03	68.3	200.8	0.6		14.6	70	6204	00 44 21
00 45 30	J1834+3205	19 25 03	67.2	207.9	0.8		19.3	-30	6204	No stop
00 47 30	---	19 27 03	67.1	208.9	0.9		20.0	90	6266	00 45 31
00 47 30	J1848+3219	19 27 03	68.2	201.9	0.6		15.4	-29	6266	No stop
00 49 30	=1846+322	19 29 03	68.0	203.0	0.7		16.1	91	6328	00 47 31
00 49 30	LSRJ1835+325	19 29 03	67.8	210.3	0.9		21.2	-30	6328	No stop
00 53 30	---	19 33 04	67.5	212.4	0.9		22.6	210	6451	00 49 31
00 54 20	J1848+3219	19 33 54	67.7	205.6	0.7		17.9	21	6451	00 54 20
00 55 30	=1846+322	19 35 04	67.7	206.2	0.8		18.3	70	6487	00 54 21
00 55 30	LSRJ1835+325	19 35 04	67.3	213.4	1.0		23.2	-30	6487	No stop
00 59 30	---	19 39 05	67.0	215.4	1.0		24.5	210	6611	00 55 31
01 00 20	J1848+3219	19 39 55	67.3	208.7	0.8		20.0	21	6611	01 00 20
01 01 30	=1846+322	19 41 05	67.2	209.3	0.9		20.4	70	6647	01 00 21
01 01 30	LSRJ1835+325	19 41 05	66.8	216.4	1.1		25.1	-29	6647	No stop
01 05 30	---	19 45 06	66.5	218.3	1.1		26.3	211	6771	01 01 31

Schedule for TORUN (Code Tr) Page 8

LSR J1835 follow-up observations

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT	Source	Start / Stop						Early	Disk	TPStart
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC
--- Mon 13 Jun 2022 Day 164 ---										
01 06 20	J1848+3219	19 45 56	66.9	211.8	0.9		22.0	22	6771	01 06 20
01 07 30	=1846+322	19 47 06	66.8	212.4	1.0		22.4	70	6807	01 06 21
01 07 30	LSRJ1835+325	19 47 06	66.3	219.2	1.2		26.9	-29	6807	No stop
01 11 30	---	19 51 07	65.9	221.0	1.2		28.1	211	6930	01 07 31
01 12 20	J1848+3219	19 51 57	66.4	214.7	1.0		23.9	22	6930	01 12 20
01 13 30	=1846+322	19 53 07	66.3	215.3	1.1		24.3	70	6967	01 12 21
01 13 30	LSRJ1835+325	19 53 07	65.7	222.0	1.3		28.6	-29	6967	No stop
01 17 30	---	19 57 08	65.3	223.7	1.3		29.7	211	7090	01 13 31
01 18 20	J1848+3219	19 57 58	65.8	217.6	1.1		25.7	22	7090	01 18 20
01 19 30	=1846+322	19 59 08	65.7	218.1	1.2		26.0	70	7126	01 18 21
01 19 30	J1834+3205	19 59 08	64.2	223.9	1.4		29.4	-27	7126	No stop
01 21 30	---	20 01 08	64.0	224.7	1.4		29.9	93	7188	01 19 31
01 21 30	J1848+3219	20 01 08	65.6	219.1	1.2		26.6	-26	7188	No stop
01 23 30	=1846+322	20 03 09	65.4	220.0	1.2		27.2	94	7250	01 21 31
01 23 30	LSRJ1835+325	20 03 09	64.6	226.3	1.4		31.2	-28	7250	No stop
01 27 30	---	20 07 09	64.2	227.9	1.5		32.1	212	7374	01 23 31
01 28 20	J1848+3219	20 08 00	64.9	222.1	1.3		28.5	23	7374	01 28 20
01 29 30	=1846+322	20 09 10	64.8	222.6	1.3		28.8	70	7410	01 28 21
01 29 30	LSRJ1835+325	20 09 10	64.0	228.8	1.5		32.6	-28	7410	No stop
01 33 30	---	20 13 10	63.5	230.4	1.6		33.5	212	7533	01 29 31
01 34 20	J1848+3219	20 14 01	64.3	224.7	1.4		30.0	23	7533	01 34 20
01 35 30	=1846+322	20 15 11	64.1	225.2	1.4		30.3	70	7569	01 34 21
01 35 30	LSRJ1835+325	20 15 11	63.3	231.1	1.6		33.9	-27	7569	No stop
01 39 30	---	20 19 11	62.8	232.7	1.7		34.7	213	7693	01 35 31
01 40 20	J1848+3219	20 20 02	63.6	227.2	1.5		31.4	24	7693	01 40 20
01 41 30	=1846+322	20 21 12	63.5	227.7	1.5		31.7	70	7729	01 40 21
01 41 30	LSRJ1835+325	20 21 12	62.6	233.4	1.7		35.1	-27	7729	No stop
01 45 30	---	20 25 12	62.1	234.9	1.8		35.9	213	7853	01 41 31
01 46 20	J1848+3219	20 26 03	62.9	229.6	1.6		32.8	24	7853	01 46 20
01 47 30	=1846+322	20 27 13	62.8	230.0	1.6		33.0	70	7889	01 46 21

Schedule for TORUN (Code Tr) Page 9

LSR J1835 follow-up observations

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Mon 13 Jun 2022 Day 164 ---										
01 47 30	LSRJ1835+325	20 27 13	61.8	235.6	1.8		36.2	-26	7889	No stop
01 51 30	---	20 31 13	61.3	237.0	1.9		36.9	214	8013	01 47 31
01 52 20	J1848+3219	20 32 04	62.2	231.9	1.7		34.0	24	8013	01 52 20
01 53 30	=1846+322	20 33 14	62.1	232.3	1.7		34.2	70	8049	01 52 21
01 53 30	J1834+3205	20 33 14	60.2	236.9	2.0		36.4	-24	8049	No stop
01 55 30	---	20 35 14	60.0	237.6	2.0		36.8	96	8110	01 53 31
01 55 30	J1848+3219	20 35 14	61.9	233.1	1.8		34.6	-24	8110	No stop
01 57 30	=1846+322	20 37 14	61.6	233.8	1.8		35.0	96	8172	01 55 31
01 57 30	LSRJ1835+325	20 37 14	60.6	239.1	2.0		37.9	-26	8172	No stop
02 01 30	---	20 41 15	60.0	240.4	2.1		38.5	214	8296	01 57 31
02 02 20	J1848+3219	20 42 05	61.0	235.5	1.9		35.9	25	8296	02 02 20
02 03 30	=1846+322	20 43 15	60.9	236.0	1.9		36.1	70	8332	02 02 21
02 03 30	LSRJ1835+325	20 43 15	59.8	241.1	2.1		38.8	-25	8332	No stop
02 07 30	---	20 47 16	59.3	242.4	2.2		39.4	215	8456	02 03 31
02 08 20	J1848+3219	20 48 06	60.3	237.6	2.0		36.9	25	8456	02 08 20
02 09 30	=1846+322	20 49 16	60.1	238.0	2.0		37.1	70	8492	02 08 21
02 09 30	LSRJ1835+325	20 49 16	59.0	243.0	2.2		39.6	-25	8492	No stop
02 13 30	---	20 53 17	58.4	244.2	2.3		40.2	215	8615	02 09 31
02 14 20	J1848+3219	20 54 07	59.5	239.6	2.1		37.8	25	8615	02 14 20
02 15 30	=1846+322	20 55 17	59.3	240.0	2.1		38.0	70	8651	02 14 21
02 15 30	LSRJ1835+325	20 55 17	58.2	244.9	2.3		40.4	-25	8651	No stop
02 19 30	---	20 59 18	57.6	246.1	2.4		40.9	215	8775	02 15 31
02 20 20	J1848+3219	21 00 08	58.7	241.6	2.2		38.7	26	8775	02 20 20
02 21 30	=1846+322	21 01 18	58.6	242.0	2.2		38.9	70	8811	02 20 21
02 21 30	LSRJ1835+325	21 01 18	57.3	246.6	2.4		41.1	-25	8811	No stop
02 25 30	---	21 05 19	56.8	247.8	2.5		41.5	215	8935	02 21 31
02 26 20	J1848+3219	21 06 09	57.9	243.5	2.3		39.5	26	8935	02 26 20
02 27 30	=1846+322	21 07 19	57.8	243.8	2.3		39.6	70	8971	02 26 21
02 27 30	J1834+3205	21 07 19	55.7	247.5	2.5		40.9	-22	8971	No stop
02 29 30	---	21 09 20	55.4	248.1	2.6		41.1	98	9033	02 27 31

```
Schedule for TORUN     (Code Tr )                                Page  10
              LSR J1835 follow-up observations
  UP:  D => Below limits;  H => Below horizon mask;  W => still slewing at end;  blank => Up.
  Early: Seconds between end of slew and start.   Dwell: On source seconds.
  Disk: GBytes recorded to this point.
  TPStart:  Recording start time.  Frequencies are LO sum (band edge).
  SYNC: Time correlator is expected to sync up.
-----------------------------------------------------------------------------------------
Start UT  Source               Start / Stop                 Early    Disk   TPStart
Stop UT                  LST      EL    AZ   HA  UP   ParA  Dwell   GBytes    SYNC
-----------------------------------------------------------------------------------------

 --- Mon  13 Jun 2022   Day 164 ---

02 29 30  J1848+3219   21 09 20  57.5 244.4  2.3      39.9   -22     9033   No stop
02 31 30  =1846+322    21 11 20  57.2 245.0  2.4      40.1    98     9095   02 29 31

02 31 30 LSRJ1835+325  21 11 20  56.0 249.5  2.6      42.1   -24     9095   No stop
02 35 30  ---          21 15 21  55.4 250.6  2.6      42.5   216     9218   02 31 31

02 36 20  J1848+3219   21 16 11  56.5 246.5  2.4      40.7    26     9218   02 36 20
02 37 30  =1846+322    21 17 21  56.4 246.8  2.5      40.8    70     9254   02 36 21

02 37 30 LSRJ1835+325  21 17 21  55.1 251.2  2.7      42.7   -24     9254   No stop
02 41 30  ---          21 21 22  54.5 252.2  2.7      43.0   216     9378   02 37 31

02 42 20  J1848+3219   21 22 12  55.7 248.2  2.5      41.3    27     9378   02 42 20
02 43 30  =1846+322    21 23 22  55.5 248.5  2.6      41.4    70     9414   02 42 21

02 43 30 LSRJ1835+325  21 23 22  54.2 252.8  2.8      43.1   -24     9414   No stop
02 47 30  ---          21 27 23  53.7 253.8  2.8      43.4   216     9538   02 43 31

02 48 20  J1848+3219   21 28 13  54.9 249.9  2.6      41.9    27     9538   02 48 20
02 49 30  =1846+322    21 29 23  54.7 250.2  2.7      42.0    70     9574   02 48 21

02 49 30 LSRJ1835+325  21 29 23  53.4 254.3  2.9      43.6   -23     9574   No stop
02 53 30  ---          21 33 24  52.8 255.3  2.9      43.8   217     9698   02 49 31

02 54 20  J1848+3219   21 34 14  54.0 251.5  2.8      42.4    27     9698   02 54 20
02 55 30  =1846+322    21 35 24  53.9 251.8  2.8      42.5    70     9734   02 54 21

02 56 00  1830+285     21 35 54  48.7 251.9  3.0      40.5    -3     9734   02 56 00
03 00 00  ---          21 39 55  48.2 252.9  3.1      40.8   237     9857   02 56 01



SETUP FILE INFORMATION:
   NOTE: If DOPPLER, FREQ, or BW were used, see the individual scans for the final BBC settings.


 ======== Setup file: sess222.C4096

   Setup group:    8         Station: TORUN            Total bit rate:  4096
   Format: VDIF              Bits per sample: 2        Sample rate: 64.000
   Number of channels: 32    DBE type: DBBC_DDC        Speedup factor:   1.00

   Disk used to record data.
```

```
 1st LO=   4088.00   4088.00   4088.00   4088.00   4088.00   4088.00   4088.00   4088.00
           4088.00   4088.00   4088.00   4088.00   4088.00   4088.00   4088.00   4088.00
           4088.00   4088.00   4088.00   4088.00   4088.00   4088.00   4088.00   4088.00
           4088.00   4088.00   4088.00   4088.00   4088.00   4088.00   4088.00   4088.00
 Net SB=         L         L         U         U         L         L         U         U
                 L         L         U         U         L         L         U         U
                 L         L         U         U         L         L         U         U
                 L         L         U         U         L         L         U         U
 IF SB =         U         U         U         U         U         U         U         U
                 U         U         U         U         U         U         U         U
                 U         U         U         U         U         U         U         U
                 U         U         U         U         U         U         U         U
 Pol.  =       RCP       LCP       RCP       LCP       RCP       LCP       RCP       LCP
               RCP       LCP       RCP       LCP       RCP       LCP       RCP       LCP
               RCP       LCP       RCP       LCP       RCP       LCP       RCP       LCP
               RCP       LCP       RCP       LCP       RCP       LCP       RCP       LCP
 BBC   =         1         9         1         9         2        10         2        10
                 3        11         3        11         4        12         4        12
                 5        13         5        13         6        14         6        14
                 7        15         7        15         8        16         8        16
 BBC SB=         L         L         U         U         L         L         U         U
                 L         L         U         U         L         L         U         U
                 L         L         U         U         L         L         U         U
                 L         L         U         U         L         L         U         U
 IF    =        A1        B1        A1        B1        A1        B1        A1        B1
                A1        B1        A1        B1        A1        B1        A1        B1
                A1        B1        A1        B1        A1        B1        A1        B1
                A1        B1        A1        B1        A1        B1        A1        B1

 The following frequency sets based on these setups were used.

 Frequency Set:   9  Setup file default.  Used with PCAL = off
 LO sum=   4632.00  4632.00  4632.00  4632.00  4696.00  4696.00  4696.00  4696.00
           4760.00  4760.00  4760.00  4760.00  4824.00  4824.00  4824.00  4824.00
           4888.00  4888.00  4888.00  4888.00  4952.00  4952.00  4952.00  4952.00
           5016.00  5016.00  5016.00  5016.00  5080.00  5080.00  5080.00  5080.00
 BBC fr=    544.00   544.00   544.00   544.00   608.00   608.00   608.00   608.00
            672.00   672.00   672.00   672.00   736.00   736.00   736.00   736.00
            800.00   800.00   800.00   800.00   864.00   864.00   864.00   864.00
            928.00   928.00   928.00   928.00   992.00   992.00   992.00   992.00
 Bandwd=     32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00
             32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00
             32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00
             32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00
  Matching frequency sets:   9

 Track assignments are:
  track1=   1,  2,  3,  4,  5,  6,  7,  8,  9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 2
  barrel=roll_off


POSITIONS OF SOURCES USED IN RECORDING SCANS

 Source                        Source position (RA/Dec)                        Error
                     (B1950)            (J2000)            (Date)             (mas)

* LSRJ1835+325      18 33 46.940176   * 18 35 37.880357     18 36 28.546613       0.00
                    32 57 22.09729    * 32 59 53.31134      33 00 53.55686        0.00

* J1834+3205        18 32 56.698696   * 18 34 49.087200     18 35 40.384117       0.00
```

```
                    32 02 57.74164    * 32 05 25.38800      32 06 24.18733        0.00

* 1830+285          18 30 52.379792   * 18 32 50.185623     18 33 43.841222       0.03
  J1832+2833        28 31 17.07914    * 28 33 35.95525      28 34 31.33657        0.04
  J1832+28          /home/guest/rmc/SCHED/sched11.6/catalogs/sources.gsfc
                    GSFC 2016a X/S astro solution,   1329 observations.

  1846+322          18 46 29.612030   * 18 48 22.088573     18 49 13.384039       0.00
* J1848+3219        32 15 36.66044    * 32 19 02.60384      32 20 26.66636        0.00
                    /home/guest/rmc/SCHED/sched11.6/catalogs/sources.gsfc
                    GSFC 2016a X/S astro solution,  38727 observations.
```

n22c2tr

Network Monitoring Experiment

PI: *Suma Murthy*

```
Address:  JIVE

Observing mode:
Schedule for TORUN     (Code Tr )                                   Page   2
               Network Monitoring Experiment
  UP:  D => Below limits;  H => Below horizon mask;  W => still slewing at end;  blank => Up.
  Early: Seconds between end of slew and start.   Dwell: On source seconds.
  Disk: GBytes recorded to this point.
  TPStart:  Recording start time.  Frequencies are LO sum (band edge).
  SYNC: Time correlator is expected to sync up.
-------------------------------------------------------------------------------------------
Start UT  Source                Start / Stop                  Early    Disk   TPStart
Stop UT                   LST      EL    AZ   HA  UP   ParA  Dwell   GBytes    SYNC
-------------------------------------------------------------------------------------------
 --- Mon  13 Jun 2022   Day 164 ---
 Next scan frequencies:  4632.00  4632.00  4632.00  4632.00  4696.00  4696.00  4696.00  4696.00
                         4760.00  4760.00  4760.00  4760.00  4824.00  4824.00  4824.00  4824.00
                         4888.00  4888.00  4888.00  4888.00  4952.00  4952.00  4952.00  4952.00
                         5016.00  5016.00  5016.00  5016.00  5080.00  5080.00  5080.00  5080.00
 Next BBC frequencies:    544.00   544.00   544.00   544.00   608.00   608.00   608.00   608.00
                          672.00   672.00   672.00   672.00   736.00   736.00   736.00   736.00
                          800.00   800.00   800.00   800.00   864.00   864.00   864.00   864.00
                          928.00   928.00   928.00   928.00   992.00   992.00   992.00   992.00
 Next scan bandwidths:     32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00
                           32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00
                           32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00
                           32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00

08 00 00  J0319+4130   02 40 44  76.6 145.3 -0.7     -27.2     0        0   08 00 00
08 10 00  =3C84        02 50 46  77.4 152.9 -0.5     -21.4   600      309   08 00 01

08 15 00  J0319+4130   02 55 46  77.7 157.0 -0.4     -18.3   291      309   08 15 00
08 17 00  =3C84        02 57 47  77.8 158.7 -0.4     -16.9   120      371   08 15 01

08 22 00  J0319+4130   03 02 48  78.1 163.1 -0.3     -13.5   290      371   08 22 00
08 32 00  =3C84        03 12 49  78.4 172.1 -0.1      -6.3   600      680   08 22 01

08 37 00  J0319+4130   03 17 50  78.5 176.8 -0.1      -2.6   290      680   08 37 00
08 47 00  =3C84        03 27 52  78.4 186.2  0.1       5.0   600      989   08 37 01

08 52 00  J0646+4451   03 32 53  57.6  84.7 -3.3     -57.5    81      989   08 52 00
09 02 00  =0642+449    03 42 54  59.1  86.5 -3.1     -57.7   600     1298   08 52 01

09 04 00  J0646+4451   03 44 54  59.4  86.8 -3.1     -57.7   114     1298   09 04 00
09 08 00  =0642+449    03 48 55  60.0  87.6 -3.0     -57.8   240     1422   09 04 01

09 08 00  J0654+4347   03 48 55  58.3  87.9 -3.1     -56.2   -20     1422   No stop
09 11 00  ---          03 51 56  58.7  88.4 -3.1     -56.2   160     1515   09 08 01

09 13 00  J0646+4451   03 53 56  60.7  88.6 -2.9     -57.8   100     1515   09 13 00
09 17 00  =0642+449    03 57 57  61.3  89.3 -2.8     -57.9   240     1639   09 13 01

09 22 00  J0646+4451   04 02 57  62.1  90.3 -2.8     -57.9   293     1639   09 22 00
09 32 00  =0642+449    04 12 59  63.6  92.4 -2.6     -57.8   600     1948   09 22 01

09 34 00  J0646+4451   04 14 59  63.9  92.8 -2.6     -57.7   114     1948   09 34 00
09 38 00  =0642+449    04 19 00  64.5  93.7 -2.5     -57.7   240     2071   09 34 01
```

Schedule for TORUN (Code Tr) Page 3

Network Monitoring Experiment

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT	Source	Start / Stop						Early	Disk	TPStart
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC
--- Mon 13 Jun 2022 Day 164 ---										
09 38 00	J0654+4347	04 19 00	62.8	94.0	-2.6		-56.0	-20	2071	No stop
09 41 00	---	04 22 01	63.2	94.7	-2.6		-56.0	160	2164	09 38 01
09 43 00	J0646+4451	04 24 01	65.3	94.8	-2.4		-57.5	100	2164	09 43 00
09 47 00	=0642+449	04 28 02	65.9	95.8	-2.3		-57.4	240	2288	09 43 01
09 52 00	J0646+4451	04 33 02	66.6	96.9	-2.3		-57.2	293	2288	09 52 00
10 02 00	=0642+449	04 43 04	68.1	99.5	-2.1		-56.6	600	2597	09 52 01
10 04 00	J0646+4451	04 45 04	68.4	100.0	-2.1		-56.5	113	2597	10 04 00
10 08 00	=0642+449	04 49 05	69.0	101.1	-2.0		-56.2	240	2721	10 04 01
10 08 00	J0654+4347	04 49 05	67.2	101.3	-2.1		-54.6	-20	2721	No stop
10 11 00	---	04 52 05	67.7	102.1	-2.1		-54.4	160	2813	10 08 01
10 13 00	J0646+4451	04 54 06	69.7	102.5	-1.9		-55.8	100	2813	10 13 00
10 17 00	=0642+449	04 58 06	70.3	103.7	-1.8		-55.4	240	2937	10 13 01
10 22 00	J0646+4451	05 03 07	71.0	105.2	-1.8		-54.8	293	2937	10 22 00
10 32 00	=0642+449	05 13 09	72.5	108.5	-1.6		-53.4	600	3246	10 22 01
10 37 00	J0646+4451	05 18 10	73.2	110.3	-1.5		-52.6	293	3246	10 37 00
10 47 00	=0642+449	05 28 11	74.6	114.3	-1.3		-50.5	600	3555	10 37 01
10 49 00	J0646+4451	05 30 12	74.8	115.2	-1.3		-50.0	113	3555	10 49 00
10 52 00	=0642+449	05 33 12	75.3	116.5	-1.2		-49.2	180	3648	10 49 01
10 52 00	J0654+4347	05 33 12	73.5	116.1	-1.4		-48.3	-20	3648	No stop
10 55 00	---	05 36 13	73.9	117.4	-1.3		-47.6	160	3741	10 52 01
10 57 00	J0646+4451	05 38 13	75.9	118.9	-1.2		-47.8	100	3741	10 57 00
11 00 00	=0642+449	05 41 14	76.3	120.4	-1.1		-46.9	180	3834	10 57 01

SETUP FILE INFORMATION:
NOTE: If DOPPLER, FREQ, or BW were used, see the individual scans for the final BBC settings.

======== Setup file: sess222.C4096

Setup group: 8 Station: TORUN Total bit rate: 4096
Format: VDIF Bits per sample: 2 Sample rate: 64.000
Number of channels: 32 DBE type: DBBC_DDC Speedup factor: 1.00

Disk used to record data.

```
 1st LO=   4088.00   4088.00   4088.00   4088.00   4088.00   4088.00   4088.00   4088.00
           4088.00   4088.00   4088.00   4088.00   4088.00   4088.00   4088.00   4088.00
           4088.00   4088.00   4088.00   4088.00   4088.00   4088.00   4088.00   4088.00
           4088.00   4088.00   4088.00   4088.00   4088.00   4088.00   4088.00   4088.00
 Net SB=         L         L         U         U         L         L         U         U
                 L         L         U         U         L         L         U         U
                 L         L         U         U         L         L         U         U
                 L         L         U         U         L         L         U         U
 IF SB =         U         U         U         U         U         U         U         U
                 U         U         U         U         U         U         U         U
                 U         U         U         U         U         U         U         U
                 U         U         U         U         U         U         U         U
 Pol.  =       RCP       LCP       RCP       LCP       RCP       LCP       RCP       LCP
               RCP       LCP       RCP       LCP       RCP       LCP       RCP       LCP
               RCP       LCP       RCP       LCP       RCP       LCP       RCP       LCP
               RCP       LCP       RCP       LCP       RCP       LCP       RCP       LCP
 BBC   =         1         9         1         9         2        10         2        10
                 3        11         3        11         4        12         4        12
                 5        13         5        13         6        14         6        14
                 7        15         7        15         8        16         8        16
 BBC SB=         L         L         U         U         L         L         U         U
                 L         L         U         U         L         L         U         U
                 L         L         U         U         L         L         U         U
                 L         L         U         U         L         L         U         U
 IF    =        A1        B1        A1        B1        A1        B1        A1        B1
                A1        B1        A1        B1        A1        B1        A1        B1
                A1        B1        A1        B1        A1        B1        A1        B1
                A1        B1        A1        B1        A1        B1        A1        B1

 The following frequency sets based on these setups were used.

 Frequency Set:   9  Setup file default.  Used with PCAL = off
 LO sum=   4632.00  4632.00  4632.00  4632.00  4696.00  4696.00  4696.00  4696.00
           4760.00  4760.00  4760.00  4760.00  4824.00  4824.00  4824.00  4824.00
           4888.00  4888.00  4888.00  4888.00  4952.00  4952.00  4952.00  4952.00
           5016.00  5016.00  5016.00  5016.00  5080.00  5080.00  5080.00  5080.00
 BBC fr=    544.00   544.00   544.00   544.00   608.00   608.00   608.00   608.00
            672.00   672.00   672.00   672.00   736.00   736.00   736.00   736.00
            800.00   800.00   800.00   800.00   864.00   864.00   864.00   864.00
            928.00   928.00   928.00   928.00   992.00   992.00   992.00   992.00
 Bandwd=     32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00
             32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00
             32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00
             32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00
  Matching frequency sets:   9

 Track assignments are:
  track1=   1,  2,  3,  4,  5,  6,  7,  8,  9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 2
  barrel=roll_off


POSITIONS OF SOURCES USED IN RECORDING SCANS

 Source                        Source position (RA/Dec)                        Error
                     (B1950)            (J2000)            (Date)             (mas)

* J0654+4347        06 50 40.291447   * 06 54 16.477000     06 55 50.586148       0.00
                    43 51 26.58167    * 43 47 39.16400      43 46 02.71648        0.00

 3C84               03 16 29.567265   * 03 19 48.160096     03 21 14.784552       1.50
```

```
* J0319+4130        41 19 51.91692    * 41 30 42.10404      41 35 22.98217        2.86
  0316+413          /home/guest/rmc/SCHED/sched11.6/catalogs/sources.gsfc
  J0319+41          GSFC 2016a X/S astro solution,  10291 observations.

  0642+449          06 42 53.021446   * 06 46 32.025993     06 48 07.335319       0.00
* J0646+4451        44 54 30.82738    * 44 51 16.59012      44 49 54.46315        0.00
  J0646+44          /home/guest/rmc/SCHED/sched11.6/catalogs/sources.gsfc
                    GSFC 2016a X/S astro solution, 155842 observations.
```

eg111atr

Nature and properties of pc scale jets in FR0

PI: *Gabriele Giovannini*

Address: Istituto di Radioastronomia di Bologna

Observing mode: vlbi

Schedule for TORUN (Code Tr) Page 2

Nature and properties of pc scale jets in FR0

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Mon 13 Jun 2022 Day 164 ---										
Next scan frequencies:		4830.49	4830.49	4830.49	4830.49		4894.49	4894.49	4894.49	4894.49
		4958.49	4958.49	4958.49	4958.49		5022.49	5022.49	5022.49	5022.49
Next BBC frequencies:		630.49	630.49	630.49	630.49		694.49	694.49	694.49	694.49
		758.49	758.49	758.49	758.49		822.49	822.49	822.49	822.49
Next scan bandwidths:		32.00	32.00	32.00	32.00		32.00	32.00	32.00	32.00
		32.00	32.00	32.00	32.00		32.00	32.00	32.00	32.00
12 00 00	4C39.25	06 41 23	58.3	99.5	-2.8		-49.6	0	0	12 00 00
12 04 00	---	06 45 24	58.9	100.5	-2.7		-49.4	240	62	12 00 01
12 06 30	J1025+1253	06 47 54	31.0	111.7	-3.7		-34.9	31	62	12 06 30
12 10 00	=1023+131	06 51 25	31.5	112.5	-3.6		-34.7	210	116	12 06 31
12 10 00	J1025+10	06 51 25	29.4	114.2	-3.6		-33.8	-21	116	No stop
12 13 30	---	06 54 56	29.9	115.0	-3.5		-33.6	189	170	12 10 01
12 13 30	J1025+1253	06 54 56	31.9	113.3	-3.5		-34.4	-22	170	No stop
12 15 00	=1023+131	06 56 26	32.1	113.7	-3.5		-34.3	68	193	12 13 31
12 15 00	J1025+10	06 56 26	30.1	115.4	-3.5		-33.5	-21	193	No stop
12 18 30	---	06 59 56	30.6	116.2	-3.4		-33.2	189	247	12 15 01
12 19 00	J1025+1253	07 00 27	32.7	114.6	-3.4		-34.0	8	247	12 19 00
12 20 00	=1023+131	07 01 27	32.8	114.9	-3.4		-34.0	60	263	12 19 01
12 20 00	J1025+10	07 01 27	30.8	116.6	-3.4		-33.1	-21	263	No stop
12 23 30	---	07 04 57	31.2	117.4	-3.4		-32.8	189	317	12 20 01
12 23 30	J1025+1253	07 04 57	33.3	115.7	-3.4		-33.7	-22	317	No stop
12 25 00	=1023+131	07 06 27	33.5	116.1	-3.3		-33.6	68	340	12 23 31
12 25 00	J1025+10	07 06 27	31.4	117.8	-3.3		-32.7	-22	340	No stop
12 28 30	---	07 09 58	31.9	118.6	-3.3		-32.4	188	394	12 25 01
12 29 00	J1025+1253	07 10 28	34.0	117.1	-3.3		-33.3	8	394	12 29 00
12 30 00	=1023+131	07 11 28	34.2	117.3	-3.3		-33.2	60	410	12 29 01
12 30 00	J1025+10	07 11 28	32.1	119.0	-3.3		-32.3	-22	410	No stop
12 33 30	---	07 14 59	32.5	119.9	-3.2		-32.0	188	464	12 30 01
12 33 30	J1025+1253	07 14 59	34.6	118.2	-3.2		-32.9	-22	464	No stop
12 35 00	=1023+131	07 16 29	34.8	118.6	-3.2		-32.7	68	487	12 33 31

Schedule for TORUN (Code Tr) Page 3

Nature and properties of pc scale jets in FR0

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT	Source	Start / Stop						Early	Disk	TPStart
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC
--- Mon 13 Jun 2022 Day 164 ---										
12 35 00	J1025+10	07 16 29	32.7	120.2	-3.2		-31.8	-22	487	No stop
12 38 30	---	07 20 00	33.2	121.1	-3.1		-31.5	188	541	12 35 01
12 39 00	J1025+1253	07 20 30	35.4	119.6	-3.1		-32.4	8	541	12 39 00
12 40 00	=1023+131	07 21 30	35.5	119.8	-3.1		-32.3	60	556	12 39 01
12 41 30	J1223+5037	07 23 00	45.5	61.4	-5.0		-56.0	-42	556	12 41 30
12 44 30	---	07 26 01	45.9	61.8	-5.0		-56.3	138	603	12 41 31
12 44 30	J1213+50	07 26 01	47.3	62.9	-4.8		-57.4	-19	603	No stop
12 48 00	---	07 29 31	47.8	63.4	-4.8		-57.8	191	657	12 44 31
12 48 00	J1223+5037	07 29 31	46.3	62.2	-4.9		-56.7	-19	657	No stop
12 49 30	---	07 31 02	46.5	62.4	-4.9		-56.8	71	680	12 48 01
12 49 30	J1213+50	07 31 02	48.0	63.6	-4.7		-57.9	-19	680	No stop
12 53 00	---	07 34 32	48.4	64.0	-4.7		-58.3	191	734	12 49 31
12 53 30	J1223+5037	07 35 02	47.1	62.9	-4.8		-57.2	11	734	12 53 30
12 54 30	---	07 36 02	47.2	63.0	-4.8		-57.3	60	750	12 53 31
12 54 30	J1213+50	07 36 02	48.6	64.2	-4.6		-58.4	-19	750	No stop
12 58 00	---	07 39 33	49.1	64.6	-4.6		-58.8	191	804	12 54 31
12 58 00	J1223+5037	07 39 33	47.7	63.5	-4.8		-57.7	-19	804	No stop
12 59 30	---	07 41 03	47.9	63.7	-4.7		-57.8	71	827	12 58 01
12 59 30	J1213+50	07 41 03	49.3	64.8	-4.6		-58.9	-19	827	No stop
13 03 00	---	07 44 34	49.8	65.3	-4.5		-59.3	191	881	12 59 31
13 03 30	J1223+5037	07 45 04	48.4	64.2	-4.7		-58.2	11	881	13 03 30
13 04 30	---	07 46 04	48.6	64.3	-4.6		-58.3	60	897	13 03 31
13 04 30	J1213+50	07 46 04	50.0	65.4	-4.5		-59.4	-19	897	No stop
13 08 00	---	07 49 35	50.5	65.9	-4.4		-59.8	191	951	13 04 31
13 08 00	J1223+5037	07 49 35	49.0	64.8	-4.6		-58.7	-19	951	No stop
13 09 30	---	07 51 05	49.2	64.9	-4.6		-58.8	71	974	13 08 01
13 09 30	J1213+50	07 51 05	50.7	66.1	-4.4		-59.9	-19	974	No stop
13 13 00	---	07 54 35	51.2	66.5	-4.3		-60.2	191	1028	13 09 31
13 13 30	J1223+5037	07 55 05	49.8	65.4	-4.5		-59.2	11	1028	13 13 30
13 14 30	---	07 56 06	49.9	65.6	-4.5		-59.3	60	1043	13 13 31
13 16 00	4C39.25	07 57 36	69.0	123.2	-1.5		-40.3	-41	1043	13 16 00
13 21 00	---	08 02 37	69.6	125.3	-1.4		-39.1	259	1121	13 16 01

Schedule for TORUN (Code Tr) Page 4

Nature and properties of pc scale jets in FR0

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Mon 13 Jun 2022 Day 164 ---										
13 22 30	J1223+5037	08 04 07	51.0	66.6	-4.3		-60.1	-42	1121	13 22 30
13 25 30	---	08 07 07	51.4	67.0	-4.3		-60.3	138	1167	13 22 31
13 25 30	J1213+50	08 07 07	52.9	68.1	-4.1		-61.4	-19	1167	No stop
13 29 00	---	08 10 38	53.4	68.5	-4.1		-61.7	191	1221	13 25 31
13 29 00	J1223+5037	08 10 38	51.9	67.4	-4.2		-60.7	-19	1221	No stop
13 30 30	---	08 12 08	52.1	67.6	-4.2		-60.8	71	1244	13 29 01
13 30 30	J1213+50	08 12 08	53.6	68.7	-4.0		-61.9	-19	1244	No stop
13 34 00	---	08 15 39	54.1	69.2	-4.0		-62.2	191	1298	13 30 31
13 34 30	J1223+5037	08 16 09	52.7	68.1	-4.1		-61.2	11	1298	13 34 30
13 35 30	---	08 17 09	52.8	68.2	-4.1		-61.3	60	1314	13 34 31
13 35 30	J1213+50	08 17 09	54.3	69.4	-4.0		-62.3	-19	1314	No stop
13 39 00	---	08 20 40	54.8	69.8	-3.9		-62.7	191	1368	13 35 31
13 39 00	J1223+5037	08 20 40	53.3	68.7	-4.1		-61.6	-19	1368	No stop
13 40 30	---	08 22 10	53.5	68.9	-4.0		-61.7	71	1391	13 39 01
13 40 30	J1213+50	08 22 10	55.0	70.0	-3.9		-62.8	-19	1391	No stop
13 44 00	---	08 25 40	55.5	70.4	-3.8		-63.1	191	1445	13 40 31
13 44 30	J1223+5037	08 26 11	54.1	69.4	-4.0		-62.1	11	1445	13 44 30
13 45 30	---	08 27 11	54.2	69.5	-4.0		-62.2	60	1461	13 44 31
13 45 30	J1213+50	08 27 11	55.7	70.6	-3.8		-63.2	-19	1461	No stop
13 49 00	---	08 30 41	56.2	71.1	-3.7		-63.5	191	1515	13 45 31
13 49 00	J1223+5037	08 30 41	54.7	69.9	-3.9		-62.5	-19	1515	No stop
13 50 30	---	08 32 12	54.9	70.1	-3.9		-62.6	71	1538	13 49 01
13 50 30	J1213+50	08 32 12	56.4	71.3	-3.7		-63.7	-19	1538	No stop
13 54 00	---	08 35 42	56.9	71.7	-3.6		-64.0	191	1592	13 50 31
13 54 30	J1223+5037	08 36 12	55.5	70.6	-3.8		-63.0	11	1592	13 54 30
13 55 30	---	08 37 12	55.7	70.8	-3.8		-63.1	60	1608	13 54 31
13 55 30	J1213+50	08 37 12	57.2	71.9	-3.6		-64.1	-19	1608	No stop
13 59 00	---	08 40 43	57.7	72.4	-3.6		-64.4	191	1662	13 55 31
13 59 00	J1223+5037	08 40 43	56.2	71.2	-3.7		-63.4	-19	1662	No stop
14 00 30	---	08 42 13	56.4	71.4	-3.7		-63.5	71	1685	13 59 01

Schedule for TORUN (Code Tr) Page 5

Nature and properties of pc scale jets in FR0

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Mon 13 Jun 2022 Day 164 ---										
14 00 30	J1213+50	08 42 13	57.9	72.5	-3.5		-64.5	-19	1685	No stop
14 04 00	---	08 45 44	58.4	73.0	-3.5		-64.8	191	1739	14 00 31
14 04 30	J1223+5037	08 46 14	56.9	71.9	-3.6		-63.9	11	1739	14 04 30
14 05 30	---	08 47 14	57.1	72.1	-3.6		-63.9	60	1755	14 04 31
14 05 30	J1213+50	08 47 14	58.6	73.2	-3.5		-65.0	-19	1755	No stop
14 09 00	---	08 50 45	59.1	73.6	-3.4		-65.3	191	1809	14 05 31
14 09 00	J1223+5037	08 50 45	57.6	72.5	-3.6		-64.2	-19	1809	No stop
14 10 30	---	08 52 15	57.8	72.7	-3.5		-64.4	71	1832	14 09 01
14 10 30	J1213+50	08 52 15	59.3	73.8	-3.4		-65.4	-19	1832	No stop
14 14 00	---	08 55 45	59.8	74.3	-3.3		-65.7	191	1886	14 10 31
14 14 30	J1223+5037	08 56 15	58.4	73.2	-3.5		-64.7	11	1886	14 14 30
14 15 30	---	08 57 16	58.5	73.4	-3.5		-64.8	60	1901	14 14 31
14 15 30	J1213+50	08 57 16	60.0	74.5	-3.3		-65.8	-19	1901	No stop
14 19 00	---	09 00 46	60.5	74.9	-3.2		-66.1	191	1955	14 15 31
14 19 00	J1223+5037	09 00 46	59.0	73.8	-3.4		-65.1	-19	1955	No stop
14 20 30	---	09 02 16	59.2	74.0	-3.4		-65.2	71	1979	14 19 01
14 20 30	J1213+50	09 02 16	60.8	75.1	-3.2		-66.2	-19	1979	No stop
14 24 00	---	09 05 47	61.3	75.6	-3.1		-66.5	191	2033	14 20 31
14 24 30	J1223+5037	09 06 17	59.8	74.5	-3.3		-65.5	11	2033	14 24 30
14 25 30	---	09 07 17	60.0	74.7	-3.3		-65.6	60	2048	14 24 31
14 25 30	J1213+50	09 07 17	61.5	75.8	-3.1		-66.6	-19	2048	No stop
14 29 00	---	09 10 48	62.0	76.3	-3.1		-66.8	191	2102	14 25 31
14 29 00	J1223+5037	09 10 48	60.5	75.1	-3.2		-65.9	-19	2102	No stop
14 30 30	---	09 12 18	60.7	75.3	-3.2		-66.0	71	2126	14 29 01
14 30 30	J1213+50	09 12 18	62.2	76.5	-3.0		-67.0	-19	2126	No stop
14 34 00	---	09 15 49	62.7	76.9	-3.0		-67.2	191	2180	14 30 31
14 34 30	J1223+5037	09 16 19	61.3	75.9	-3.1		-66.3	11	2180	14 34 30
14 35 30	---	09 17 19	61.4	76.0	-3.1		-66.4	60	2195	14 34 31
14 35 30	J1213+50	09 17 19	63.0	77.1	-3.0		-67.3	-19	2195	No stop
14 39 00	---	09 20 50	63.5	77.6	-2.9		-67.6	191	2249	14 35 31

Schedule for TORUN (Code Tr) Page 6

Nature and properties of pc scale jets in FR0

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Mon 13 Jun 2022 Day 164 ---										
14 39 00	J1223+5037	09 20 50	61.9	76.5	-3.1		-66.6	-19	2249	No stop
14 40 30	---	09 22 20	62.2	76.7	-3.0		-66.8	71	2272	14 39 01
14 40 30	J1213+50	09 22 20	63.7	77.8	-2.9		-67.7	-19	2272	No stop
14 44 00	---	09 25 50	64.2	78.3	-2.8		-67.9	191	2326	14 40 31
14 44 30	J1223+5037	09 26 20	62.7	77.2	-3.0		-67.0	11	2326	14 44 30
14 45 30	---	09 27 21	62.9	77.3	-3.0		-67.1	60	2342	14 44 31
14 45 30	J1213+50	09 27 21	64.4	78.5	-2.8		-68.0	-19	2342	No stop
14 49 00	---	09 30 51	64.9	79.0	-2.7		-68.3	191	2396	14 45 31
14 49 00	J1223+5037	09 30 51	63.4	77.8	-2.9		-67.4	-19	2396	No stop
14 50 30	---	09 32 21	63.6	78.0	-2.9		-67.5	71	2419	14 49 01
14 50 30	J1213+50	09 32 21	65.2	79.2	-2.7		-68.4	-20	2419	No stop
14 54 00	---	09 35 52	65.7	79.7	-2.6		-68.6	190	2473	14 50 31
14 54 30	J1223+5037	09 36 22	64.2	78.6	-2.8		-67.8	11	2473	14 54 30
14 55 30	---	09 37 22	64.4	78.7	-2.8		-67.8	60	2489	14 54 31
14 55 30	J1213+50	09 37 22	65.9	79.9	-2.6		-68.7	-20	2489	No stop
14 59 00	---	09 40 53	66.4	80.4	-2.6		-68.9	190	2543	14 55 31
14 59 00	J1223+5037	09 40 53	64.9	79.2	-2.7		-68.1	-19	2543	No stop
15 00 30	---	09 42 23	65.1	79.4	-2.7		-68.2	71	2566	14 59 01
15 00 30	J1213+50	09 42 23	66.6	80.6	-2.5		-69.0	-20	2566	No stop
15 04 00	---	09 45 54	67.2	81.1	-2.5		-69.2	190	2620	15 00 31
15 04 30	J1223+5037	09 46 24	65.7	80.0	-2.6		-68.4	11	2620	15 04 30
15 05 30	---	09 47 24	65.8	80.1	-2.6		-68.5	60	2636	15 04 31
15 05 30	J1234+4753	09 47 24	63.1	84.3	-2.8		-62.8	-24	2636	No stop
15 08 00	=1231+481	09 49 54	63.5	84.7	-2.8		-62.8	126	2674	15 05 31
15 08 00	J1230+47	09 49 54	63.7	87.2	-2.7		-61.3	-19	2674	No stop
15 11 30	---	09 53 25	64.2	87.8	-2.6		-61.4	191	2728	15 08 01
15 11 30	J1234+4753	09 53 25	64.0	85.3	-2.7		-62.9	-19	2728	No stop
15 13 00	=1231+481	09 54 55	64.3	85.6	-2.7		-63.0	71	2752	15 11 31
15 13 00	J1230+47	09 54 55	64.5	88.1	-2.6		-61.4	-19	2752	No stop
15 16 30	---	09 58 26	65.0	88.8	-2.5		-61.5	191	2806	15 13 01

Schedule for TORUN (Code Tr) Page 7

Nature and properties of pc scale jets in FR0

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Mon 13 Jun 2022 Day 164 ---										
15 17 00	J1234+4753	09 58 56	64.9	86.3	-2.6		-63.1	11	2806	15 17 00
15 18 00	=1231+481	09 59 56	65.0	86.4	-2.6		-63.1	60	2821	15 17 01
15 18 00	J1230+47	09 59 56	65.2	89.1	-2.5		-61.5	-20	2821	No stop
15 21 30	---	10 03 26	65.7	89.8	-2.5		-61.5	190	2875	15 18 01
15 21 30	J1234+4753	10 03 26	65.5	87.1	-2.5		-63.2	-20	2875	No stop
15 23 00	=1231+481	10 04 57	65.8	87.4	-2.5		-63.2	70	2898	15 21 31
15 23 00	J1230+47	10 04 57	66.0	90.1	-2.4		-61.5	-20	2898	No stop
15 26 30	---	10 08 27	66.5	90.8	-2.4		-61.5	190	2953	15 23 01
15 27 00	J1234+4753	10 08 57	66.4	88.1	-2.4		-63.3	10	2953	15 27 00
15 28 00	=1231+481	10 09 58	66.5	88.3	-2.4		-63.3	60	2968	15 27 01
15 28 00	J1230+47	10 09 58	66.7	91.1	-2.4		-61.5	-20	2968	No stop
15 31 30	---	10 13 28	67.2	91.8	-2.3		-61.4	190	3022	15 28 01
15 31 30	J1234+4753	10 13 28	67.1	89.0	-2.4		-63.3	-20	3022	No stop
15 33 00	=1231+481	10 14 58	67.3	89.3	-2.3		-63.3	70	3045	15 31 31
15 33 00	J1230+47	10 14 58	67.5	92.1	-2.3		-61.4	-20	3045	No stop
15 36 30	---	10 18 29	68.0	92.9	-2.2		-61.3	190	3099	15 33 01
15 37 00	J1234+4753	10 18 59	67.9	90.1	-2.3		-63.3	10	3099	15 37 00
15 38 00	=1231+481	10 19 59	68.0	90.3	-2.3		-63.3	60	3115	15 37 01
15 38 00	J1230+47	10 19 59	68.2	93.2	-2.2		-61.3	-21	3115	No stop
15 41 30	---	10 23 30	68.7	94.0	-2.1		-61.2	189	3169	15 38 01
15 41 30	J1234+4753	10 23 30	68.6	91.0	-2.2		-63.3	-20	3169	No stop
15 43 00	=1231+481	10 25 00	68.8	91.3	-2.2		-63.3	70	3192	15 41 31
15 43 00	J1230+47	10 25 00	69.0	94.4	-2.1		-61.2	-21	3192	No stop
15 46 30	---	10 28 31	69.5	95.2	-2.0		-61.1	189	3246	15 43 01
15 47 00	J1234+4753	10 29 01	69.4	92.1	-2.1		-63.2	9	3246	15 47 00
15 48 00	=1231+481	10 30 01	69.5	92.4	-2.1		-63.2	60	3262	15 47 01
15 48 00	J1230+47	10 30 01	69.7	95.5	-2.0		-61.0	-21	3262	No stop
15 51 30	---	10 33 31	70.2	96.4	-2.0		-60.8	189	3316	15 48 01
15 51 30	J1234+4753	10 33 31	70.1	93.1	-2.0		-63.2	-21	3316	No stop
15 53 00	=1231+481	10 35 02	70.3	93.5	-2.0		-63.1	69	3339	15 51 31

Schedule for TORUN (Code Tr) Page 8

Nature and properties of pc scale jets in FR0

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Mon 13 Jun 2022 Day 164 ---										
15 53 00	J1230+47	10 35 02	70.5	96.8	-1.9		-60.8	-21	3339	No stop
15 56 30	---	10 38 32	71.0	97.6	-1.9		-60.6	189	3393	15 53 01
15 57 00	J1234+4753	10 39 02	70.9	94.4	-1.9		-63.0	9	3393	15 57 00
15 58 00	=1231+481	10 40 02	71.0	94.6	-1.9		-63.0	60	3409	15 57 01
15 58 00	J1230+47	10 40 02	71.2	98.0	-1.9		-60.5	-22	3409	No stop
16 01 30	---	10 43 33	71.7	99.0	-1.8		-60.2	188	3463	15 58 01
16 01 30	J1234+4753	10 43 33	71.6	95.5	-1.9		-62.8	-22	3463	No stop
16 03 00	=1231+481	10 45 03	71.8	95.8	-1.8		-62.7	68	3486	16 01 31
16 03 00	J1230+47	10 45 03	72.0	99.4	-1.8		-60.1	-22	3486	No stop
16 06 30	---	10 48 34	72.5	100.4	-1.7		-59.8	188	3540	16 03 01
16 07 00	J1234+4753	10 49 04	72.4	96.8	-1.8		-62.5	8	3540	16 07 00
16 08 00	=1231+481	10 50 04	72.5	97.1	-1.8		-62.5	60	3555	16 07 01
16 08 00	J1230+47	10 50 04	72.7	100.8	-1.7		-59.7	-22	3555	No stop
16 11 30	---	10 53 35	73.2	101.8	-1.6		-59.3	188	3610	16 08 01
16 11 30	J1234+4753	10 53 35	73.1	98.0	-1.7		-62.2	-22	3610	No stop
16 13 00	=1231+481	10 55 05	73.3	98.4	-1.7		-62.1	68	3633	16 11 31
16 13 00	J1230+47	10 55 05	73.4	102.3	-1.6		-59.1	-23	3633	No stop
16 16 30	---	10 58 36	74.0	103.4	-1.5		-58.7	187	3687	16 13 01
16 17 00	J1234+4753	10 59 06	73.9	99.5	-1.6		-61.8	7	3687	16 17 00
16 18 00	=1231+481	11 00 06	74.0	99.8	-1.6		-61.7	60	3702	16 17 01
16 18 00	J1230+47	11 00 06	74.2	103.9	-1.5		-58.5	-23	3702	No stop
16 21 30	---	11 03 36	74.7	105.1	-1.5		-58.0	187	3756	16 18 01
16 21 30	J1234+4753	11 03 36	74.5	100.9	-1.5		-61.4	-23	3756	No stop
16 23 00	=1231+481	11 05 07	74.8	101.3	-1.5		-61.2	67	3780	16 21 31
16 23 00	J1230+47	11 05 07	74.9	105.6	-1.4		-57.8	-24	3780	No stop
16 26 30	---	11 08 37	75.4	106.8	-1.4		-57.2	186	3834	16 23 01
16 27 00	J1234+4753	11 09 07	75.4	102.6	-1.4		-60.7	6	3834	16 27 00
16 28 00	=1231+481	11 10 07	75.5	102.9	-1.4		-60.6	60	3849	16 27 01
16 28 00	J1230+47	11 10 07	75.6	107.4	-1.4		-57.0	-24	3849	No stop
16 31 30	---	11 13 38	76.1	108.7	-1.3		-56.3	186	3903	16 28 01

Schedule for TORUN (Code Tr) Page 9

Nature and properties of pc scale jets in FR0

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Mon 13 Jun 2022 Day 164 ---										
16 31 30	J1234+4753	11 13 38	76.0	104.1	-1.4		-60.1	-24	3903	No stop
16 33 00	=1231+481	11 15 08	76.2	104.6	-1.3		-59.8	66	3926	16 31 31
16 33 00	J1230+47	11 15 08	76.3	109.3	-1.3		-56.0	-25	3926	No stop
16 36 30	---	11 18 39	76.8	110.8	-1.2		-55.2	185	3981	16 33 01
16 37 00	J1234+4753	11 19 09	76.8	106.1	-1.3		-59.2	5	3981	16 37 00
16 38 00	=1231+481	11 20 09	77.0	106.5	-1.3		-59.0	60	3996	16 37 01
16 38 00	J1230+47	11 20 09	77.0	111.5	-1.2		-54.9	-25	3996	No stop
16 41 30	---	11 23 40	77.5	113.0	-1.1		-54.0	185	4050	16 38 01
16 41 30	J1234+4753	11 23 40	77.5	107.9	-1.2		-58.3	-25	4050	No stop
16 43 00	=1231+481	11 25 10	77.7	108.5	-1.2		-57.9	65	4073	16 41 31
16 43 00	J1230+47	11 25 10	77.7	113.8	-1.1		-53.5	-26	4073	No stop
16 46 30	---	11 28 40	78.2	115.5	-1.0		-52.5	184	4127	16 43 01
16 47 00	J1234+4753	11 29 11	78.2	110.2	-1.1		-57.0	4	4127	16 47 00
16 48 00	=1231+481	11 30 11	78.4	110.7	-1.1		-56.7	60	4143	16 47 01
16 48 00	J1230+47	11 30 11	78.4	116.3	-1.0		-52.0	-27	4143	No stop
16 51 30	---	11 33 41	78.9	118.2	-1.0		-50.8	183	4197	16 48 01
16 51 30	J1234+4753	11 33 41	78.9	112.3	-1.0		-55.7	-26	4197	No stop
16 53 00	=1231+481	11 35 12	79.1	113.1	-1.0		-55.3	64	4220	16 51 31
16 53 00	J1230+47	11 35 12	79.1	119.0	-0.9		-50.2	-27	4220	No stop
16 56 30	---	11 38 42	79.5	121.1	-0.9		-48.8	183	4274	16 53 01
16 57 00	J1234+4753	11 39 12	79.6	115.2	-0.9		-53.9	3	4274	16 57 00
16 58 00	=1231+481	11 40 12	79.8	115.8	-0.9		-53.6	60	4290	16 57 01
16 58 00	J1230+47	11 40 12	79.7	122.1	-0.9		-48.1	-28	4290	No stop
17 01 30	---	11 43 43	80.2	124.4	-0.8		-46.5	182	4344	16 58 01
17 01 30	J1234+4753	11 43 43	80.2	117.8	-0.9		-52.2	-28	4344	No stop
17 03 00	=1231+481	11 45 13	80.4	118.7	-0.8		-51.6	62	4367	17 01 31
17 03 00	J1230+47	11 45 13	80.4	125.5	-0.8		-45.7	-29	4367	No stop
17 06 30	---	11 48 44	80.8	128.1	-0.7		-43.8	181	4421	17 03 01
17 07 00	J1234+4753	11 49 14	81.0	121.4	-0.8		-49.7	2	4421	17 07 00
17 08 00	=1231+481	11 50 14	81.1	122.1	-0.8		-49.2	60	4437	17 07 01

Schedule for TORUN (Code Tr) Page 10

Nature and properties of pc scale jets in FR0

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Mon 13 Jun 2022 Day 164 ---										
17 08 00	J1230+47	11 50 14	81.0	129.2	-0.7		-42.9	-30	4437	No stop
17 11 30	---	11 53 45	81.4	132.1	-0.6		-40.7	180	4491	17 08 01
17 11 30	J1234+4753	11 53 45	81.5	124.7	-0.7		-47.3	-29	4491	No stop
17 13 00	=1231+481	11 55 15	81.7	125.9	-0.7		-46.4	61	4514	17 11 31
17 13 00	J1230+47	11 55 15	81.5	133.5	-0.6		-39.6	-31	4514	No stop
17 16 30	---	11 58 45	81.9	136.7	-0.5		-37.0	179	4568	17 13 01
17 17 00	J1234+4753	11 59 15	82.2	129.3	-0.6		-43.8	0	4568	17 17 00
17 18 00	=1231+481	12 00 16	82.3	130.2	-0.6		-43.1	60	4583	17 17 01
17 18 00	J1025+1253	12 00 16	45.6	213.5	1.6		19.8	-183	4583	No stop
17 23 00	=1023+131	12 05 16	45.2	215.1	1.6		20.7	117	4661	17 18 01
17 23 00	J1025+10	12 05 16	42.8	213.9	1.6		19.9	-23	4661	No stop
17 26 30	---	12 08 47	42.5	215.0	1.7		20.5	187	4715	17 23 01
17 26 30	J1025+1253	12 08 47	44.9	216.2	1.7		21.3	-23	4715	No stop
17 28 00	=1023+131	12 10 17	44.8	216.7	1.7		21.6	67	4738	17 26 31
17 28 00	J1025+10	12 10 17	42.4	215.5	1.7		20.8	-23	4738	No stop
17 31 30	---	12 13 48	42.1	216.6	1.8		21.3	187	4792	17 28 01
17 32 00	J1025+1253	12 14 18	44.4	218.0	1.8		22.3	7	4792	17 32 00
17 33 00	=1023+131	12 15 18	44.3	218.3	1.8		22.4	60	4808	17 32 01
17 33 00	J1025+10	12 15 18	41.9	217.1	1.8		21.6	-23	4808	No stop
17 36 30	---	12 18 49	41.6	218.1	1.9		22.1	187	4862	17 33 01
17 36 30	J1025+1253	12 18 49	44.0	219.4	1.9		23.0	-23	4862	No stop
17 38 00	=1023+131	12 20 19	43.8	219.9	1.9		23.2	67	4885	17 36 31
17 38 00	J1025+10	12 20 19	41.5	218.6	1.9		22.4	-23	4885	No stop
17 41 30	---	12 23 49	41.2	219.7	1.9		22.9	187	4939	17 38 01
17 42 00	J1025+1253	12 24 20	43.4	221.1	2.0		23.9	7	4939	17 42 00
17 43 00	=1023+131	12 25 20	43.3	221.4	2.0		24.0	60	4954	17 42 01
17 43 00	J1025+10	12 25 20	41.0	220.1	2.0		23.2	-23	4954	No stop
17 46 30	---	12 28 50	40.7	221.2	2.0		23.7	187	5008	17 43 01
17 46 30	J1025+1253	12 28 50	43.0	222.5	2.0		24.6	-22	5008	No stop
17 48 00	=1023+131	12 30 21	42.8	222.9	2.1		24.8	68	5032	17 46 31

Schedule for TORUN (Code Tr) Page 11

Nature and properties of pc scale jets in FR0

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Mon 13 Jun 2022 Day 164 ---										
17 48 00	J1025+10	12 30 21	40.5	221.6	2.1		23.9	-23	5032	No stop
17 51 30	---	12 33 51	40.2	222.6	2.1		24.4	187	5086	17 48 01
17 52 00	J1025+1253	12 34 21	42.4	224.1	2.1		25.4	8	5086	17 52 00
17 53 00	=1023+131	12 35 21	42.3	224.4	2.1		25.5	60	5101	17 52 01
17 53 00	J1042+0748	12 35 21	39.3	216.7	1.9		21.2	-30	5101	No stop
17 56 30	---	12 38 52	39.0	217.7	1.9		21.8	180	5155	17 53 01
17 56 30	J1040+09	12 38 52	40.0	219.1	2.0		22.6	-17	5155	No stop
18 00 00	---	12 42 23	39.7	220.2	2.0		23.1	193	5209	17 56 31
18 00 00	J1042+0748	12 42 23	38.7	218.8	2.0		22.3	-17	5209	No stop
18 01 30	---	12 43 53	38.5	219.2	2.0		22.5	73	5233	18 00 01
18 01 30	J1040+09	12 43 53	39.5	220.6	2.0		23.3	-17	5233	No stop
18 05 00	---	12 47 23	39.2	221.7	2.1		23.8	193	5287	18 01 31
18 05 30	J1042+0748	12 47 53	38.1	220.4	2.1		23.1	13	5287	18 05 30
18 06 30	---	12 48 54	38.0	220.7	2.1		23.3	60	5302	18 05 31
18 06 30	J1040+09	12 48 54	39.0	222.1	2.1		24.1	-16	5302	No stop
18 10 00	---	12 52 24	38.7	223.1	2.2		24.6	194	5356	18 06 31
18 10 00	J1042+0748	12 52 24	37.7	221.7	2.1		23.8	-17	5356	No stop
18 11 30	---	12 53 54	37.5	222.1	2.2		24.0	73	5379	18 10 01
18 11 30	J1040+09	12 53 54	38.5	223.5	2.2		24.8	-16	5379	No stop
18 15 00	---	12 57 25	38.2	224.5	2.3		25.2	194	5434	18 11 31
18 15 30	J1042+0748	12 57 55	37.1	223.2	2.2		24.5	13	5434	18 15 30
18 16 30	---	12 58 55	37.0	223.5	2.2		24.7	60	5449	18 15 31
18 16 30	J1040+09	12 58 55	38.0	225.0	2.3		25.4	-16	5449	No stop
18 20 00	---	13 02 26	37.6	226.0	2.3		25.9	194	5503	18 16 31
18 20 00	J1042+0748	13 02 26	36.7	224.5	2.3		25.1	-16	5503	No stop
18 21 30	---	13 03 56	36.5	224.9	2.3		25.3	74	5526	18 20 01
18 21 30	J1040+09	13 03 56	37.5	226.4	2.4		26.1	-16	5526	No stop
18 25 00	---	13 07 27	37.1	227.3	2.4		26.6	194	5580	18 21 31
18 25 30	J1042+0748	13 07 57	36.1	226.0	2.4		25.9	14	5580	18 25 30
18 26 30	---	13 08 57	36.0	226.3	2.4		26.0	60	5596	18 25 31

Schedule for TORUN (Code Tr) Page 12

Nature and properties of pc scale jets in FR0

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Mon 13 Jun 2022 Day 164 ---										
18 26 30	J1040+09	13 08 57	36.9	227.8	2.5		26.8	-16	5596	No stop
18 30 00	---	13 12 27	36.5	228.7	2.5		27.2	194	5650	18 26 31
18 30 00	J1042+0748	13 12 27	35.6	227.3	2.5		26.4	-16	5650	No stop
18 31 30	---	13 13 58	35.4	227.7	2.5		26.6	74	5673	18 30 01
18 31 30	J1040+09	13 13 58	36.4	229.1	2.5		27.4	-16	5673	No stop
18 35 00	---	13 17 28	36.0	230.1	2.6		27.8	194	5727	18 31 31
18 35 30	J1042+0748	13 17 58	35.0	228.8	2.6		27.1	14	5727	18 35 30
18 36 30	---	13 18 59	34.8	229.0	2.6		27.2	60	5743	18 35 31
18 36 30	J1040+09	13 18 59	35.8	230.5	2.6		28.0	-16	5743	No stop
18 40 00	---	13 22 29	35.4	231.4	2.7		28.4	194	5797	18 36 31
18 40 00	J1042+0748	13 22 29	34.4	230.0	2.6		27.7	-16	5797	No stop
18 41 30	---	13 23 59	34.3	230.4	2.7		27.8	74	5820	18 40 01
18 41 30	J1040+09	13 23 59	35.2	231.8	2.7		28.6	-16	5820	No stop
18 45 00	---	13 27 30	34.8	232.8	2.8		29.0	194	5874	18 41 31
18 45 30	J1042+0748	13 28 00	33.8	231.4	2.7		28.3	14	5874	18 45 30
18 46 30	---	13 29 00	33.7	231.7	2.7		28.4	60	5890	18 45 31
18 46 30	J1040+09	13 29 00	34.6	233.2	2.8		29.1	-16	5890	No stop
18 50 00	---	13 32 31	34.2	234.1	2.8		29.5	194	5944	18 46 31
18 50 00	J1042+0748	13 32 31	33.3	232.6	2.8		28.8	-16	5944	No stop
18 51 30	---	13 34 01	33.1	233.0	2.8		28.9	74	5967	18 50 01
18 51 30	J1040+09	13 34 01	34.0	234.5	2.9		29.7	-16	5967	No stop
18 55 00	---	13 37 32	33.6	235.4	2.9		30.0	194	6021	18 51 31
18 55 30	J1042+0748	13 38 02	32.6	234.0	2.9		29.4	14	6021	18 55 30
18 56 30	---	13 39 02	32.5	234.3	2.9		29.5	60	6036	18 55 31
18 56 30	J1025+1253	13 39 02	34.7	241.8	3.2		32.9	-30	6036	No stop
19 00 00	=1023+131	13 42 32	34.2	242.6	3.3		33.1	180	6091	18 56 31
19 00 00	J1025+10	13 42 32	32.1	241.1	3.3		32.3	-22	6091	No stop
19 03 30	---	13 46 03	31.6	241.9	3.3		32.6	188	6145	19 00 01
19 03 30	J1025+1253	13 46 03	33.7	243.5	3.3		33.4	-22	6145	No stop
19 05 00	=1023+131	13 47 33	33.5	243.9	3.3		33.6	68	6168	19 03 31

Schedule for TORUN (Code Tr) Page 13

Nature and properties of pc scale jets in FR0

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Mon 13 Jun 2022 Day 164 ---										
19 05 00	J1025+10	13 47 33	31.4	242.3	3.3		32.7	-22	6168	No stop
19 08 30	---	13 51 04	30.9	243.1	3.4		33.0	188	6222	19 05 01
19 09 00	J1025+1253	13 51 34	33.0	244.8	3.4		33.9	8	6222	19 09 00
19 10 00	=1023+131	13 52 34	32.9	245.1	3.4		33.9	60	6237	19 09 01
19 10 00	J1025+10	13 52 34	30.7	243.5	3.4		33.1	-22	6237	No stop
19 13 30	---	13 56 05	30.3	244.3	3.5		33.4	188	6292	19 10 01
19 13 30	J1025+1253	13 56 05	32.4	245.9	3.5		34.2	-22	6292	No stop
19 15 00	=1023+131	13 57 35	32.2	246.3	3.5		34.3	68	6315	19 13 31
19 15 00	J1025+10	13 57 35	30.1	244.7	3.5		33.5	-22	6315	No stop
19 18 30	---	14 01 05	29.6	245.5	3.6		33.7	188	6369	19 15 01
19 19 00	J1025+1253	14 01 36	31.6	247.2	3.6		34.6	8	6369	19 19 00
19 20 00	=1023+131	14 02 36	31.5	247.5	3.6		34.7	60	6384	19 19 01
19 20 00	J1025+10	14 02 36	29.4	245.9	3.6		33.8	-22	6384	No stop
19 23 30	---	14 06 06	28.9	246.7	3.7		34.1	188	6438	19 20 01
19 23 30	J1025+1253	14 06 06	31.0	248.3	3.6		34.9	-22	6438	No stop
19 25 00	=1023+131	14 07 36	30.8	248.6	3.7		35.0	68	6462	19 23 31
19 25 00	J1025+10	14 07 36	28.7	247.0	3.7		34.2	-22	6462	No stop
19 28 30	---	14 11 07	28.2	247.8	3.7		34.4	188	6516	19 25 01
19 29 00	J1025+1253	14 11 37	30.2	249.6	3.7		35.2	8	6516	19 29 00
19 30 00	=1023+131	14 12 37	30.1	249.8	3.8		35.3	60	6531	19 29 01
19 30 00	J1025+10	14 12 37	28.0	248.2	3.8		34.5	-22	6531	No stop
19 33 30	---	14 16 08	27.5	249.0	3.8		34.7	188	6585	19 30 01
19 33 30	J1025+1253	14 16 08	29.6	250.6	3.8		35.5	-22	6585	No stop
19 35 00	=1023+131	14 17 38	29.4	250.9	3.8		35.6	68	6608	19 33 31
19 35 00	J1025+10	14 17 38	27.3	249.3	3.8		34.8	-22	6608	No stop
19 38 30	---	14 21 09	26.8	250.1	3.9		35.0	188	6663	19 35 01
19 39 00	J1025+1253	14 21 39	28.8	251.8	3.9		35.8	8	6663	19 39 00
19 40 00	=1023+131	14 22 39	28.7	252.1	3.9		35.9	60	6678	19 39 01
19 40 00	J1040+09	14 22 39	27.6	246.3	3.7		33.8	-26	6678	No stop
19 43 30	---	14 26 10	27.2	247.2	3.7		34.1	184	6732	19 40 01

```
Schedule for TORUN     (Code Tr )                                  Page  14
              Nature and properties of pc scale jets in FR0
  UP:  D => Below limits;  H => Below horizon mask;  W => still slewing at end;  blank => Up.
  Early: Seconds between end of slew and start.   Dwell: On source seconds.
  Disk: GBytes recorded to this point.
  TPStart:  Recording start time.  Frequencies are LO sum (band edge).
  SYNC: Time correlator is expected to sync up.
-----------------------------------------------------------------------------------------
Start UT  Source               Start / Stop                 Early    Disk   TPStart
Stop UT                  LST      EL    AZ   HA  UP   ParA  Dwell   GBytes    SYNC
-----------------------------------------------------------------------------------------

 --- Mon  13 Jun 2022   Day 164 ---

19 43 30  J1042+0748   14 26 10  26.4 245.7  3.7      33.5   -16     6732   No stop
19 45 00  ---          14 27 40  26.2 246.1  3.7      33.6    74     6755   19 43 31

19 45 00  J1040+09     14 27 40  27.0 247.5  3.8      34.2   -16     6755   No stop
19 48 30  ---          14 31 10  26.5 248.3  3.8      34.4   194     6809   19 45 01

19 49 00  J1042+0748   14 31 40  25.6 247.0  3.8      33.9    14     6809   19 49 00
19 50 00  ---          14 32 41  25.5 247.2  3.8      34.0    60     6825   19 49 01

19 50 00  J1040+09     14 32 41  26.3 248.6  3.9      34.5   -16     6825   No stop
19 53 30  ---          14 36 11  25.8 249.4  3.9      34.7   194     6879   19 50 01

19 53 30  J1042+0748   14 36 11  25.0 248.0  3.9      34.2   -15     6879   No stop
19 55 00  ---          14 37 41  24.8 248.4  3.9      34.3    75     6902   19 53 31

19 55 00  J1040+09     14 37 41  25.5 249.8  3.9      34.8   -16     6902   No stop
19 58 30  ---          14 41 12  25.1 250.6  4.0      35.0   194     6956   19 55 01

19 59 00  J1042+0748   14 41 42  24.2 249.3  4.0      34.5    15     6956   19 59 00
20 00 00  ---          14 42 42  24.1 249.5  4.0      34.6    60     6972   19 59 01



SETUP FILE INFORMATION:
   NOTE: If DOPPLER, FREQ, or BW were used, see the individual scans for the final BBC settings.


 ======== Setup file: sess222.C2048

   Setup group:    8         Station: TORUN            Total bit rate:  2048
   Format: VDIF              Bits per sample: 2        Sample rate: 64.000
   Number of channels: 16    DBE type: DBBC_DDC        Speedup factor:   1.00

   Disk used to record data.
```

```
  1st LO=   4200.00   4200.00   4200.00   4200.00   4200.00   4200.00   4200.00   4200.00
            4200.00   4200.00   4200.00   4200.00   4200.00   4200.00   4200.00   4200.00
  Net SB=         L         L         U         U         L         L         U         U
                  L         L         U         U         L         L         U         U
  IF SB =         U         U         U         U         U         U         U         U
                  U         U         U         U         U         U         U         U
  Pol.  =       RCP       LCP       RCP       LCP       RCP       LCP       RCP       LCP
                RCP       LCP       RCP       LCP       RCP       LCP       RCP       LCP
  BBC   =         1         9         1         9         2        10         2        10
                  3        11         3        11         4        12         4        12
  BBC SB=         L         L         U         U         L         L         U         U
                  L         L         U         U         L         L         U         U
  IF    =        A1        B1        A1        B1        A1        B1        A1        B1
                 A1        B1        A1        B1        A1        B1        A1        B1

 The following frequency sets based on these setups were used.

  Frequency Set:   9  Setup file default.  Used with PCAL = off
  LO sum=   4830.49  4830.49  4830.49  4830.49  4894.49  4894.49  4894.49  4894.49
            4958.49  4958.49  4958.49  4958.49  5022.49  5022.49  5022.49  5022.49
  BBC fr=    630.49   630.49   630.49   630.49   694.49   694.49   694.49   694.49
             758.49   758.49   758.49   758.49   822.49   822.49   822.49   822.49
  Bandwd=     32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00
              32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00
   Matching frequency sets:   9

  Track assignments are:
   track1=   1,  2,  3,  4,  5,  6,  7,  8,  9, 10, 11, 12, 13, 14, 15, 16
   barrel=roll_off


POSITIONS OF SOURCES USED IN RECORDING SCANS

  Source                          Source position (RA/Dec)                        Error
                       (B1950)             (J2000)             (Date)             (mas)

* J1025+10          10 23 05.444052   * 10 25 44.213000     10 26 54.225562       0.00
                    10 37 46.62172    * 10 22 30.47500      10 15 47.08156        0.00
                    target

* J1040+09          10 37 50.834998   * 10 40 28.373100     10 41 37.929123       0.00
                    09 26 37.60826    * 09 10 57.25200      09 04 02.69235        0.00
                    target

* J1213+50          12 10 59.905444   * 12 13 29.279000     12 14 36.073250       0.00
                    51 01 09.79870    * 50 44 29.37800      50 37 20.04755        0.00
                    target

* J1230+47          12 27 47.173859   * 12 30 11.852100     12 31 16.677197       0.00
                    47 16 56.54379    * 47 00 22.69000      46 53 14.99579        0.00
                    target

* J1223+5037        12 21 17.429867   * 12 23 43.169200     12 24 48.459042       0.00
                    50 54 30.43461    * 50 37 53.41300      50 30 45.33399        0.00

* J1042+0748        10 40 20.708674   * 10 42 57.587900     10 44 06.865952       0.00
                    08 04 34.61601    * 07 48 50.54400      07 41 53.86622        0.00

* 4C39.25           09 23 55.319216   * 09 27 03.013937     09 28 25.330176       0.31
  J0927+3902        39 15 23.56644    * 39 02 20.85185      38 56 44.17523        0.16
```

```
  0923+392          /home/guest/rmc/SCHED/sched11.6/catalogs/sources.gsfc
  J0927+39          GSFC 2016a X/S astro solution, 250526 observations.

  1023+131          10 23 16.285226   * 10 25 56.285366     10 27 06.844949       0.03
* J1025+1253        13 09 05.49490    * 12 53 49.02202      12 47 06.31136        0.04
                    /home/guest/rmc/SCHED/sched11.6/catalogs/sources.gsfc
                    GSFC 2016a X/S astro solution,    780 observations.

  1231+481          12 31 50.237069   * 12 34 13.330790     12 35 17.506613       0.26
* J1234+4753        48 10 22.70510    * 47 53 51.23651      47 46 44.70939        0.19
                    /home/guest/rmc/SCHED/sched11.6/catalogs/sources.gsfc
                    GSFC 2016a X/S astro solution,     86 observations.
```

ec086ctr

LSR J1835 FOLLOW-UP OBSERVATIONS

PI: *Juan B. Climent*

Address: Dpto. Astronomia, Univ. Valencia

Observing mode: Phase-referencing at 6cm (4 Gbps)

Schedule for TORUN (Code Tr) Page 2

LSR J1835 follow-up observations

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Mon 13 Jun 2022 Day 164 ---										
Next scan frequencies:		4632.00	4632.00	4632.00	4632.00	4696.00	4696.00	4696.00	4696.00	
		4760.00	4760.00	4760.00	4760.00	4824.00	4824.00	4824.00	4824.00	
		4888.00	4888.00	4888.00	4888.00	4952.00	4952.00	4952.00	4952.00	
		5016.00	5016.00	5016.00	5016.00	5080.00	5080.00	5080.00	5080.00	
Next BBC frequencies:		544.00	544.00	544.00	544.00	608.00	608.00	608.00	608.00	
		672.00	672.00	672.00	672.00	736.00	736.00	736.00	736.00	
		800.00	800.00	800.00	800.00	864.00	864.00	864.00	864.00	
		928.00	928.00	928.00	928.00	992.00	992.00	992.00	992.00	
Next scan bandwidths:		32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	
		32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	
		32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	
		32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	
21 00 00	1830+285	15 42 52	50.3	111.0	-2.8		-39.7	0	0	21 00 00
21 04 00	---	15 46 53	50.9	112.1	-2.8		-39.3	240	124	21 00 01
21 04 50	J1848+3219	15 47 43	51.6	104.3	-3.0		-43.5	19	124	21 04 50
21 06 50	=1846+322	15 49 43	51.9	104.8	-3.0		-43.4	120	185	21 04 51
21 06 50	LSRJ1835+325	15 49 43	54.3	107.3	-2.8		-43.1	-23	185	No stop
21 10 50	---	15 53 44	54.8	108.3	-2.7		-42.8	217	309	21 06 51
21 11 30	J1848+3219	15 54 24	52.6	106.0	-2.9		-43.1	18	309	21 11 30
21 12 50	=1846+322	15 55 44	52.8	106.3	-2.9		-43.0	80	350	21 11 31
21 12 50	LSRJ1835+325	15 55 44	55.1	108.9	-2.7		-42.7	-23	350	No stop
21 16 50	---	15 59 45	55.7	110.0	-2.6		-42.3	217	474	21 12 51
21 17 30	J1848+3219	16 00 25	53.5	107.5	-2.8		-42.7	18	474	21 17 30
21 18 50	=1846+322	16 01 45	53.7	107.9	-2.8		-42.6	80	515	21 17 31
21 18 50	LSRJ1835+325	16 01 45	56.0	110.5	-2.6		-42.1	-23	515	No stop
21 22 50	---	16 05 46	56.5	111.7	-2.5		-41.7	217	639	21 18 51
21 23 30	J1848+3219	16 06 26	54.3	109.1	-2.7		-42.2	18	639	21 23 30
21 24 50	=1846+322	16 07 46	54.5	109.5	-2.7		-42.1	80	680	21 23 31
21 24 50	LSRJ1835+325	16 07 46	56.8	112.2	-2.5		-41.5	-23	680	No stop
21 28 50	---	16 11 47	57.4	113.4	-2.4		-41.1	217	804	21 24 51
21 29 30	J1848+3219	16 12 27	55.2	110.8	-2.6		-41.7	18	804	21 29 30
21 30 50	=1846+322	16 13 47	55.4	111.1	-2.6		-41.5	80	845	21 29 31

Schedule for TORUN (Code Tr) Page 3

LSR J1835 follow-up observations

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Mon 13 Jun 2022 Day 164 ---										
21 30 50	LSRJ1835+325	16 13 47	57.6	114.0	-2.4		-40.9	-23	845	No stop
21 34 50	---	16 17 48	58.2	115.2	-2.3		-40.4	217	969	21 30 51
21 35 30	J1848+3219	16 18 28	56.0	112.4	-2.5		-41.1	18	969	21 35 30
21 36 50	=1846+322	16 19 48	56.2	112.8	-2.5		-40.9	80	1010	21 35 31
21 36 50	J1834+3205	16 19 48	57.9	117.1	-2.3		-39.1	-24	1010	No stop
21 38 50	---	16 21 48	58.1	117.8	-2.2		-38.9	96	1072	21 36 51
21 38 50	J1848+3219	16 21 48	56.5	113.4	-2.5		-40.7	-23	1072	No stop
21 40 50	=1846+322	16 23 49	56.8	114.0	-2.4		-40.5	97	1134	21 38 51
21 40 50	LSRJ1835+325	16 23 49	59.0	117.0	-2.2		-39.6	-22	1134	No stop
21 44 50	---	16 27 49	59.5	118.3	-2.1		-39.1	218	1257	21 40 51
21 45 30	J1848+3219	16 28 30	57.4	115.4	-2.3		-40.0	18	1257	21 45 30
21 46 50	=1846+322	16 29 50	57.6	115.8	-2.3		-39.8	80	1298	21 45 31
21 46 50	LSRJ1835+325	16 29 50	59.8	119.0	-2.1		-38.8	-22	1298	No stop
21 50 50	---	16 33 50	60.3	120.3	-2.0		-38.2	218	1422	21 46 51
21 51 30	J1848+3219	16 34 31	58.2	117.2	-2.2		-39.2	18	1422	21 51 30
21 52 50	=1846+322	16 35 51	58.4	117.6	-2.2		-39.0	80	1463	21 51 31
21 52 50	LSRJ1835+325	16 35 51	60.6	120.9	-2.0		-37.9	-22	1463	No stop
21 56 50	---	16 39 51	61.1	122.3	-1.9		-37.2	218	1587	21 52 51
21 57 30	J1848+3219	16 40 32	59.0	119.1	-2.1		-38.4	18	1587	21 57 30
21 58 50	=1846+322	16 41 52	59.2	119.6	-2.1		-38.2	80	1628	21 57 31
21 58 50	LSRJ1835+325	16 41 52	61.3	123.0	-1.9		-36.9	-22	1628	No stop
22 02 50	---	16 45 52	61.8	124.4	-1.8		-36.2	218	1752	21 58 51
22 03 30	J1848+3219	16 46 33	59.8	121.1	-2.0		-37.5	18	1752	22 03 30
22 04 50	=1846+322	16 47 53	60.0	121.5	-2.0		-37.3	80	1793	22 03 31
22 04 50	LSRJ1835+325	16 47 53	62.1	125.2	-1.8		-35.8	-22	1793	No stop
22 08 50	---	16 51 53	62.6	126.6	-1.7		-35.1	218	1917	22 04 51
22 09 30	J1848+3219	16 52 34	60.5	123.1	-1.9		-36.5	18	1917	22 09 30
22 10 50	=1846+322	16 53 54	60.7	123.6	-1.9		-36.3	80	1958	22 09 31
22 10 50	J1834+3205	16 53 54	62.2	128.8	-1.7		-33.5	-26	1958	No stop
22 12 50	---	16 55 54	62.4	129.6	-1.7		-33.1	94	2020	22 10 51
22 12 50	J1848+3219	16 55 54	61.0	124.3	-1.9		-36.0	-25	2020	No stop
22 14 50	=1846+322	16 57 54	61.2	125.0	-1.9		-35.6	95	2082	22 12 51

Schedule for TORUN (Code Tr) Page 4

LSR J1835 follow-up observations

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT	Source	Start / Stop						Early	Disk	TPStart
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC
--- Mon 13 Jun 2022 Day 164 ---										
22 14 50	LSRJ1835+325	16 57 54	63.3	128.9	-1.6		-33.9	-23	2082	No stop
22 18 50	---	17 01 55	63.8	130.5	-1.6		-33.0	217	2205	22 14 51
22 19 30	J1848+3219	17 02 35	61.8	126.7	-1.8		-34.7	17	2205	22 19 30
22 20 50	=1846+322	17 03 55	61.9	127.2	-1.8		-34.5	80	2247	22 19 31
22 20 50	LSRJ1835+325	17 03 55	64.0	131.3	-1.5		-32.6	-23	2247	No stop
22 24 50	---	17 07 56	64.4	132.9	-1.5		-31.6	217	2370	22 20 51
22 25 30	J1848+3219	17 08 36	62.5	128.9	-1.7		-33.6	17	2370	22 25 30
22 26 50	=1846+322	17 09 56	62.7	129.5	-1.7		-33.3	80	2411	22 25 31
22 26 50	LSRJ1835+325	17 09 56	64.7	133.8	-1.4		-31.1	-24	2411	No stop
22 30 50	---	17 13 57	65.1	135.5	-1.4		-30.1	216	2535	22 26 51
22 31 30	J1848+3219	17 14 37	63.2	131.3	-1.6		-32.3	16	2535	22 31 30
22 32 50	=1846+322	17 15 57	63.3	131.8	-1.6		-32.0	80	2576	22 31 31
22 32 50	LSRJ1835+325	17 15 57	65.3	136.3	-1.3		-29.6	-24	2576	No stop
22 36 50	---	17 19 58	65.7	138.1	-1.3		-28.6	216	2700	22 32 51
22 37 30	J1848+3219	17 20 38	63.9	133.7	-1.5		-30.9	16	2700	22 37 30
22 38 50	=1846+322	17 21 58	64.0	134.3	-1.5		-30.6	80	2741	22 37 31
22 38 50	LSRJ1835+325	17 21 58	65.9	139.0	-1.2		-28.0	-25	2741	No stop
22 42 50	---	17 25 59	66.3	140.9	-1.2		-26.9	215	2865	22 38 51
22 43 30	J1848+3219	17 26 39	64.5	136.2	-1.4		-29.4	15	2865	22 43 30
22 44 50	=1846+322	17 27 59	64.6	136.8	-1.4		-29.1	80	2906	22 43 31
22 44 50	J1834+3205	17 27 59	65.7	143.1	-1.1		-25.2	-28	2906	No stop
22 46 50	---	17 30 00	65.9	144.1	-1.1		-24.6	92	2968	22 44 51
22 46 50	J1848+3219	17 30 00	64.8	137.7	-1.3		-28.6	-27	2968	No stop
22 48 50	=1846+322	17 32 00	65.0	138.6	-1.3		-28.1	93	3030	22 46 51
22 48 50	LSRJ1835+325	17 32 00	66.8	143.7	-1.1		-25.1	-26	3030	No stop
22 52 50	---	17 36 01	67.2	145.7	-1.0		-23.8	214	3153	22 48 51
22 53 30	J1848+3219	17 36 41	65.5	140.7	-1.2		-26.8	15	3153	22 53 30
22 54 50	=1846+322	17 38 01	65.6	141.3	-1.2		-26.4	80	3195	22 53 31
22 54 50	LSRJ1835+325	17 38 01	67.4	146.7	-1.0		-23.2	-26	3195	No stop
22 58 50	---	17 42 02	67.7	148.7	-0.9		-21.8	214	3318	22 54 51

Schedule for TORUN (Code Tr) Page 5

LSR J1835 follow-up observations

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT	Source	Start / Stop						Early	Disk	TPStart
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC
--- Mon 13 Jun 2022 Day 164 ---										
22 59 30	J1848+3219	17 42 42	66.0	143.4	-1.1		-25.0	14	3318	22 59 30
23 00 50	=1846+322	17 44 02	66.2	144.1	-1.1		-24.6	80	3360	22 59 31
23 00 50	LSRJ1835+325	17 44 02	67.8	149.7	-0.9		-21.2	-27	3360	No stop
23 04 50	---	17 48 03	68.1	151.8	-0.8		-19.8	213	3483	23 00 51
23 05 30	J1848+3219	17 48 43	66.6	146.3	-1.0		-23.2	14	3483	23 05 30
23 06 50	=1846+322	17 50 03	66.7	147.0	-1.0		-22.8	80	3524	23 05 31
23 06 50	LSRJ1835+325	17 50 03	68.3	152.9	-0.8		-19.0	-27	3524	No stop
23 10 50	---	17 54 04	68.5	155.1	-0.7		-17.6	213	3648	23 06 51
23 11 30	J1848+3219	17 54 44	67.0	149.3	-0.9		-21.3	13	3648	23 11 30
23 12 50	=1846+322	17 56 04	67.1	150.0	-0.9		-20.8	80	3689	23 11 31
23 12 50	LSRJ1835+325	17 56 04	68.7	156.2	-0.7		-16.8	-28	3689	No stop
23 16 50	---	18 00 05	68.9	158.4	-0.6		-15.3	212	3813	23 12 51
23 17 30	J1848+3219	18 00 45	67.5	152.4	-0.8		-19.2	13	3813	23 17 30
23 18 50	=1846+322	18 02 05	67.6	153.1	-0.8		-18.8	80	3854	23 17 31
23 18 50	J1834+3205	18 02 05	68.2	160.6	-0.6		-13.6	-30	3854	No stop
23 20 50	---	18 04 05	68.3	161.7	-0.5		-12.9	90	3916	23 18 51
23 20 50	J1848+3219	18 04 05	67.7	154.2	-0.8		-18.0	-30	3916	No stop
23 22 50	=1846+322	18 06 06	67.8	155.2	-0.7		-17.3	90	3978	23 20 51
23 22 50	LSRJ1835+325	18 06 06	69.2	161.8	-0.5		-12.9	-29	3978	No stop
23 26 50	---	18 10 06	69.4	164.1	-0.4		-11.3	211	4102	23 22 51
23 27 30	J1848+3219	18 10 46	68.1	157.8	-0.6		-15.6	12	4102	23 27 30
23 28 50	=1846+322	18 12 07	68.2	158.5	-0.6		-15.1	80	4143	23 27 31
23 28 50	LSRJ1835+325	18 12 07	69.5	165.3	-0.4		-10.5	-29	4143	No stop
23 32 50	---	18 16 07	69.6	167.7	-0.3		-8.8	211	4266	23 28 51
23 33 30	J1848+3219	18 16 47	68.4	161.1	-0.5		-13.3	11	4266	23 33 30
23 34 50	=1846+322	18 18 08	68.5	161.8	-0.5		-12.8	80	4308	23 33 31
23 34 50	LSRJ1835+325	18 18 08	69.7	168.9	-0.3		-7.9	-30	4308	No stop
23 38 50	---	18 22 08	69.8	171.3	-0.2		-6.2	210	4431	23 34 51
23 39 30	J1848+3219	18 22 48	68.7	164.5	-0.4		-11.0	11	4431	23 39 30
23 40 50	=1846+322	18 24 09	68.8	165.2	-0.4		-10.4	80	4473	23 39 31

Schedule for TORUN (Code Tr) Page 6

LSR J1835 follow-up observations

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT	Source	Start / Stop						Early	Disk	TPStart
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC
--- Mon 13 Jun 2022 Day 164 ---										
23 40 50	LSRJ1835+325	18 24 09	69.8	172.5	-0.2		-5.4	-30	4473	No stop
23 44 50	---	18 28 09	69.9	174.9	-0.1		-3.6	210	4596	23 40 51
23 45 30	J1848+3219	18 28 49	68.9	167.9	-0.3		-8.5	11	4596	23 45 30
23 46 50	=1846+322	18 30 10	69.0	168.7	-0.3		-8.0	80	4637	23 45 31
23 46 50	LSRJ1835+325	18 30 10	69.9	176.1	-0.1		-2.8	-30	4637	No stop
23 50 50	---	18 34 10	69.9	178.6	-0.0		-1.0	210	4761	23 46 51
23 51 30	J1848+3219	18 34 50	69.1	171.5	-0.2		-6.1	10	4761	23 51 30
23 52 50	=1846+322	18 36 10	69.1	172.3	-0.2		-5.5	80	4802	23 51 31
23 52 50	J1834+3205	18 36 10	69.0	180.3	0.0		0.2	-32	4802	No stop
23 54 50	---	18 38 11	69.0	181.5	0.0		1.1	88	4864	23 52 51
23 54 50	J1848+3219	18 38 11	69.2	173.4	-0.2		-4.7	-31	4864	No stop
23 56 50	=1846+322	18 40 11	69.2	174.6	-0.2		-3.8	89	4926	23 54 51
--- Start: Mon 13 Jun 2022 Day 164 -- Stop: Tue 14 Jun 2022 Day 165 ---										
23 56 50	LSRJ1835+325	18 40 11	69.9	182.3	0.1		1.6	-31	4926	No stop
00 00 50	---	18 44 12	69.9	184.7	0.1		3.4	209	5050	23 56 51
00 01 40	J1848+3219	18 45 02	69.2	177.5	-0.1		-1.8	20	5050	00 01 40
00 02 50	=1846+322	18 46 12	69.2	178.2	-0.1		-1.3	70	5086	00 01 41
00 02 50	LSRJ1835+325	18 46 12	69.8	185.9	0.2		4.2	-31	5086	No stop
00 06 50	---	18 50 13	69.8	188.4	0.2		6.0	209	5209	00 02 51
00 07 40	J1848+3219	18 51 03	69.2	181.1	0.0		0.8	20	5209	00 07 40
00 08 50	=1846+322	18 52 13	69.2	181.8	0.0		1.3	70	5246	00 07 41
00 09 30	1830+285	18 52 53	65.2	190.1	0.3		6.9	9	5246	00 09 30
00 13 30	---	18 56 54	65.1	192.2	0.4		8.3	240	5369	00 09 31
00 14 20	J1848+3219	18 57 44	69.2	185.1	0.1		3.6	20	5369	00 14 20
00 15 30	=1846+322	18 58 54	69.2	185.8	0.2		4.1	70	5405	00 14 21
00 15 30	LSRJ1835+325	18 58 54	69.5	193.5	0.4		9.7	-31	5405	No stop
00 19 30	---	19 02 55	69.4	195.9	0.4		11.3	209	5529	00 15 31
00 20 20	J1848+3219	19 03 45	69.1	188.6	0.2		6.1	20	5529	00 20 20
00 21 30	=1846+322	19 04 55	69.1	189.3	0.3		6.6	70	5565	00 20 21

Schedule for TORUN (Code Tr) Page 7

LSR J1835 follow-up observations

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT	Source	Start / Stop						Early	Disk	TPStart
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC
--- Tue 14 Jun 2022 Day 165 ---										
00 21 30	LSRJ1835+325	19 04 55	69.3	197.1	0.5		12.1	-31	5565	No stop
00 25 30	---	19 08 56	69.1	199.4	0.5		13.7	209	5689	00 21 31
00 26 20	J1848+3219	19 09 46	68.9	192.1	0.3		8.6	20	5689	00 26 20
00 27 30	=1846+322	19 10 56	68.9	192.8	0.4		9.1	70	5725	00 26 21
00 27 30	LSRJ1835+325	19 10 56	69.0	200.5	0.6		14.5	-31	5725	No stop
00 31 30	---	19 14 57	68.8	202.8	0.6		16.1	209	5848	00 27 31
00 32 20	J1848+3219	19 15 47	68.7	195.6	0.4		11.0	20	5848	00 32 20
00 33 30	=1846+322	19 16 57	68.7	196.3	0.5		11.5	70	5884	00 32 21
00 33 30	LSRJ1835+325	19 16 57	68.7	203.9	0.7		16.8	-31	5884	No stop
00 37 30	---	19 20 58	68.4	206.1	0.7		18.3	209	6008	00 33 31
00 38 20	J1848+3219	19 21 48	68.4	199.0	0.5		13.4	20	6008	00 38 20
00 39 30	=1846+322	19 22 58	68.4	199.7	0.6		13.8	70	6044	00 38 21
00 39 30	LSRJ1835+325	19 22 58	68.3	207.1	0.8		19.1	-30	6044	No stop
00 43 30	---	19 26 59	68.0	209.3	0.8		20.5	210	6168	00 39 31
00 44 20	J1848+3219	19 27 49	68.1	202.3	0.6		15.7	21	6168	00 44 20
00 45 30	=1846+322	19 28 59	68.0	203.0	0.7		16.1	70	6204	00 44 21
00 45 30	J1834+3205	19 28 59	66.9	209.9	0.9		20.7	-29	6204	No stop
00 47 30	---	19 30 59	66.8	210.9	0.9		21.3	91	6266	00 45 31
00 47 30	J1848+3219	19 30 59	67.9	204.0	0.7		16.8	-28	6266	No stop
00 49 30	=1846+322	19 33 00	67.8	205.1	0.7		17.6	92	6328	00 47 31
00 49 30	LSRJ1835+325	19 33 00	67.5	212.4	0.9		22.5	-30	6328	No stop
00 53 30	---	19 37 00	67.2	214.4	1.0		23.8	210	6451	00 49 31
00 54 20	J1848+3219	19 37 51	67.5	207.7	0.8		19.3	21	6451	00 54 20
00 55 30	=1846+322	19 39 01	67.4	208.3	0.8		19.7	70	6487	00 54 21
00 55 30	LSRJ1835+325	19 39 01	67.0	215.4	1.0		24.5	-30	6487	No stop
00 59 30	---	19 43 01	66.7	217.3	1.1		25.7	210	6611	00 55 31
01 00 20	J1848+3219	19 43 52	67.0	210.8	0.9		21.3	21	6611	01 00 20
01 01 30	=1846+322	19 45 02	66.9	211.3	0.9		21.7	70	6647	01 00 21
01 01 30	LSRJ1835+325	19 45 02	66.5	218.2	1.1		26.3	-29	6647	No stop
01 05 30	---	19 49 02	66.1	220.1	1.2		27.5	211	6771	01 01 31

Schedule for TORUN (Code Tr) Page 8

LSR J1835 follow-up observations

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	LST	Start / Stop EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Tue 14 Jun 2022 Day 165 ---										
01 06 20	J1848+3219	19 49 53	66.6	213.7	1.0		23.3	22	6771	01 06 20
01 07 30	=1846+322	19 51 03	66.5	214.3	1.0		23.6	70	6807	01 06 21
01 07 30	LSRJ1835+325	19 51 03	65.9	221.0	1.2		28.0	-29	6807	No stop
01 11 30	---	19 55 03	65.5	222.8	1.3		29.1	211	6930	01 07 31
01 12 20	J1848+3219	19 55 54	66.0	216.6	1.1		25.1	22	6930	01 12 20
01 13 30	=1846+322	19 57 04	65.9	217.2	1.1		25.4	70	6967	01 12 21
01 13 30	LSRJ1835+325	19 57 04	65.3	223.7	1.3		29.6	-28	6967	No stop
01 17 30	---	20 01 04	64.9	225.4	1.4		30.7	212	7090	01 13 31
01 18 20	J1848+3219	20 01 55	65.5	219.4	1.2		26.8	23	7090	01 18 20
01 19 30	=1846+322	20 03 05	65.4	219.9	1.2		27.1	70	7126	01 18 21
01 19 30	J1834+3205	20 03 05	63.8	225.5	1.5		30.4	-26	7126	No stop
01 21 30	---	20 05 05	63.6	226.4	1.5		30.9	94	7188	01 19 31
01 21 30	J1848+3219	20 05 05	65.2	220.8	1.3		27.7	-26	7188	No stop
01 23 30	=1846+322	20 07 05	65.0	221.7	1.3		28.2	94	7250	01 21 31
01 23 30	LSRJ1835+325	20 07 05	64.2	227.9	1.5		32.1	-28	7250	No stop
01 27 30	---	20 11 06	63.8	229.5	1.6		33.0	212	7374	01 23 31
01 28 20	J1848+3219	20 11 56	64.5	223.8	1.4		29.5	23	7374	01 28 20
01 29 30	=1846+322	20 13 06	64.4	224.3	1.4		29.8	70	7410	01 28 21
01 29 30	LSRJ1835+325	20 13 06	63.5	230.3	1.6		33.4	-27	7410	No stop
01 33 30	---	20 17 07	63.1	231.9	1.7		34.3	213	7533	01 29 31
01 34 20	J1848+3219	20 17 57	63.8	226.3	1.5		30.9	24	7533	01 34 20
01 35 30	=1846+322	20 19 07	63.7	226.8	1.5		31.2	70	7569	01 34 21
01 35 30	LSRJ1835+325	20 19 07	62.8	232.6	1.7		34.7	-27	7569	No stop
01 39 30	---	20 23 08	62.3	234.1	1.8		35.5	213	7693	01 35 31
01 40 20	J1848+3219	20 23 58	63.2	228.8	1.6		32.3	24	7693	01 40 20
01 41 30	=1846+322	20 25 08	63.0	229.2	1.6		32.6	70	7729	01 40 21
01 41 30	LSRJ1835+325	20 25 08	62.1	234.9	1.8		35.9	-27	7729	No stop
01 45 30	---	20 29 09	61.6	236.3	1.9		36.6	213	7853	01 41 31
01 46 20	J1848+3219	20 29 59	62.5	231.1	1.7		33.6	24	7853	01 46 20
01 47 30	=1846+322	20 31 09	62.3	231.5	1.7		33.8	70	7889	01 46 21

Schedule for TORUN (Code Tr) Page 9

LSR J1835 follow-up observations

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Tue 14 Jun 2022 Day 165 ---										
01 47 30	LSRJ1835+325	20 31 09	61.3	237.0	1.9		36.9	-26	7889	No stop
01 51 30	---	20 35 10	60.8	238.4	2.0		37.6	214	8013	01 47 31
01 52 20	J1848+3219	20 36 00	61.8	233.4	1.8		34.8	25	8013	01 52 20
01 53 30	=1846+322	20 37 10	61.6	233.8	1.8		35.0	70	8049	01 52 21
01 53 30	J1834+3205	20 37 10	59.7	238.2	2.0		37.1	-24	8049	No stop
01 55 30	---	20 39 11	59.5	238.9	2.1		37.4	96	8110	01 53 31
01 55 30	J1848+3219	20 39 11	61.4	234.5	1.8		35.4	-24	8110	No stop
01 57 30	=1846+322	20 41 11	61.1	235.2	1.9		35.7	96	8172	01 55 31
01 57 30	LSRJ1835+325	20 41 11	60.1	240.4	2.1		38.5	-26	8172	No stop
02 01 30	---	20 45 12	59.5	241.7	2.1		39.1	214	8296	01 57 31
02 02 20	J1848+3219	20 46 02	60.5	236.9	1.9		36.6	25	8296	02 02 20
02 03 30	=1846+322	20 47 12	60.4	237.3	2.0		36.7	70	8332	02 02 21
02 03 30	LSRJ1835+325	20 47 12	59.3	242.4	2.2		39.4	-25	8332	No stop
02 07 30	---	20 51 13	58.7	243.6	2.2		39.9	215	8456	02 03 31
02 08 20	J1848+3219	20 52 03	59.8	239.0	2.0		37.5	25	8456	02 08 20
02 09 30	=1846+322	20 53 13	59.6	239.3	2.1		37.7	70	8492	02 08 21
02 09 30	LSRJ1835+325	20 53 13	58.5	244.2	2.3		40.2	-25	8492	No stop
02 13 30	---	20 57 14	57.9	245.4	2.3		40.6	215	8615	02 09 31
02 14 20	J1848+3219	20 58 04	59.0	240.9	2.1		38.4	26	8615	02 14 20
02 15 30	=1846+322	20 59 14	58.8	241.3	2.2		38.6	70	8651	02 14 21
02 15 30	LSRJ1835+325	20 59 14	57.6	246.0	2.4		40.9	-25	8651	No stop
02 19 30	---	21 03 15	57.1	247.2	2.4		41.3	215	8775	02 15 31
02 20 20	J1848+3219	21 04 05	58.2	242.8	2.2		39.2	26	8775	02 20 20
02 21 30	=1846+322	21 05 15	58.0	243.2	2.3		39.4	70	8811	02 20 21
02 21 30	LSRJ1835+325	21 05 15	56.8	247.8	2.5		41.5	-24	8811	No stop
02 25 30	---	21 09 16	56.2	248.9	2.5		41.9	216	8935	02 21 31
02 26 20	J1848+3219	21 10 06	57.4	244.7	2.3		40.0	26	8935	02 26 20
02 27 30	=1846+322	21 11 16	57.2	245.0	2.4		40.1	70	8971	02 26 21
02 27 30	J1834+3205	21 11 16	55.2	248.6	2.6		41.3	-22	8971	No stop
02 29 30	---	21 13 16	54.9	249.2	2.6		41.5	98	9033	02 27 31

```
Schedule for TORUN     (Code Tr )                                Page  10
              LSR J1835 follow-up observations
  UP:  D => Below limits;  H => Below horizon mask;  W => still slewing at end;  blank => Up.
  Early: Seconds between end of slew and start.   Dwell: On source seconds.
  Disk: GBytes recorded to this point.
  TPStart:  Recording start time.  Frequencies are LO sum (band edge).
  SYNC: Time correlator is expected to sync up.
-----------------------------------------------------------------------------------------
Start UT  Source               Start / Stop                 Early    Disk   TPStart
Stop UT                  LST      EL    AZ   HA  UP   ParA  Dwell   GBytes    SYNC
-----------------------------------------------------------------------------------------

 --- Tue  14 Jun 2022   Day 165 ---

02 29 30  J1848+3219   21 13 16  56.9 245.6  2.4      40.3   -22     9033   No stop
02 31 30  =1846+322    21 15 17  56.7 246.2  2.4      40.6    98     9095   02 29 31

02 31 30 LSRJ1835+325  21 15 17  55.4 250.6  2.6      42.5   -24     9095   No stop
02 35 30  ---          21 19 17  54.8 251.7  2.7      42.8   216     9218   02 31 31

02 36 20  J1848+3219   21 20 07  56.0 247.6  2.5      41.1    27     9218   02 36 20
02 37 30  =1846+322    21 21 18  55.8 247.9  2.5      41.2    70     9254   02 36 21

02 37 30 LSRJ1835+325  21 21 18  54.5 252.2  2.7      43.0   -24     9254   No stop
02 41 30  ---          21 25 18  54.0 253.3  2.8      43.3   216     9378   02 37 31

02 42 20  J1848+3219   21 26 08  55.2 249.3  2.6      41.7    27     9378   02 42 20
02 43 30  =1846+322    21 27 19  55.0 249.6  2.6      41.8    70     9414   02 42 21

02 43 30 LSRJ1835+325  21 27 19  53.7 253.8  2.8      43.4   -23     9414   No stop
02 47 30  ---          21 31 19  53.1 254.8  2.9      43.7   217     9538   02 43 31

02 48 20  J1848+3219   21 32 09  54.3 250.9  2.7      42.2    27     9538   02 48 20
02 49 30  =1846+322    21 33 20  54.1 251.2  2.7      42.3    70     9574   02 48 21

02 49 30 LSRJ1835+325  21 33 20  52.8 255.3  2.9      43.8   -23     9574   No stop
02 53 30  ---          21 37 20  52.2 256.3  3.0      44.1   217     9698   02 49 31

02 54 20  J1848+3219   21 38 10  53.5 252.5  2.8      42.7    27     9698   02 54 20
02 55 30  =1846+322    21 39 20  53.3 252.8  2.8      42.8    70     9734   02 54 21

02 56 00  1830+285     21 39 51  48.2 252.9  3.1      40.8    -3     9734   02 56 00
03 00 00  ---          21 43 51  47.6 253.9  3.2      41.1   237     9857   02 56 01



SETUP FILE INFORMATION:
   NOTE: If DOPPLER, FREQ, or BW were used, see the individual scans for the final BBC settings.


 ======== Setup file: sess222.C4096

   Setup group:    8         Station: TORUN            Total bit rate:  4096
   Format: VDIF              Bits per sample: 2        Sample rate: 64.000
   Number of channels: 32    DBE type: DBBC_DDC        Speedup factor:   1.00

   Disk used to record data.
```

```
 1st LO=   4088.00   4088.00   4088.00   4088.00   4088.00   4088.00   4088.00   4088.00
           4088.00   4088.00   4088.00   4088.00   4088.00   4088.00   4088.00   4088.00
           4088.00   4088.00   4088.00   4088.00   4088.00   4088.00   4088.00   4088.00
           4088.00   4088.00   4088.00   4088.00   4088.00   4088.00   4088.00   4088.00
 Net SB=         L         L         U         U         L         L         U         U
                 L         L         U         U         L         L         U         U
                 L         L         U         U         L         L         U         U
                 L         L         U         U         L         L         U         U
 IF SB =         U         U         U         U         U         U         U         U
                 U         U         U         U         U         U         U         U
                 U         U         U         U         U         U         U         U
                 U         U         U         U         U         U         U         U
 Pol.  =       RCP       LCP       RCP       LCP       RCP       LCP       RCP       LCP
               RCP       LCP       RCP       LCP       RCP       LCP       RCP       LCP
               RCP       LCP       RCP       LCP       RCP       LCP       RCP       LCP
               RCP       LCP       RCP       LCP       RCP       LCP       RCP       LCP
 BBC   =         1         9         1         9         2        10         2        10
                 3        11         3        11         4        12         4        12
                 5        13         5        13         6        14         6        14
                 7        15         7        15         8        16         8        16
 BBC SB=         L         L         U         U         L         L         U         U
                 L         L         U         U         L         L         U         U
                 L         L         U         U         L         L         U         U
                 L         L         U         U         L         L         U         U
 IF    =        A1        B1        A1        B1        A1        B1        A1        B1
                A1        B1        A1        B1        A1        B1        A1        B1
                A1        B1        A1        B1        A1        B1        A1        B1
                A1        B1        A1        B1        A1        B1        A1        B1

 The following frequency sets based on these setups were used.

 Frequency Set:   9  Setup file default.  Used with PCAL = off
 LO sum=   4632.00  4632.00  4632.00  4632.00  4696.00  4696.00  4696.00  4696.00
           4760.00  4760.00  4760.00  4760.00  4824.00  4824.00  4824.00  4824.00
           4888.00  4888.00  4888.00  4888.00  4952.00  4952.00  4952.00  4952.00
           5016.00  5016.00  5016.00  5016.00  5080.00  5080.00  5080.00  5080.00
 BBC fr=    544.00   544.00   544.00   544.00   608.00   608.00   608.00   608.00
            672.00   672.00   672.00   672.00   736.00   736.00   736.00   736.00
            800.00   800.00   800.00   800.00   864.00   864.00   864.00   864.00
            928.00   928.00   928.00   928.00   992.00   992.00   992.00   992.00
 Bandwd=     32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00
             32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00
             32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00
             32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00
  Matching frequency sets:   9

 Track assignments are:
  track1=   1,  2,  3,  4,  5,  6,  7,  8,  9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 2
  barrel=roll_off


POSITIONS OF SOURCES USED IN RECORDING SCANS

 Source                        Source position (RA/Dec)                        Error
                     (B1950)            (J2000)            (Date)             (mas)

* LSRJ1835+325      18 33 46.940176   * 18 35 37.880357     18 36 28.567385       0.00
                    32 57 22.09729    * 32 59 53.31134      33 00 53.89805        0.00

* J1834+3205        18 32 56.698696   * 18 34 49.087200     18 35 40.404884       0.00
```

```
                    32 02 57.74164    * 32 05 25.38800      32 06 24.52547        0.00

* 1830+285          18 30 52.379792   * 18 32 50.185623     18 33 43.862120       0.03
  J1832+2833        28 31 17.07914    * 28 33 35.95525      28 34 31.66246        0.04
  J1832+28          /home/guest/rmc/SCHED/sched11.6/catalogs/sources.gsfc
                    GSFC 2016a X/S astro solution,   1329 observations.

  1846+322          18 46 29.612030   * 18 48 22.088573     18 49 13.406335       0.00
* J1848+3219        32 15 36.66044    * 32 19 02.60384      32 20 27.00836        0.00
                    /home/guest/rmc/SCHED/sched11.6/catalogs/sources.gsfc
                    GSFC 2016a X/S astro solution,  38727 observations.
```

fr064tr

Effelsberg linear pol. wideband receiver test

PI: *Benito Marcote*

```
Address:  JIVE

Observing mode:
Schedule for TORUN     (Code Tr )                                  Page   2
               Effelsberg linear pol. wideband receiver test
  UP:  D => Below limits;  H => Below horizon mask;  W => still slewing at end;  blank => Up.
  Early: Seconds between end of slew and start.   Dwell: On source seconds.
  Disk: GBytes recorded to this point.
  TPStart:  Recording start time.  Frequencies are LO sum (band edge).
  SYNC: Time correlator is expected to sync up.
-----------------------------------------------------------------------------------------
Start UT  Source                Start / Stop                 Early    Disk   TPStart
Stop UT                  LST      EL    AZ   HA  UP   ParA  Dwell   GBytes    SYNC
-----------------------------------------------------------------------------------------
 --- Tue  14 Jun 2022   Day 165 ---
 Next scan frequencies:  4830.49  4830.49  4830.49  4830.49  4894.49  4894.49  4894.49  4894.49
                         4958.49  4958.49  4958.49  4958.49  5022.49  5022.49  5022.49  5022.49
 Next BBC frequencies:    630.49   630.49   630.49   630.49   694.49   694.49   694.49   694.49
                          758.49   758.49   758.49   758.49   822.49   822.49   822.49   822.49
 Next scan bandwidths:     32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00
                           32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00

05 00 00  J1824+5651   23 44 11  46.6 -51.6  5.3      59.4     0        0   05 00 00
05 07 00  =1823+568    23 51 12  45.8 -50.9  5.4      58.5   420      108   05 00 01

05 09 00  J2022+6136   23 53 12  61.2 -51.6  3.5      83.0    48      108   05 09 00
05 16 00  =2021+614    00 00 14  60.4 -51.4  3.6      81.6   420      216   05 09 01

 ---------- Change receiver ----------

05 19 00  J1824+5651   00 03 14  44.4 -49.7  5.6      56.9   107      216   05 19 00
05 26 00  =1823+568    00 10 15  43.6 -48.9  5.8      55.9   420      325   05 19 01

05 28 00  J2022+6136   00 12 16  59.0 -50.9  3.8      79.4    48      325   05 28 00
05 35 00  =2021+614    00 19 17  58.2 -50.6  3.9      78.1   420      433   05 28 01

 ---------- Change receiver ----------

05 38 00  J1824+5651   00 22 17  42.3 -47.6  6.0      54.3   107      433   05 38 00
05 45 00  =1823+568    00 29 18  41.5 -46.9  6.1      53.3   420      541   05 38 01

05 47 00  J2022+6136   00 31 19  56.8 -50.0  4.1      76.0    48      541   05 47 00
05 54 00  =2021+614    00 38 20  56.0 -49.6  4.3      74.7   420      649   05 47 01

 ---------- Change receiver ----------

05 57 00  J1824+5651   00 41 20  40.2 -45.6  6.3      51.6   108      649   05 57 00
06 04 00  =1823+568    00 48 21  39.5 -44.8  6.4      50.7   420      757   05 57 01

06 06 00  J2022+6136   00 50 22  54.6 -48.9  4.5      72.7    49      757   06 06 00
06 13 00  =2021+614    00 57 23  53.8 -48.5  4.6      71.5   420      866   06 06 01

 ---------- Change receiver ----------

06 19 30  J0359+5057   01 03 54  63.1  76.3 -3.0     -68.1   126      866   06 19 30
06 21 30  =NRAO150     01 05 54  63.4  76.6 -2.9     -68.2   120      897   06 19 31
```

Schedule for TORUN (Code Tr) Page 3

Effelsberg linear pol. wideband receiver test

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Tue 14 Jun 2022 Day 165 ---										
06 21 30	J0350+5138	01 05 54	65.0	76.3	-2.8		-70.3	-20	897	No stop
06 25 00	=0346+514	01 09 25	65.5	76.7	-2.7		-70.6	190	951	06 21 31
06 25 00	J0359+5057	01 09 25	63.9	77.0	-2.9		-68.5	-19	951	No stop
06 27 00	=NRAO150	01 11 25	64.2	77.3	-2.8		-68.6	101	982	06 25 01
06 27 00	J0350+5138	01 11 25	65.8	77.0	-2.7		-70.7	-20	982	No stop
06 30 30	=0346+514	01 14 56	66.3	77.4	-2.6		-71.0	190	1036	06 27 01
06 31 00	J0359+5057	01 15 26	64.8	77.8	-2.8		-68.9	11	1036	06 31 00
06 32 30	=NRAO150	01 16 56	65.0	78.0	-2.7		-69.1	90	1059	06 31 01
06 32 30	J0350+5138	01 16 56	66.6	77.6	-2.6		-71.2	-20	1059	No stop
06 36 00	=0346+514	01 20 27	67.1	78.1	-2.5		-71.5	190	1113	06 32 31
06 36 00	J0359+5057	01 20 27	65.5	78.5	-2.7		-69.3	-19	1113	No stop
06 38 00	=NRAO150	01 22 27	65.8	78.8	-2.6		-69.5	101	1144	06 36 01
06 38 00	J0350+5138	01 22 27	67.4	78.3	-2.5		-71.6	-20	1144	No stop
06 41 30	=0346+514	01 25 58	67.9	78.8	-2.4		-71.9	190	1198	06 38 01
06 42 00	J0359+5057	01 26 28	66.4	79.3	-2.6		-69.7	11	1198	06 42 00
06 46 30	=NRAO150	01 30 58	67.1	79.9	-2.5		-70.1	270	1268	06 42 01
---------- Change receiver ----------										
06 52 30	J0359+5057	01 36 59	68.0	80.8	-2.4		-70.4	353	1268	06 52 30
06 54 30	=NRAO150	01 39 00	68.3	81.1	-2.4		-70.6	120	1298	06 52 31
06 54 30	J0350+5138	01 39 00	69.8	80.5	-2.2		-72.9	-20	1298	No stop
06 58 00	=0346+514	01 42 30	70.4	80.9	-2.2		-73.1	190	1353	06 54 31
06 58 00	J0359+5057	01 42 30	68.8	81.6	-2.3		-70.8	-19	1353	No stop
07 00 00	=NRAO150	01 44 31	69.1	81.8	-2.3		-70.9	101	1384	06 58 01
07 00 00	J0350+5138	01 44 31	70.7	81.2	-2.1		-73.3	-20	1384	No stop
07 03 30	=0346+514	01 48 01	71.2	81.7	-2.1		-73.5	190	1438	07 00 01
07 04 00	J0359+5057	01 48 31	69.7	82.4	-2.2		-71.1	11	1438	07 04 00
07 05 30	=NRAO150	01 50 02	69.9	82.6	-2.2		-71.2	90	1461	07 04 01
07 05 30	J0350+5138	01 50 02	71.5	82.0	-2.0		-73.6	-20	1461	No stop
07 09 00	=0346+514	01 53 32	72.0	82.5	-2.0		-73.9	190	1515	07 05 31
07 09 00	J0359+5057	01 53 32	70.4	83.2	-2.1		-71.4	-19	1515	No stop
07 11 00	=NRAO150	01 55 32	70.7	83.5	-2.1		-71.5	101	1546	07 09 01

```
Schedule for TORUN     (Code Tr )                                  Page   4
              Effelsberg linear pol. wideband receiver test
  UP:  D => Below limits;  H => Below horizon mask;  W => still slewing at end;  blank => Up.
  Early: Seconds between end of slew and start.   Dwell: On source seconds.
  Disk: GBytes recorded to this point.
  TPStart:  Recording start time.  Frequencies are LO sum (band edge).
  SYNC: Time correlator is expected to sync up.
-------------------------------------------------------------------------------------------
Start UT  Source               Start / Stop                 Early    Disk   TPStart
Stop UT                  LST      EL    AZ   HA  UP   ParA  Dwell   GBytes    SYNC
-------------------------------------------------------------------------------------------

 --- Tue  14 Jun 2022   Day 165 ---

07 11 00  J0350+5138   01 55 32  72.3  82.7 -1.9     -74.0   -20     1546   No stop
07 14 30  =0346+514    01 59 03  72.8  83.2 -1.9     -74.2   190     1600   07 11 01

07 15 00  J0359+5057   01 59 33  71.3  84.1 -2.0     -71.7    11     1600   07 15 00
07 19 30  =NRAO150     02 04 04  72.0  84.8 -2.0     -71.9   270     1669   07 15 01

 ---------- Change receiver ----------

07 26 00  J0359+5057   02 10 35  73.0  85.8 -1.8     -72.2   383     1669   07 26 00
07 28 00  =NRAO150     02 12 35  73.3  86.2 -1.8     -72.3   120     1700   07 26 01

07 28 00  J0350+5138   02 12 35  74.8  85.2 -1.7     -75.0   -20     1700   No stop
07 31 30  =0346+514    02 16 06  75.4  85.8 -1.6     -75.1   190     1755   07 28 01

07 31 30  J0359+5057   02 16 06  73.8  86.8 -1.8     -72.4   -19     1755   No stop
07 33 30  =NRAO150     02 18 06  74.1  87.1 -1.7     -72.5   101     1785   07 31 31

07 33 30  J0350+5138   02 18 06  75.7  86.1 -1.6     -75.2   -20     1785   No stop
07 37 00  =0346+514    02 21 37  76.2  86.7 -1.5     -75.3   190     1840   07 33 31

07 37 30  J0359+5057   02 22 07  74.7  87.8 -1.7     -72.6    11     1840   07 37 30
07 39 00  =NRAO150     02 23 37  74.9  88.1 -1.6     -72.6    90     1863   07 37 31

07 39 00  J0350+5138   02 23 37  76.5  87.0 -1.5     -75.4   -20     1863   No stop
07 42 30  =0346+514    02 27 08  77.0  87.6 -1.4     -75.5   190     1917   07 39 01

07 42 30  J0359+5057   02 27 08  75.5  88.7 -1.6     -72.6   -19     1917   No stop
07 44 30  =NRAO150     02 29 08  75.8  89.1 -1.5     -72.7   101     1948   07 42 31

07 44 30  J0350+5138   02 29 08  77.3  87.9 -1.4     -75.6   -20     1948   No stop
07 48 00  =0346+514    02 32 39  77.8  88.6 -1.3     -75.6   190     2002   07 44 31

07 48 30  J0359+5057   02 33 09  76.4  89.9 -1.5     -72.7    11     2002   07 48 30
07 53 00  =NRAO150     02 37 39  77.1  90.8 -1.4     -72.7   270     2071   07 48 31

 ---------- Change receiver ----------

07 59 00  J0359+5057   02 43 40  78.0  92.1 -1.3     -72.6   353     2071   07 59 00
08 01 00  =NRAO150     02 45 41  78.3  92.6 -1.3     -72.5   120     2102   07 59 01

08 01 00  J0350+5138   02 45 41  79.8  91.2 -1.1     -75.7   -20     2102   No stop
08 04 30  =0346+514    02 49 11  80.3  91.9 -1.0     -75.6   190     2156   08 01 01

08 04 30  J0359+5057   02 49 11  78.8  93.4 -1.2     -72.4   -19     2156   No stop
08 06 30  =NRAO150     02 51 12  79.1  93.9 -1.2     -72.3   101     2187   08 04 31
```

Schedule for TORUN (Code Tr) Page 5

Effelsberg linear pol. wideband receiver test

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT	Source	Start / Stop						Early	Disk	TPStart
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC
--- Tue 14 Jun 2022 Day 165 ---										
08 06 30	J0350+5138	02 51 12	80.6	92.4	-1.0		-75.5	-20	2187	No stop
08 10 00	=0346+514	02 54 42	81.2	93.3	-1.0		-75.3	190	2241	08 06 31
08 10 30	J0359+5057	02 55 12	79.7	95.0	-1.1		-72.0	11	2241	08 10 30
08 12 00	=NRAO150	02 56 42	79.9	95.4	-1.1		-71.9	90	2265	08 10 31
08 12 00	J0350+5138	02 56 42	81.5	93.8	-0.9		-75.2	-20	2265	No stop
08 15 30	=0346+514	03 00 13	82.0	94.8	-0.9		-75.0	190	2319	08 12 01
08 15 30	J0359+5057	03 00 13	80.4	96.4	-1.0		-71.6	-19	2319	No stop
08 17 30	=NRAO150	03 02 13	80.7	97.0	-1.0		-71.4	101	2350	08 15 31
08 17 30	J0350+5138	03 02 13	82.3	95.4	-0.8		-74.8	-20	2350	No stop
08 21 00	=0346+514	03 05 44	82.8	96.5	-0.8		-74.3	190	2404	08 17 31
08 21 30	J0359+5057	03 06 14	81.3	98.3	-0.9		-70.9	11	2404	08 21 30
08 26 00	=NRAO150	03 10 45	82.0	99.9	-0.8		-70.1	270	2473	08 21 31
---------- Change receiver ----------										
08 32 30	J0359+5057	03 17 16	83.0	102.7	-0.7		-68.6	382	2473	08 32 30
08 34 30	=NRAO150	03 19 16	83.2	103.7	-0.7		-68.1	120	2504	08 32 31
08 34 30	J0350+5138	03 19 16	84.8	102.2	-0.5		-71.3	-20	2504	No stop
08 38 00	=0346+514	03 22 47	85.3	104.3	-0.5		-69.9	190	2558	08 34 31
08 38 00	J0359+5057	03 22 47	83.8	105.5	-0.6		-66.9	-19	2558	No stop
08 40 00	=NRAO150	03 24 47	84.0	106.7	-0.6		-66.1	101	2589	08 38 01
08 40 00	J0350+5138	03 24 47	85.6	105.7	-0.5		-68.9	-20	2589	No stop
08 43 30	=0346+514	03 28 18	86.1	108.6	-0.4		-66.7	190	2643	08 40 01
08 44 00	J0359+5057	03 28 48	84.6	109.4	-0.5		-64.2	11	2643	08 44 00
08 45 30	=NRAO150	03 30 18	84.8	110.5	-0.5		-63.4	90	2667	08 44 01
08 45 30	J0350+5138	03 30 18	86.4	110.5	-0.4		-65.2	-20	2667	No stop
08 49 00	=0346+514	03 33 49	86.9	114.7	-0.3		-61.7	190	2721	08 45 31
08 49 00	J0359+5057	03 33 49	85.3	113.5	-0.5		-61.1	-19	2721	No stop
08 51 00	=NRAO150	03 35 49	85.6	115.5	-0.4		-59.5	101	2752	08 49 01
08 51 00	J0350+5138	03 35 49	87.2	117.6	-0.3		-59.2	-20	2752	No stop
08 54 30	=0346+514	03 39 19	87.6	124.3	-0.2		-53.2	190	2806	08 51 01

```
Schedule for TORUN     (Code Tr )                                  Page   6
              Effelsberg linear pol. wideband receiver test
  UP:  D => Below limits;  H => Below horizon mask;  W => still slewing at end;  blank => Up.
  Early: Seconds between end of slew and start.   Dwell: On source seconds.
  Disk: GBytes recorded to this point.
  TPStart:  Recording start time.  Frequencies are LO sum (band edge).
  SYNC: Time correlator is expected to sync up.
-----------------------------------------------------------------------------------------
Start UT  Source               Start / Stop                 Early    Disk   TPStart
Stop UT                  LST      EL    AZ   HA  UP   ParA  Dwell   GBytes    SYNC
-----------------------------------------------------------------------------------------

 --- Tue  14 Jun 2022   Day 165 ---

08 55 00  J0359+5057   03 39 50  86.1 120.2 -0.4     -55.6     6     2806   08 55 00
08 59 30  =NRAO150     03 44 20  86.7 127.1 -0.3     -49.6   270     2875   08 55 01

 ---------- Change receiver ----------

09 05 30  J0359+5057   03 50 21  87.3 140.3 -0.2     -37.6   346     2875   09 05 30
09 07 30  =NRAO150     03 52 22  87.5 146.1 -0.1     -32.2   120     2906   09 05 31

09 07 30  J0350+5138   03 52 22  88.6 182.0  0.0       1.9  -104     2906   No stop
09 11 00  =0346+514    03 55 52  88.5 203.2  0.1      22.4   106     2960   09 07 31

09 11 00  J0359+5057   03 55 52  87.8 158.2 -0.1     -20.8   -92     2960   No stop
09 13 00  =NRAO150     03 57 53  87.9 166.1 -0.1     -13.2    28     2991   09 11 01

09 13 00  J0350+5138   03 57 53  88.4 213.2  0.1      32.1  -124     2991   No stop
09 16 30  =0346+514    04 01 23  88.0 226.7  0.2      44.9    86     3045   09 13 01

09 17 00  J0359+5057   04 01 53  87.9 183.3  0.0       3.2   -62     3045   09 17 00
09 18 30  =NRAO150     04 03 23  87.9 189.8  0.0       9.3    28     3068   09 17 01

09 18 30  J0350+5138   04 03 23  87.8 232.4  0.2      50.2  -108     3068   No stop
09 22 00  =0346+514    04 06 54  87.3 240.0  0.2      57.1   102     3123   09 18 31

09 22 00  J0359+5057   04 06 54  87.7 203.8  0.1      22.6   -78     3123   No stop
09 24 00  =NRAO150     04 08 54  87.6 210.8  0.1      29.2    42     3153   09 22 01

09 24 00  J0350+5138   04 08 54  87.1 243.3  0.3      60.0   -84     3153   No stop
09 27 30  =0346+514    04 12 25  86.6 248.0  0.3      63.9   126     3208   09 24 01

09 28 00  J0359+5057   04 12 55  87.2 222.4  0.2      40.0   -34     3208   09 28 00
09 32 30  =NRAO150     04 17 26  86.8 232.1  0.3      48.8   236     3277   09 28 01

 ---------- Change receiver ----------

09 40 30  J1824+5651   04 25 27  22.6 342.9 10.0      18.8   226     3277   09 40 30
09 47 30  =1823+568    04 32 28  22.3 343.9 10.1      17.8   420     3385   09 40 31

09 49 30  J2022+6136   04 34 29  33.3 331.6  8.2      37.1    65     3385   09 49 30
09 56 30  =2021+614    04 41 30  32.8 332.4  8.3      35.9   420     3494   09 49 31

 ---------- Change receiver ----------

09 59 30  J1824+5651   04 44 30  21.8 345.6 10.3      15.9   125     3494   09 59 30
10 06 30  =1823+568    04 51 31  21.6 346.6 10.4      14.8   420     3602   09 59 31
```

```
Schedule for TORUN     (Code Tr )                                  Page   7
               Effelsberg linear pol. wideband receiver test
  UP:  D => Below limits;  H => Below horizon mask;  W => still slewing at end;  blank => Up.
  Early: Seconds between end of slew and start.   Dwell: On source seconds.
  Disk: GBytes recorded to this point.
  TPStart:  Recording start time.  Frequencies are LO sum (band edge).
  SYNC: Time correlator is expected to sync up.
-----------------------------------------------------------------------------------------
Start UT  Source               Start / Stop                 Early    Disk   TPStart
Stop UT                  LST      EL    AZ   HA  UP   ParA  Dwell   GBytes    SYNC
-----------------------------------------------------------------------------------------

 --- Tue  14 Jun 2022   Day 165 ---

10 08 30  J2022+6136   04 53 32  32.0 333.8  8.5      34.0    67     3602   10 08 30
10 15 30  =2021+614    05 00 33  31.5 334.6  8.6      32.9   420     3710   10 08 31

 ---------- Change receiver ----------

10 22 00  J0359+5057   05 07 04  79.7 265.1  1.1      72.0   194     3710   10 22 00
10 24 00  =NRAO150     05 09 04  79.4 265.6  1.1      72.1   120     3741   10 22 01

10 24 00  J0350+5138   05 09 04  78.2 271.0  1.3      75.7   -26     3741   No stop
10 27 30  =0346+514    05 12 35  77.7 271.6  1.3      75.6   184     3795   10 24 01

10 27 30  J0359+5057   05 12 35  78.9 266.5  1.2      72.3   -25     3795   No stop
10 29 30  =NRAO150     05 14 35  78.6 267.0  1.2      72.4    95     3826   10 27 31

10 29 30  J0350+5138   05 14 35  77.4 272.0  1.4      75.6   -25     3826   No stop
10 33 00  =0346+514    05 18 06  76.9 272.6  1.4      75.5   185     3880   10 29 31

10 33 30  J0359+5057   05 18 36  78.0 267.9  1.3      72.6     6     3880   10 33 30
10 38 00  =NRAO150     05 23 06  77.3 268.9  1.4      72.7   270     3950   10 33 31

 ---------- Change receiver ----------

10 44 00  J0359+5057   05 29 07  76.4 270.1  1.5      72.7   353     3950   10 44 00
10 46 00  =NRAO150     05 31 08  76.1 270.5  1.5      72.7   120     3981   10 44 01

10 46 00  J0350+5138   05 31 08  74.9 274.7  1.7      75.0   -23     3981   No stop
10 49 30  =0346+514    05 34 38  74.4 275.2  1.7      74.8   187     4035   10 46 01

10 49 30  J0359+5057   05 34 38  75.5 271.2  1.6      72.6   -23     4035   No stop
10 51 30  =NRAO150     05 36 39  75.2 271.6  1.6      72.6    97     4066   10 49 31

10 51 30  J0350+5138   05 36 39  74.1 275.5  1.7      74.7   -23     4066   No stop
10 55 00  =0346+514    05 40 09  73.6 276.1  1.8      74.5   187     4120   10 51 31

10 55 30  J0359+5057   05 40 39  74.6 272.3  1.7      72.5     8     4120   10 55 30
11 00 00  =NRAO150     05 45 10  74.0 273.1  1.7      72.4   270     4189   10 55 31



SETUP FILE INFORMATION:
   NOTE: If DOPPLER, FREQ, or BW were used, see the individual scans for the final BBC settings.


 ======== Setup file: sess222.C2048class

   Setup group:    7         Station: TORUN            Total bit rate:  2048
   Format: VDIF              Bits per sample: 2        Sample rate: 64.000
   Number of channels: 16    DBE type: DBBC_DDC        Speedup factor:   1.00
```

Disk used to record data.

```
  1st LO=   4200.00   4200.00   4200.00   4200.00   4200.00   4200.00   4200.00   4200.00
            4200.00   4200.00   4200.00   4200.00   4200.00   4200.00   4200.00   4200.00
  Net SB=         L         L         U         U         L         L         U         U
                  L         L         U         U         L         L         U         U
  IF SB =         U         U         U         U         U         U         U         U
                  U         U         U         U         U         U         U         U
  Pol.  =       RCP       LCP       RCP       LCP       RCP       LCP       RCP       LCP
                RCP       LCP       RCP       LCP       RCP       LCP       RCP       LCP
  BBC   =         1         9         1         9         2        10         2        10
                  3        11         3        11         4        12         4        12
  BBC SB=         L         L         U         U         L         L         U         U
                  L         L         U         U         L         L         U         U
  IF    =        A1        B1        A1        B1        A1        B1        A1        B1
                 A1        B1        A1        B1        A1        B1        A1        B1

 The following frequency sets based on these setups were used.

  Frequency Set:   8  Setup file default.  Used with PCAL = off
  LO sum=   4830.49  4830.49  4830.49  4830.49  4894.49  4894.49  4894.49  4894.49
            4958.49  4958.49  4958.49  4958.49  5022.49  5022.49  5022.49  5022.49
  BBC fr=    630.49   630.49   630.49   630.49   694.49   694.49   694.49   694.49
             758.49   758.49   758.49   758.49   822.49   822.49   822.49   822.49
  Bandwd=     32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00
              32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00
   Matching frequency sets:   8

  Track assignments are:
   track1=   1,  2,  3,  4,  5,  6,  7,  8,  9, 10, 11, 12, 13, 14, 15, 16
   barrel=roll_off


======== Setup file: sess222.C2048wide

  Setup group:   18         Station: TORUN            Total bit rate:  2048
  Format: VDIF              Bits per sample: 2        Sample rate: 64.000
  Number of channels: 16    DBE type: DBBC_DDC        Speedup factor:   1.00

  Disk used to record data.
```

```
  1st LO=   4200.00   4200.00   4200.00   4200.00   4200.00   4200.00   4200.00   4200.00
            4200.00   4200.00   4200.00   4200.00   4200.00   4200.00   4200.00   4200.00
  Net SB=         L         L         U         U         L         L         U         U
                  L         L         U         U         L         L         U         U
  IF SB =         U         U         U         U         U         U         U         U
                  U         U         U         U         U         U         U         U
  Pol.  =       RCP       LCP       RCP       LCP       RCP       LCP       RCP       LCP
                RCP       LCP       RCP       LCP       RCP       LCP       RCP       LCP
  BBC   =         1         9         1         9         2        10         2        10
                  3        11         3        11         4        12         4        12
  BBC SB=         L         L         U         U         L         L         U         U
                  L         L         U         U         L         L         U         U
  IF    =        A1        B1        A1        B1        A1        B1        A1        B1
                 A1        B1        A1        B1        A1        B1        A1        B1

 The following frequency sets based on these setups were used.

  Frequency Set:  18  Setup file default.  Used with PCAL = off
  LO sum=   4830.49  4830.49  4830.49  4830.49  4894.49  4894.49  4894.49  4894.49
            4958.49  4958.49  4958.49  4958.49  5022.49  5022.49  5022.49  5022.49
  BBC fr=    630.49   630.49   630.49   630.49   694.49   694.49   694.49   694.49
             758.49   758.49   758.49   758.49   822.49   822.49   822.49   822.49
  Bandwd=     32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00
              32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00
   Matching frequency sets:  18

  Track assignments are:
   track1=   1,  2,  3,  4,  5,  6,  7,  8,  9, 10, 11, 12, 13, 14, 15, 16
   barrel=roll_off



POSITIONS OF SOURCES USED IN RECORDING SCANS

  Source                          Source position (RA/Dec)                        Error
                       (B1950)             (J2000)             (Date)             (mas)

  0346+514          03 46 40.589539   * 03 50 25.051441     03 52 02.793057       0.35
* J0350+5138        51 29 35.10779    * 51 38 38.73447      51 42 32.51416        0.18
                    /home/guest/rmc/SCHED/sched11.6/catalogs/sources.gsfc
                    GSFC 2016a X/S astro solution,    105 observations.

  NRAO150           03 55 45.261365   * 03 59 29.747266     04 01 07.485659       0.03
* J0359+5057        50 49 20.28574    * 50 57 50.16169      51 01 29.58444        0.02
  0355+508          /home/guest/rmc/SCHED/sched11.6/catalogs/sources.gsfc
  J0359+50          GSFC 2016a X/S astro solution,  22807 observations.

  1823+568          18 23 14.951498   * 18 24 07.068376     18 24 32.480226       0.01
* J1824+5651        56 49 18.07201    * 56 51 01.49082      56 51 39.14514        0.01
  J1824+56          /home/guest/rmc/SCHED/sched11.6/catalogs/sources.gsfc
                    GSFC 2016a X/S astro solution,   9435 observations.

  2021+614          20 21 13.300235   * 20 22 06.681753     20 22 31.932411       0.03
* J2022+6136        61 27 18.15575    * 61 36 58.80476      61 41 00.82104        0.02
  J2022+61          /home/guest/rmc/SCHED/sched11.6/catalogs/sources.gsfc
                    GSFC 2016a X/S astro solution,   3102 observations.
```

eg111btr

Nature and properties of pc scale jets in FR0

PI: *Gabriele Giovannini*

```
Address:  Istituto di Radioastronomia di Bologna

Observing mode: vlbi
Schedule for TORUN     (Code Tr )                                  Page   2
               Nature and properties of pc scale jets in FR0
  UP:  D => Below limits;  H => Below horizon mask;  W => still slewing at end;  blank => Up.
  Early: Seconds between end of slew and start.   Dwell: On source seconds.
  Disk: GBytes recorded to this point.
  TPStart:  Recording start time.  Frequencies are LO sum (band edge).
  SYNC: Time correlator is expected to sync up.
-------------------------------------------------------------------------------------------
Start UT  Source               Start / Stop                 Early    Disk   TPStart
Stop UT                  LST      EL    AZ   HA  UP   ParA  Dwell   GBytes    SYNC
-------------------------------------------------------------------------------------------
 --- Tue  14 Jun 2022   Day 165 ---
 Next scan frequencies:  4830.49  4830.49  4830.49  4830.49  4894.49  4894.49  4894.49  4894.49
                         4958.49  4958.49  4958.49  4958.49  5022.49  5022.49  5022.49  5022.49
 Next BBC frequencies:    630.49   630.49   630.49   630.49   694.49   694.49   694.49   694.49
                          758.49   758.49   758.49   758.49   822.49   822.49   822.49   822.49
 Next scan bandwidths:     32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00
                           32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00

12 00 00  4C39.25      06 45 20  58.9 100.4 -2.7     -49.4     0        0   12 00 00
12 04 00  ---          06 49 21  59.5 101.4 -2.7     -49.2   240       62   12 00 01

12 05 30  J1223+5037   06 50 51  41.3  57.3 -5.6     -52.6   -13       62   12 05 30
12 08 00  ---          06 53 21  41.6  57.6 -5.5     -52.9   137      100   12 05 31

12 08 00  J1213+50     06 53 21  43.0  58.8 -5.4     -54.1   -19      100   No stop
12 11 30  ---          06 56 52  43.5  59.2 -5.3     -54.4   191      155   12 08 01

12 11 30  J1223+5037   06 56 52  42.1  58.1 -5.5     -53.3   -18      155   No stop
12 13 00  ---          06 58 22  42.3  58.3 -5.4     -53.4    72      178   12 11 31

12 13 00  J1213+50     06 58 22  43.7  59.4 -5.3     -54.6   -19      178   No stop
12 16 30  ---          07 01 53  44.1  59.9 -5.2     -55.0   191      232   12 13 01

12 17 00  J1223+5037   07 02 23  42.8  58.8 -5.4     -53.8    12      232   12 17 00
12 18 00  ---          07 03 23  42.9  58.9 -5.4     -54.0    60      247   12 17 01

12 18 00  J1213+50     07 03 23  44.3  60.1 -5.2     -55.1   -19      247   No stop
12 21 30  ---          07 06 53  44.8  60.5 -5.1     -55.5   191      301   12 18 01

12 21 30  J1223+5037   07 06 53  43.4  59.3 -5.3     -54.3   -18      301   No stop
12 23 00  ---          07 08 24  43.6  59.5 -5.3     -54.5    72      325   12 21 31

12 23 00  J1213+50     07 08 24  45.0  60.7 -5.1     -55.6   -19      325   No stop
12 26 30  ---          07 11 54  45.4  61.2 -5.0     -56.0   191      379   12 23 01

12 27 00  J1223+5037   07 12 24  44.1  60.0 -5.2     -54.9    11      379   12 27 00
12 28 00  ---          07 13 25  44.2  60.2 -5.2     -55.0    60      394   12 27 01

12 28 00  J1213+50     07 13 25  45.6  61.3 -5.0     -56.2   -19      394   No stop
12 31 30  ---          07 16 55  46.1  61.8 -5.0     -56.5   191      448   12 28 01

12 31 30  J1223+5037   07 16 55  44.7  60.6 -5.1     -55.4   -19      448   No stop
12 33 00  ---          07 18 25  44.9  60.8 -5.1     -55.5    71      471   12 31 31
```

Schedule for TORUN (Code Tr) Page 3

Nature and properties of pc scale jets in FR0

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Tue 14 Jun 2022 Day 165 ---										
12 33 00	J1213+50	07 18 25	46.3	62.0	-4.9		-56.7	-19	471	No stop
12 36 30	---	07 21 56	46.8	62.4	-4.9		-57.0	191	526	12 33 01
12 37 00	J1223+5037	07 22 26	45.4	61.3	-5.0		-55.9	11	526	12 37 00
12 38 00	---	07 23 26	45.5	61.4	-5.0		-56.0	60	541	12 37 01
12 38 00	J1213+50	07 23 26	47.0	62.6	-4.9		-57.2	-19	541	No stop
12 41 30	---	07 26 57	47.4	63.0	-4.8		-57.5	191	595	12 38 01
12 41 30	J1223+5037	07 26 57	46.0	61.9	-5.0		-56.4	-19	595	No stop
12 43 00	---	07 28 27	46.2	62.1	-4.9		-56.6	71	618	12 41 31
12 43 00	J1213+50	07 28 27	47.6	63.2	-4.8		-57.7	-19	618	No stop
12 46 30	---	07 31 58	48.1	63.7	-4.7		-58.0	191	672	12 43 01
12 47 00	J1223+5037	07 32 28	46.7	62.6	-4.9		-57.0	11	672	12 47 00
12 48 00	---	07 33 28	46.9	62.7	-4.9		-57.1	60	688	12 47 01
12 48 00	J1213+50	07 33 28	48.3	63.9	-4.7		-58.2	-19	688	No stop
12 51 30	---	07 36 58	48.8	64.3	-4.6		-58.5	191	742	12 48 01
12 51 30	J1223+5037	07 36 58	47.3	63.2	-4.8		-57.4	-19	742	No stop
12 53 00	---	07 38 29	47.5	63.4	-4.8		-57.6	71	765	12 51 31
12 53 00	J1213+50	07 38 29	49.0	64.5	-4.6		-58.7	-19	765	No stop
12 56 30	---	07 41 59	49.5	64.9	-4.5		-59.0	191	819	12 53 01
12 57 00	J1223+5037	07 42 29	48.1	63.9	-4.7		-58.0	11	819	12 57 00
12 58 00	---	07 43 29	48.2	64.0	-4.7		-58.1	60	835	12 57 01
12 58 00	J1213+50	07 43 29	49.7	65.1	-4.5		-59.2	-19	835	No stop
13 01 30	---	07 47 00	50.1	65.6	-4.5		-59.5	191	889	12 58 01
13 01 30	J1223+5037	07 47 00	48.7	64.4	-4.6		-58.4	-19	889	No stop
13 03 00	---	07 48 30	48.9	64.6	-4.6		-58.6	71	912	13 01 31
13 03 00	J1213+50	07 48 30	50.3	65.8	-4.4		-59.7	-19	912	No stop
13 06 30	---	07 52 01	50.8	66.2	-4.4		-60.0	191	966	13 03 01
13 07 00	J1223+5037	07 52 31	49.4	65.1	-4.5		-58.9	11	966	13 07 00
13 08 00	---	07 53 31	49.6	65.2	-4.5		-59.0	60	982	13 07 01
13 08 00	J1213+50	07 53 31	51.0	66.4	-4.4		-60.1	-19	982	No stop
13 11 30	---	07 57 02	51.5	66.8	-4.3		-60.5	191	1036	13 08 01
13 11 30	J1223+5037	07 57 02	50.1	65.7	-4.5		-59.4	-19	1036	No stop
13 13 00	---	07 58 32	50.3	65.9	-4.4		-59.5	71	1059	13 11 31

Schedule for TORUN (Code Tr) Page 4

Nature and properties of pc scale jets in FR0

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Tue 14 Jun 2022 Day 165 ---										
13 13 00	J1213+50	07 58 32	51.7	67.0	-4.3		-60.6	-19	1059	No stop
13 16 30	---	08 02 03	52.2	67.5	-4.2		-60.9	191	1113	13 13 01
13 17 00	J1223+5037	08 02 33	50.8	66.4	-4.4		-59.9	11	1113	13 17 00
13 18 00	---	08 03 33	51.0	66.5	-4.4		-60.0	60	1128	13 17 01
13 18 00	J1213+50	08 03 33	52.4	67.6	-4.2		-61.1	-19	1128	No stop
13 21 30	---	08 07 03	52.9	68.1	-4.1		-61.4	191	1183	13 18 01
13 21 30	J1223+5037	08 07 03	51.4	67.0	-4.3		-60.3	-19	1183	No stop
13 23 00	---	08 08 34	51.6	67.1	-4.3		-60.5	71	1206	13 21 31
13 23 00	J1213+50	08 08 34	53.1	68.3	-4.1		-61.6	-19	1206	No stop
13 26 30	---	08 12 04	53.6	68.7	-4.0		-61.9	191	1260	13 23 01
13 27 00	J1223+5037	08 12 34	52.2	67.7	-4.2		-60.9	11	1260	13 27 00
13 28 00	---	08 13 34	52.3	67.8	-4.2		-60.9	60	1275	13 27 01
13 29 30	4C39.25	08 15 05	71.1	131.0	-1.2		-35.6	-52	1275	13 29 30
13 34 30	---	08 20 05	71.6	133.5	-1.1		-34.0	248	1353	13 29 31
13 36 00	J1234+4753	08 21 36	50.6	71.2	-4.2		-57.8	-49	1353	13 36 00
13 38 30	=1231+481	08 24 06	51.0	71.6	-4.2		-58.0	101	1391	13 36 01
13 38 30	J1230+47	08 24 06	51.1	73.4	-4.1		-57.3	-17	1391	No stop
13 42 00	---	08 27 37	51.6	73.9	-4.1		-57.6	193	1445	13 38 31
13 42 00	J1234+4753	08 27 37	51.5	72.1	-4.1		-58.2	-17	1445	No stop
13 43 30	=1231+481	08 29 07	51.7	72.3	-4.1		-58.3	73	1469	13 42 01
13 43 30	J1230+47	08 29 07	51.8	74.1	-4.0		-57.7	-17	1469	No stop
13 47 00	---	08 32 38	52.3	74.6	-4.0		-57.9	193	1523	13 43 31
13 47 30	J1234+4753	08 33 08	52.2	72.9	-4.0		-58.6	13	1523	13 47 30
13 48 30	=1231+481	08 34 08	52.4	73.0	-4.0		-58.7	60	1538	13 47 31
13 48 30	J1230+47	08 34 08	52.5	74.8	-4.0		-58.0	-17	1538	No stop
13 52 00	---	08 37 38	53.0	75.4	-3.9		-58.2	193	1592	13 48 31
13 52 00	J1234+4753	08 37 38	52.9	73.5	-4.0		-59.0	-17	1592	No stop
13 53 30	=1231+481	08 39 09	53.1	73.7	-3.9		-59.1	73	1615	13 52 01
13 53 30	J1230+47	08 39 09	53.2	75.6	-3.9		-58.3	-17	1615	No stop
13 57 00	---	08 42 39	53.7	76.1	-3.8		-58.5	193	1669	13 53 31

Schedule for TORUN (Code Tr) Page 5

Nature and properties of pc scale jets in FR0

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Tue 14 Jun 2022 Day 165 ---										
13 57 30	J1234+4753	08 43 09	53.7	74.3	-3.9		-59.3	13	1669	13 57 30
13 58 30	=1231+481	08 44 09	53.8	74.4	-3.9		-59.4	60	1685	13 57 31
13 58 30	J1230+47	08 44 09	54.0	76.3	-3.8		-58.6	-17	1685	No stop
14 02 00	---	08 47 40	54.5	76.9	-3.7		-58.8	193	1739	13 58 31
14 02 00	J1234+4753	08 47 40	54.3	75.0	-3.8		-59.7	-17	1739	No stop
14 03 30	=1231+481	08 49 10	54.6	75.2	-3.8		-59.8	73	1762	14 02 01
14 03 30	J1230+47	08 49 10	54.7	77.1	-3.7		-58.9	-18	1762	No stop
14 07 00	---	08 52 41	55.2	77.6	-3.6		-59.1	192	1816	14 03 31
14 07 30	J1234+4753	08 53 11	55.1	75.8	-3.7		-60.0	13	1816	14 07 30
14 08 30	=1231+481	08 54 11	55.3	75.9	-3.7		-60.1	60	1832	14 07 31
14 08 30	J1230+47	08 54 11	55.4	77.9	-3.6		-59.2	-18	1832	No stop
14 12 00	---	08 57 42	55.9	78.4	-3.6		-59.4	192	1886	14 08 31
14 12 00	J1234+4753	08 57 42	55.8	76.4	-3.6		-60.3	-17	1886	No stop
14 13 30	=1231+481	08 59 12	56.0	76.7	-3.6		-60.4	73	1909	14 12 01
14 13 30	J1230+47	08 59 12	56.2	78.6	-3.5		-59.5	-18	1909	No stop
14 17 00	---	09 02 42	56.7	79.2	-3.5		-59.7	192	1963	14 13 31
14 17 30	J1234+4753	09 03 13	56.6	77.3	-3.5		-60.6	12	1963	14 17 30
14 18 30	=1231+481	09 04 13	56.8	77.4	-3.5		-60.7	60	1979	14 17 31
14 18 30	J1230+47	09 04 13	56.9	79.4	-3.5		-59.7	-18	1979	No stop
14 22 00	---	09 07 43	57.4	80.0	-3.4		-59.9	192	2033	14 18 31
14 22 00	J1234+4753	09 07 43	57.3	77.9	-3.5		-60.9	-18	2033	No stop
14 23 30	=1231+481	09 09 14	57.5	78.2	-3.4		-61.0	72	2056	14 22 01
14 23 30	J1230+47	09 09 14	57.6	80.2	-3.4		-60.0	-18	2056	No stop
14 27 00	---	09 12 44	58.2	80.8	-3.3		-60.1	192	2110	14 23 31
14 27 30	J1234+4753	09 13 14	58.1	78.8	-3.4		-61.2	12	2110	14 27 30
14 28 30	=1231+481	09 14 14	58.2	78.9	-3.4		-61.3	60	2126	14 27 31
14 28 30	J1230+47	09 14 14	58.4	81.0	-3.3		-60.2	-18	2126	No stop
14 32 00	---	09 17 45	58.9	81.6	-3.2		-60.4	192	2180	14 28 31
14 32 00	J1234+4753	09 17 45	58.7	79.5	-3.3		-61.5	-18	2180	No stop
14 33 30	=1231+481	09 19 15	59.0	79.7	-3.3		-61.5	72	2203	14 32 01

Schedule for TORUN (Code Tr) Page 6

Nature and properties of pc scale jets in FR0

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Tue 14 Jun 2022 Day 165 ---										
14 33 30	J1230+47	09 19 15	59.1	81.9	-3.2		-60.4	-18	2203	No stop
14 37 00	---	09 22 46	59.7	82.4	-3.1		-60.6	192	2257	14 33 31
14 37 30	J1234+4753	09 23 16	59.6	80.3	-3.2		-61.7	12	2257	14 37 30
14 38 30	=1231+481	09 24 16	59.7	80.5	-3.2		-61.8	60	2272	14 37 31
14 38 30	J1230+47	09 24 16	59.9	82.7	-3.1		-60.6	-18	2272	No stop
14 42 00	---	09 27 47	60.4	83.3	-3.1		-60.8	192	2326	14 38 31
14 42 00	J1234+4753	09 27 47	60.2	81.0	-3.1		-62.0	-18	2326	No stop
14 43 30	=1231+481	09 29 17	60.5	81.3	-3.1		-62.0	72	2350	14 42 01
14 43 30	J1230+47	09 29 17	60.6	83.5	-3.0		-60.8	-19	2350	No stop
14 47 00	---	09 32 47	61.1	84.1	-3.0		-60.9	191	2404	14 43 31
14 47 30	J1234+4753	09 33 17	61.0	81.9	-3.0		-62.2	12	2404	14 47 30
14 48 30	=1231+481	09 34 18	61.2	82.1	-3.0		-62.3	60	2419	14 47 31
14 48 30	J1230+47	09 34 18	61.4	84.4	-2.9		-61.0	-19	2419	No stop
14 52 00	---	09 37 48	61.9	85.0	-2.9		-61.1	191	2473	14 48 31
14 52 00	J1234+4753	09 37 48	61.7	82.7	-3.0		-62.4	-19	2473	No stop
14 53 30	=1231+481	09 39 18	61.9	82.9	-2.9		-62.5	71	2497	14 52 01
14 53 30	J1230+47	09 39 18	62.1	85.3	-2.9		-61.1	-19	2497	No stop
14 57 00	---	09 42 49	62.6	85.9	-2.8		-61.2	191	2551	14 53 31
14 57 30	J1234+4753	09 43 19	62.5	83.6	-2.9		-62.6	11	2551	14 57 30
14 58 30	=1231+481	09 44 19	62.7	83.7	-2.8		-62.7	60	2566	14 57 31
14 58 30	J1230+47	09 44 19	62.9	86.2	-2.8		-61.2	-19	2566	No stop
15 02 00	---	09 47 50	63.4	86.8	-2.7		-61.3	191	2620	14 58 31
15 02 00	J1234+4753	09 47 50	63.2	84.3	-2.8		-62.8	-19	2620	No stop
15 03 30	=1231+481	09 49 20	63.4	84.6	-2.8		-62.8	71	2643	15 02 01
15 03 30	J1230+47	09 49 20	63.6	87.1	-2.7		-61.3	-19	2643	No stop
15 07 00	---	09 52 51	64.1	87.7	-2.6		-61.4	191	2697	15 03 31
15 07 30	J1234+4753	09 53 21	64.0	85.3	-2.7		-62.9	11	2697	15 07 30
15 08 30	=1231+481	09 54 21	64.2	85.5	-2.7		-63.0	60	2713	15 07 31
15 08 30	J1230+47	09 54 21	64.4	88.0	-2.6		-61.4	-19	2713	No stop
15 12 00	---	09 57 51	64.9	88.7	-2.6		-61.4	191	2767	15 08 31

Schedule for TORUN (Code Tr) Page 7

Nature and properties of pc scale jets in FR0

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Tue 14 Jun 2022 Day 165 ---										
15 12 00	J1234+4753	09 57 51	64.7	86.1	-2.6		-63.1	-19	2767	No stop
15 13 30	=1231+481	09 59 22	64.9	86.3	-2.6		-63.1	71	2790	15 12 01
15 13 30	J1230+47	09 59 22	65.1	89.0	-2.5		-61.5	-20	2790	No stop
15 17 00	---	10 02 52	65.7	89.7	-2.5		-61.5	190	2844	15 13 31
15 17 30	J1234+4753	10 03 22	65.5	87.1	-2.5		-63.2	11	2844	15 17 30
15 18 30	=1231+481	10 04 23	65.7	87.3	-2.5		-63.2	60	2860	15 17 31
15 22 30	J1042+0748	10 08 23	44.0	167.6	-0.6		-7.5	65	2860	15 22 30
15 24 00	---	10 09 53	44.1	168.2	-0.6		-7.1	90	2883	15 22 31
15 24 00	J1040+09	10 09 53	45.5	168.8	-0.5		-6.8	-19	2883	No stop
15 27 30	---	10 13 24	45.6	170.0	-0.5		-6.1	191	2937	15 24 01
15 27 30	J1042+0748	10 13 24	44.2	169.4	-0.5		-6.4	-19	2937	No stop
15 29 00	---	10 14 54	44.2	169.9	-0.5		-6.1	71	2960	15 27 31
15 29 00	J1040+09	10 14 54	45.6	170.5	-0.4		-5.7	-19	2960	No stop
15 32 30	---	10 18 25	45.7	171.8	-0.4		-5.0	191	3014	15 29 01
15 33 00	J1042+0748	10 18 55	44.3	171.3	-0.4		-5.3	11	3014	15 33 00
15 34 00	---	10 19 55	44.3	171.6	-0.4		-5.1	60	3030	15 33 01
15 34 00	J1040+09	10 19 55	45.8	172.3	-0.4		-4.7	-19	3030	No stop
15 37 30	---	10 23 26	45.8	173.5	-0.3		-3.9	191	3084	15 34 01
15 37 30	J1042+0748	10 23 26	44.4	172.8	-0.3		-4.3	-19	3084	No stop
15 39 00	---	10 24 56	44.4	173.3	-0.3		-4.0	71	3107	15 37 31
15 39 00	J1040+09	10 24 56	45.8	174.1	-0.3		-3.6	-19	3107	No stop
15 42 30	---	10 28 26	45.9	175.3	-0.2		-2.8	191	3161	15 39 01
15 43 00	J1042+0748	10 28 57	44.5	174.7	-0.3		-3.2	11	3161	15 43 00
15 44 00	---	10 29 57	44.5	175.1	-0.2		-3.0	60	3177	15 43 01
15 44 00	J1040+09	10 29 57	45.9	175.9	-0.2		-2.5	-19	3177	No stop
15 47 30	---	10 33 27	45.9	177.1	-0.1		-1.8	191	3231	15 44 01
15 47 30	J1042+0748	10 33 27	44.6	176.3	-0.2		-2.2	-19	3231	No stop
15 49 00	---	10 34 58	44.6	176.8	-0.2		-1.9	71	3254	15 47 31
15 49 00	J1040+09	10 34 58	46.0	177.6	-0.1		-1.4	-19	3254	No stop
15 52 30	---	10 38 28	46.0	178.9	-0.1		-0.7	191	3308	15 49 01

Schedule for TORUN (Code Tr) Page 8

Nature and properties of pc scale jets in FR0

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Tue 14 Jun 2022 Day 165 ---										
15 53 00	J1042+0748	10 38 58	44.6	178.2	-0.1		-1.1	11	3308	15 53 00
15 54 00	---	10 39 58	44.6	178.6	-0.1		-0.9	60	3324	15 53 01
15 54 00	J1040+09	10 39 58	46.0	179.4	-0.0		-0.4	-19	3324	No stop
15 57 30	---	10 43 29	46.0	180.7	0.0		0.4	191	3378	15 54 01
15 57 30	J1042+0748	10 43 29	44.6	179.8	-0.0		-0.1	-19	3378	No stop
15 59 00	---	10 44 59	44.6	180.3	0.0		0.2	71	3401	15 57 31
15 59 00	J1040+09	10 44 59	46.0	181.2	0.1		0.7	-18	3401	No stop
16 02 30	---	10 48 30	46.0	182.4	0.1		1.5	192	3455	15 59 01
16 03 00	J1042+0748	10 49 00	44.6	181.7	0.1		1.0	12	3455	16 03 00
16 04 00	---	10 50 00	44.6	182.0	0.1		1.2	60	3470	16 03 01
16 04 00	J1040+09	10 50 00	45.9	183.0	0.1		1.8	-18	3470	No stop
16 07 30	---	10 53 31	45.9	184.2	0.2		2.6	192	3524	16 04 01
16 07 30	J1042+0748	10 53 31	44.6	183.3	0.2		2.0	-18	3524	No stop
16 09 00	---	10 55 01	44.5	183.8	0.2		2.3	72	3548	16 07 31
16 09 00	J1040+09	10 55 01	45.9	184.7	0.2		2.9	-18	3548	No stop
16 12 30	---	10 58 31	45.8	186.0	0.3		3.6	192	3602	16 09 01
16 13 00	J1042+0748	10 59 02	44.5	185.2	0.2		3.1	12	3602	16 13 00
16 14 00	---	11 00 02	44.5	185.5	0.3		3.3	60	3617	16 13 01
16 14 00	J1040+09	11 00 02	45.8	186.5	0.3		4.0	-18	3617	No stop
16 17 30	---	11 03 32	45.7	187.8	0.4		4.7	192	3671	16 14 01
16 17 30	J1042+0748	11 03 32	44.4	186.7	0.3		4.1	-18	3671	No stop
16 19 00	---	11 05 02	44.4	187.3	0.3		4.4	72	3695	16 17 31
16 19 00	J1040+09	11 05 02	45.7	188.3	0.4		5.0	-18	3695	No stop
16 22 30	---	11 08 33	45.6	189.5	0.4		5.8	192	3749	16 19 01
16 23 00	J1042+0748	11 09 03	44.3	188.7	0.4		5.2	12	3749	16 23 00
16 24 00	---	11 10 03	44.3	189.0	0.4		5.4	60	3764	16 23 01
16 24 00	J1040+09	11 10 03	45.6	190.1	0.5		6.1	-18	3764	No stop
16 27 30	---	11 13 34	45.5	191.3	0.5		6.8	192	3818	16 24 01
16 27 30	J1042+0748	11 13 34	44.2	190.2	0.5		6.2	-18	3818	No stop
16 29 00	---	11 15 04	44.2	190.7	0.5		6.5	72	3841	16 27 31

Schedule for TORUN (Code Tr) Page 9

Nature and properties of pc scale jets in FR0

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	LST	Start / Stop EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Tue 14 Jun 2022 Day 165 ---										
16 29 00	J1040+09	11 15 04	45.5	191.8	0.6		7.1	-18	3841	No stop
16 32 30	---	11 18 35	45.3	193.0	0.6		7.9	192	3895	16 29 01
16 33 00	J1042+0748	11 19 05	44.0	192.1	0.6		7.3	12	3895	16 33 00
16 34 00	---	11 20 05	44.0	192.4	0.6		7.5	60	3911	16 33 01
16 36 00	J1025+1253	11 22 05	48.2	200.4	0.9		12.4	90	3911	16 36 00
16 37 30	=1023+131	11 23 36	48.1	200.9	0.9		12.7	90	3934	16 36 01
16 37 30	J1025+10	11 23 36	45.7	200.2	0.9		12.1	-23	3934	No stop
16 41 00	---	11 27 06	45.5	201.4	1.0		12.8	187	3988	16 37 31
16 41 00	J1025+1253	11 27 06	48.0	202.1	1.0		13.4	-23	3988	No stop
16 42 30	=1023+131	11 28 36	47.9	202.7	1.0		13.7	67	4011	16 41 01
16 42 30	J1025+10	11 28 36	45.4	201.9	1.0		13.1	-23	4011	No stop
16 46 00	---	11 32 07	45.2	203.1	1.1		13.8	187	4066	16 42 31
16 46 30	J1025+1253	11 32 37	47.6	204.1	1.1		14.5	7	4066	16 46 30
16 47 30	=1023+131	11 33 37	47.6	204.4	1.1		14.8	60	4081	16 46 31
16 47 30	J1025+10	11 33 37	45.1	203.6	1.1		14.1	-23	4081	No stop
16 51 00	---	11 37 08	44.9	204.8	1.2		14.8	187	4135	16 47 31
16 51 00	J1025+1253	11 37 08	47.3	205.6	1.2		15.5	-23	4135	No stop
16 52 30	=1023+131	11 38 38	47.2	206.2	1.2		15.8	67	4158	16 51 01
16 52 30	J1025+10	11 38 38	44.8	205.3	1.2		15.1	-23	4158	No stop
16 56 00	---	11 42 09	44.6	206.4	1.3		15.8	187	4212	16 52 31
16 56 30	J1025+1253	11 42 39	47.0	207.6	1.3		16.5	7	4212	16 56 30
16 57 30	=1023+131	11 43 39	46.9	207.9	1.3		16.7	60	4228	16 56 31
16 57 30	J1025+10	11 43 39	44.5	206.9	1.3		16.1	-23	4228	No stop
17 01 00	---	11 47 09	44.2	208.1	1.3		16.7	187	4282	16 57 31
17 01 00	J1025+1253	11 47 09	46.7	209.1	1.3		17.4	-23	4282	No stop
17 02 30	=1023+131	11 48 40	46.5	209.6	1.4		17.7	67	4305	17 01 01
17 02 30	J1025+10	11 48 40	44.1	208.6	1.4		17.0	-23	4305	No stop
17 06 00	---	11 52 10	43.9	209.7	1.4		17.6	187	4359	17 02 31
17 06 30	J1025+1253	11 52 40	46.2	210.9	1.4		18.5	7	4359	17 06 30
17 07 30	=1023+131	11 53 40	46.2	211.3	1.4		18.6	60	4375	17 06 31

Schedule for TORUN (Code Tr) Page 10

Nature and properties of pc scale jets in FR0

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	LST	Start / Stop EL	 AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Tue 14 Jun 2022 Day 165 ---										
17 07 30	J1025+10	11 53 40	43.7	210.2	1.4		17.9	-23	4375	No stop
17 11 00	---	11 57 11	43.5	211.4	1.5		18.5	187	4429	17 07 31
17 11 00	J1025+1253	11 57 11	45.9	212.4	1.5		19.3	-23	4429	No stop
17 12 30	=1023+131	11 58 41	45.8	212.9	1.5		19.6	67	4452	17 11 01
17 12 30	J1025+10	11 58 41	43.4	211.8	1.5		18.8	-23	4452	No stop
17 16 00	---	12 02 12	43.1	213.0	1.6		19.4	187	4506	17 12 31
17 16 30	J1025+1253	12 02 42	45.4	214.3	1.6		20.3	7	4506	17 16 30
17 17 30	=1023+131	12 03 42	45.3	214.6	1.6		20.5	60	4522	17 16 31
17 17 30	J1025+10	12 03 42	43.0	213.4	1.6		19.7	-23	4522	No stop
17 21 00	---	12 07 13	42.7	214.5	1.7		20.2	187	4576	17 17 31
17 21 00	J1025+1253	12 07 13	45.0	215.7	1.7		21.1	-23	4576	No stop
17 22 30	=1023+131	12 08 43	44.9	216.2	1.7		21.3	67	4599	17 21 01
17 22 30	J1025+10	12 08 43	42.5	215.0	1.7		20.5	-23	4599	No stop
17 26 00	---	12 12 13	42.2	216.1	1.8		21.1	187	4653	17 22 31
17 26 30	J1025+1253	12 12 44	44.5	217.5	1.8		22.0	7	4653	17 26 30
17 27 30	=1023+131	12 13 44	44.5	217.8	1.8		22.2	60	4668	17 26 31
17 29 30	J1042+0748	12 15 44	40.9	210.7	1.5		18.0	90	4668	17 29 30
17 31 00	---	12 17 14	40.8	211.2	1.6		18.3	90	4692	17 29 31
17 33 00	J1040+09	12 19 15	41.8	213.2	1.6		19.4	103	4692	17 33 00
17 36 30	---	12 22 45	41.5	214.2	1.7		20.0	210	4746	17 33 01
17 36 30	J1042+0748	12 22 45	40.4	212.9	1.6		19.2	-17	4746	No stop
17 38 00	---	12 24 15	40.3	213.3	1.7		19.5	73	4769	17 36 31
17 38 00	J1040+09	12 24 15	41.3	214.7	1.7		20.3	-17	4769	No stop
17 41 30	---	12 27 46	41.0	215.8	1.8		20.8	193	4823	17 38 01
17 42 00	J1042+0748	12 28 16	39.9	214.6	1.7		20.1	13	4823	17 42 00
17 43 30	---	12 29 46	39.8	215.0	1.8		20.3	90	4846	17 42 01
17 45 30	J1040+09	12 31 47	40.7	217.0	1.8		21.5	103	4846	17 45 30
17 49 00	---	12 35 17	40.4	218.1	1.9		22.0	210	4900	17 45 31
17 49 00	J1042+0748	12 35 17	39.3	216.7	1.9		21.2	-17	4900	No stop
17 50 30	---	12 36 48	39.2	217.1	1.9		21.4	73	4923	17 49 01

Schedule for TORUN (Code Tr) Page 11

Nature and properties of pc scale jets in FR0

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Tue 14 Jun 2022 Day 165 ---										
17 50 30	J1040+09	12 36 48	40.2	218.5	1.9		22.3	-17	4923	No stop
17 54 00	---	12 40 18	39.9	219.6	2.0		22.8	193	4978	17 50 31
17 54 30	J1042+0748	12 40 48	38.8	218.3	1.9		22.1	13	4978	17 54 30
17 56 00	---	12 42 18	38.7	218.7	2.0		22.3	90	5001	17 54 31
17 58 00	J1040+09	12 44 19	39.5	220.8	2.0		23.4	103	5001	17 58 00
18 01 30	---	12 47 49	39.2	221.8	2.1		23.9	210	5055	17 58 01
18 01 30	J1042+0748	12 47 49	38.1	220.4	2.1		23.1	-17	5055	No stop
18 03 00	---	12 49 20	38.0	220.8	2.1		23.3	73	5078	18 01 31
18 03 00	J1040+09	12 49 20	39.0	222.2	2.1		24.1	-16	5078	No stop
18 06 30	---	12 52 50	38.6	223.2	2.2		24.6	194	5132	18 03 01
18 07 00	J1042+0748	12 53 20	37.6	221.9	2.2		23.9	13	5132	18 07 00
18 08 30	---	12 54 50	37.4	222.4	2.2		24.1	90	5155	18 07 01
18 10 30	J1040+09	12 56 51	38.2	224.4	2.3		25.2	104	5155	18 10 30
18 14 00	---	13 00 21	37.9	225.4	2.3		25.6	210	5209	18 10 31
18 14 00	J1042+0748	13 00 21	36.9	223.9	2.3		24.9	-17	5209	No stop
18 15 30	---	13 01 52	36.7	224.4	2.3		25.1	73	5233	18 14 01
18 15 30	J1040+09	13 01 52	37.7	225.8	2.3		25.8	-16	5233	No stop
18 19 00	---	13 05 22	37.3	226.8	2.4		26.3	194	5287	18 15 31
18 19 30	J1042+0748	13 05 52	36.3	225.5	2.4		25.6	14	5287	18 19 30
18 21 00	---	13 07 23	36.1	225.9	2.4		25.8	90	5310	18 19 31
18 23 00	J1040+09	13 09 23	36.9	227.9	2.5		26.8	104	5310	18 23 00
18 26 30	---	13 12 53	36.5	228.8	2.5		27.2	210	5364	18 23 01
18 26 30	J1042+0748	13 12 53	35.5	227.4	2.5		26.5	-16	5364	No stop
18 28 00	---	13 14 24	35.4	227.8	2.5		26.7	74	5387	18 26 31
18 28 00	J1040+09	13 14 24	36.3	229.3	2.5		27.4	-16	5387	No stop
18 31 30	---	13 17 54	35.9	230.2	2.6		27.9	194	5441	18 28 01
18 32 00	J1042+0748	13 18 24	34.9	228.9	2.6		27.2	14	5441	18 32 00
18 33 30	---	13 19 55	34.7	229.3	2.6		27.3	90	5465	18 32 01
18 35 30	J1040+09	13 21 55	35.4	231.3	2.7		28.3	104	5465	18 35 30
18 39 00	---	13 25 25	35.0	232.2	2.7		28.7	210	5519	18 35 31

Schedule for TORUN (Code Tr) Page 12

Nature and properties of pc scale jets in FR0

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Tue 14 Jun 2022 Day 165 ---										
18 39 00	J1042+0748	13 25 25	34.1	230.8	2.7		28.0	-16	5519	No stop
18 40 30	---	13 26 56	33.9	231.2	2.7		28.2	74	5542	18 39 01
18 40 30	J1040+09	13 26 56	34.8	232.6	2.8		28.9	-16	5542	No stop
18 44 00	---	13 30 26	34.4	233.5	2.8		29.3	194	5596	18 40 31
18 44 30	J1042+0748	13 30 56	33.5	232.2	2.8		28.6	14	5596	18 44 30
18 46 00	---	13 32 27	33.3	232.6	2.8		28.8	90	5619	18 44 31
18 48 00	J1025+1253	13 34 27	35.3	240.6	3.1		32.4	90	5619	18 48 00
18 50 00	=1023+131	13 36 27	35.0	241.1	3.2		32.6	120	5650	18 48 01
18 50 00	J1025+10	13 36 27	32.9	239.5	3.2		31.7	-22	5650	No stop
18 53 30	---	13 39 58	32.4	240.4	3.2		32.1	188	5704	18 50 01
18 53 30	J1025+1253	13 39 58	34.6	242.0	3.2		32.9	-22	5704	No stop
18 55 00	=1023+131	13 41 28	34.4	242.4	3.2		33.1	68	5727	18 53 31
18 55 00	J1025+10	13 41 28	32.2	240.8	3.2		32.2	-22	5727	No stop
18 58 30	---	13 44 59	31.7	241.7	3.3		32.5	188	5781	18 55 01
18 59 00	J1025+1253	13 45 29	33.8	243.4	3.3		33.4	8	5781	18 59 00
19 00 00	=1023+131	13 46 29	33.7	243.6	3.3		33.5	60	5797	18 59 01
19 00 00	J1025+10	13 46 29	31.5	242.0	3.3		32.6	-22	5797	No stop
19 03 30	---	13 50 00	31.1	242.9	3.4		32.9	188	5851	19 00 01
19 03 30	J1025+1253	13 50 00	33.2	244.5	3.4		33.7	-22	5851	No stop
19 05 00	=1023+131	13 51 30	33.0	244.8	3.4		33.9	68	5874	19 03 31
19 05 00	J1025+10	13 51 30	30.9	243.2	3.4		33.0	-22	5874	No stop
19 08 30	---	13 55 00	30.4	244.1	3.5		33.3	188	5928	19 05 01
19 09 00	J1025+1253	13 55 30	32.5	245.8	3.5		34.2	8	5928	19 09 00
19 10 00	=1023+131	13 56 31	32.3	246.0	3.5		34.2	60	5944	19 09 01
19 10 00	J1025+10	13 56 31	30.2	244.4	3.5		33.4	-22	5944	No stop
19 13 30	---	14 00 01	29.7	245.3	3.6		33.7	188	5998	19 10 01
19 13 30	J1025+1253	14 00 01	31.8	246.9	3.5		34.5	-22	5998	No stop
19 15 00	=1023+131	14 01 31	31.6	247.2	3.6		34.6	68	6021	19 13 31
19 15 00	J1025+10	14 01 31	29.5	245.6	3.6		33.8	-22	6021	No stop
19 18 30	---	14 05 02	29.0	246.4	3.6		34.0	188	6075	19 15 01

Schedule for TORUN (Code Tr) Page 13

Nature and properties of pc scale jets in FR0

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	LST	Start / Stop EL	 AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Tue 14 Jun 2022 Day 165 ---										
19 19 00	J1025+1253	14 05 32	31.1	248.1	3.6		34.9	8	6075	19 19 00
19 20 00	=1023+131	14 06 32	30.9	248.4	3.7		34.9	60	6091	19 19 01
19 20 00	J1025+10	14 06 32	28.8	246.8	3.7		34.1	-22	6091	No stop
19 23 30	---	14 10 03	28.3	247.6	3.7		34.3	188	6145	19 20 01
19 23 30	J1025+1253	14 10 03	30.4	249.2	3.7		35.1	-22	6145	No stop
19 25 00	=1023+131	14 11 33	30.2	249.5	3.7		35.2	68	6168	19 23 31
19 25 00	J1025+10	14 11 33	28.1	247.9	3.7		34.4	-22	6168	No stop
19 28 30	---	14 15 04	27.6	248.7	3.8		34.7	188	6222	19 25 01
19 29 00	J1025+1253	14 15 34	29.7	250.5	3.8		35.5	8	6222	19 29 00
19 30 00	=1023+131	14 16 34	29.5	250.7	3.8		35.5	60	6237	19 29 01
19 30 00	J1025+10	14 16 34	27.4	249.1	3.8		34.8	-22	6237	No stop
19 33 30	---	14 20 04	26.9	249.9	3.9		35.0	188	6292	19 30 01
19 33 30	J1025+1253	14 20 04	29.0	251.5	3.9		35.7	-22	6292	No stop
19 35 00	=1023+131	14 21 35	28.8	251.8	3.9		35.8	68	6315	19 33 31
19 35 00	J1025+10	14 21 35	26.7	250.2	3.9		35.0	-22	6315	No stop
19 38 30	---	14 25 05	26.2	251.0	4.0		35.2	188	6369	19 35 01
19 39 00	J1025+1253	14 25 35	28.2	252.7	4.0		36.0	9	6369	19 39 00
19 40 00	=1023+131	14 26 36	28.1	253.0	4.0		36.1	60	6384	19 39 01
19 40 00	J1025+10	14 26 36	26.0	251.4	4.0		35.3	-22	6384	No stop
19 43 30	---	14 30 06	25.5	252.1	4.1		35.5	188	6438	19 40 01
19 43 30	J1025+1253	14 30 06	27.6	253.7	4.0		36.2	-21	6438	No stop
19 45 00	=1023+131	14 31 36	27.4	254.1	4.1		36.3	69	6462	19 43 31
19 45 00	J1025+10	14 31 36	25.3	252.5	4.1		35.6	-22	6462	No stop
19 48 30	---	14 35 07	24.8	253.2	4.1		35.8	188	6516	19 45 01
19 49 00	J1025+1253	14 35 37	26.8	255.0	4.1		36.5	9	6516	19 49 00
19 50 00	=1023+131	14 36 37	26.6	255.2	4.2		36.5	60	6531	19 49 01
19 50 00	J1025+10	14 36 37	24.6	253.6	4.2		35.8	-22	6531	No stop
19 53 30	---	14 40 08	24.1	254.3	4.2		36.0	188	6585	19 50 01
19 53 30	J1025+1253	14 40 08	26.1	255.9	4.2		36.7	-21	6585	No stop
19 55 00	=1023+131	14 41 38	25.9	256.3	4.2		36.7	69	6608	19 53 31

```
Schedule for TORUN     (Code Tr )                                  Page  14
              Nature and properties of pc scale jets in FR0
  UP:  D => Below limits;  H => Below horizon mask;  W => still slewing at end;  blank => Up.
  Early: Seconds between end of slew and start.   Dwell: On source seconds.
  Disk: GBytes recorded to this point.
  TPStart:  Recording start time.  Frequencies are LO sum (band edge).
  SYNC: Time correlator is expected to sync up.
-----------------------------------------------------------------------------------------
Start UT  Source               Start / Stop                 Early    Disk   TPStart
Stop UT                  LST      EL    AZ   HA  UP   ParA  Dwell   GBytes    SYNC
-----------------------------------------------------------------------------------------

 --- Tue  14 Jun 2022   Day 165 ---

19 55 00  J1025+10     14 41 38  23.9 254.7  4.2      36.1   -22     6608   No stop
19 58 30  ---          14 45 09  23.3 255.4  4.3      36.2   188     6663   19 55 01

19 59 00  J1025+1253   14 45 39  25.3 257.1  4.3      36.9     9     6663   19 59 00
20 00 00  =1023+131    14 46 39  25.2 257.4  4.3      36.9    60     6678   19 59 01



SETUP FILE INFORMATION:
   NOTE: If DOPPLER, FREQ, or BW were used, see the individual scans for the final BBC settings.


 ======== Setup file: sess222.C2048

   Setup group:    8         Station: TORUN            Total bit rate:  2048
   Format: VDIF              Bits per sample: 2        Sample rate: 64.000
   Number of channels: 16    DBE type: DBBC_DDC        Speedup factor:   1.00

   Disk used to record data.
```

```
  1st LO=   4200.00   4200.00   4200.00   4200.00   4200.00   4200.00   4200.00   4200.00
            4200.00   4200.00   4200.00   4200.00   4200.00   4200.00   4200.00   4200.00
  Net SB=         L         L         U         U         L         L         U         U
                  L         L         U         U         L         L         U         U
  IF SB =         U         U         U         U         U         U         U         U
                  U         U         U         U         U         U         U         U
  Pol.  =       RCP       LCP       RCP       LCP       RCP       LCP       RCP       LCP
                RCP       LCP       RCP       LCP       RCP       LCP       RCP       LCP
  BBC   =         1         9         1         9         2        10         2        10
                  3        11         3        11         4        12         4        12
  BBC SB=         L         L         U         U         L         L         U         U
                  L         L         U         U         L         L         U         U
  IF    =        A1        B1        A1        B1        A1        B1        A1        B1
                 A1        B1        A1        B1        A1        B1        A1        B1

 The following frequency sets based on these setups were used.

  Frequency Set:   9  Setup file default.  Used with PCAL = off
  LO sum=   4830.49  4830.49  4830.49  4830.49  4894.49  4894.49  4894.49  4894.49
            4958.49  4958.49  4958.49  4958.49  5022.49  5022.49  5022.49  5022.49
  BBC fr=    630.49   630.49   630.49   630.49   694.49   694.49   694.49   694.49
             758.49   758.49   758.49   758.49   822.49   822.49   822.49   822.49
  Bandwd=     32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00
              32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00
   Matching frequency sets:   9

  Track assignments are:
   track1=   1,  2,  3,  4,  5,  6,  7,  8,  9, 10, 11, 12, 13, 14, 15, 16
   barrel=roll_off



POSITIONS OF SOURCES USED IN RECORDING SCANS

  Source                          Source position (RA/Dec)                        Error
                       (B1950)             (J2000)             (Date)             (mas)

* J1025+10          10 23 05.444052   * 10 25 44.213000     10 26 54.225750       0.00
                    10 37 46.62172    * 10 22 30.47500      10 15 47.06362        0.00
                    target

* J1040+09          10 37 50.834998   * 10 40 28.373100     10 41 37.928937       0.00
                    09 26 37.60826    * 09 10 57.25200      09 04 02.67861        0.00
                    target

* J1213+50          12 10 59.905444   * 12 13 29.279000     12 14 36.057944       0.00
                    51 01 09.79870    * 50 44 29.37800      50 37 20.05014        0.00
                    target

* J1230+47          12 27 47.173859   * 12 30 11.852100     12 31 16.664469       0.00
                    47 16 56.54379    * 47 00 22.69000      46 53 15.02186        0.00
                    target

* J1223+5037        12 21 17.429867   * 12 23 43.169200     12 24 48.443678       0.00
                    50 54 30.43461    * 50 37 53.41300      50 30 45.34918        0.00

* J1042+0748        10 40 20.708674   * 10 42 57.587900     10 44 06.865759       0.00
                    08 04 34.61601    * 07 48 50.54400      07 41 53.85479        0.00

* 4C39.25           09 23 55.319216   * 09 27 03.013937     09 28 25.330296       0.31
  J0927+3902        39 15 23.56644    * 39 02 20.85185      38 56 44.05553        0.16
```

```
  0923+392          /home/guest/rmc/SCHED/sched11.6/catalogs/sources.gsfc
  J0927+39          GSFC 2016a X/S astro solution, 250526 observations.

  1023+131          10 23 16.285226   * 10 25 56.285366     10 27 06.845010       0.03
* J1025+1253        13 09 05.49490    * 12 53 49.02202      12 47 06.28866        0.04
                    /home/guest/rmc/SCHED/sched11.6/catalogs/sources.gsfc
                    GSFC 2016a X/S astro solution,    780 observations.

  1231+481          12 31 50.237069   * 12 34 13.330790     12 35 17.493256       0.26
* J1234+4753        48 10 22.70510    * 47 53 51.23651      47 46 44.73962        0.19
                    /home/guest/rmc/SCHED/sched11.6/catalogs/sources.gsfc
                    GSFC 2016a X/S astro solution,     86 observations.
```

ec086dtr

LSR J1835 FOLLOW-UP OBSERVATIONS

PI: *Juan B. Climent*

```
Address:  Dpto. Astronomia, Univ. Valencia

Observing mode: Phase-referencing at 6cm (4 Gbps)

Schedule for TORUN     (Code Tr )                                  Page   2
               LSR J1835 follow-up observations
  UP:  D => Below limits;  H => Below horizon mask;  W => still slewing at end;  blank => Up.
  Early: Seconds between end of slew and start.   Dwell: On source seconds.
  Disk: GBytes recorded to this point.
  TPStart:  Recording start time.  Frequencies are LO sum (band edge).
  SYNC: Time correlator is expected to sync up.
-------------------------------------------------------------------------------------------
Start UT  Source               Start / Stop                 Early    Disk   TPStart
Stop UT                  LST      EL    AZ   HA  UP   ParA  Dwell   GBytes    SYNC
-------------------------------------------------------------------------------------------
 --- Tue  14 Jun 2022   Day 165 ---
 Next scan frequencies:  4632.00  4632.00  4632.00  4632.00  4696.00  4696.00  4696.00  4696.00
                         4760.00  4760.00  4760.00  4760.00  4824.00  4824.00  4824.00  4824.00
                         4888.00  4888.00  4888.00  4888.00  4952.00  4952.00  4952.00  4952.00
                         5016.00  5016.00  5016.00  5016.00  5080.00  5080.00  5080.00  5080.00
 Next BBC frequencies:    544.00   544.00   544.00   544.00   608.00   608.00   608.00   608.00
                          672.00   672.00   672.00   672.00   736.00   736.00   736.00   736.00
                          800.00   800.00   800.00   800.00   864.00   864.00   864.00   864.00
                          928.00   928.00   928.00   928.00   992.00   992.00   992.00   992.00
 Next scan bandwidths:     32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00
                           32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00
                           32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00
                           32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00

21 00 00  1830+285     15 46 49  50.9 112.1 -2.8     -39.3     0        0   21 00 00
21 04 00  ---          15 50 49  51.5 113.1 -2.7     -39.0   240      124   21 00 01

21 04 50  J1848+3219   15 51 39  52.2 105.3 -3.0     -43.3    19      124   21 04 50
21 06 50  =1846+322    15 53 40  52.5 105.8 -2.9     -43.1   120      185   21 04 51

21 06 50 LSRJ1835+325  15 53 40  54.8 108.3 -2.7     -42.8   -23      185   No stop
21 10 50  ---          15 57 40  55.4 109.4 -2.6     -42.5   217      309   21 06 51

21 11 30  J1848+3219   15 58 21  53.2 107.0 -2.8     -42.8    18      309   21 11 30
21 12 50  =1846+322    15 59 41  53.4 107.3 -2.8     -42.7    80      350   21 11 31

21 12 50 LSRJ1835+325  15 59 41  55.7 110.0 -2.6     -42.3   -23      350   No stop
21 16 50  ---          16 03 41  56.2 111.1 -2.5     -41.9   217      474   21 12 51

21 17 30  J1848+3219   16 04 22  54.0 108.6 -2.7     -42.4    18      474   21 17 30
21 18 50  =1846+322    16 05 42  54.2 108.9 -2.7     -42.2    80      515   21 17 31

21 18 50 LSRJ1835+325  16 05 42  56.5 111.6 -2.5     -41.7   -23      515   No stop
21 22 50  ---          16 09 42  57.1 112.8 -2.4     -41.3   217      639   21 18 51

21 23 30  J1848+3219   16 10 23  54.9 110.2 -2.6     -41.8    18      639   21 23 30
21 24 50  =1846+322    16 11 43  55.1 110.6 -2.6     -41.7    80      680   21 23 31

21 24 50 LSRJ1835+325  16 11 43  57.4 113.4 -2.4     -41.1   -23      680   No stop
21 28 50  ---          16 15 43  57.9 114.6 -2.3     -40.6   217      804   21 24 51

21 29 30  J1848+3219   16 16 23  55.7 111.9 -2.5     -41.3    18      804   21 29 30
21 30 50  =1846+322    16 17 44  55.9 112.2 -2.5     -41.1    80      845   21 29 31
```

Schedule for TORUN (Code Tr) Page 3

LSR J1835 follow-up observations

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Tue 14 Jun 2022 Day 165 ---										
21 30 50	LSRJ1835+325	16 17 44	58.2	115.2	-2.3		-40.4	-23	845	No stop
21 34 50	---	16 21 44	58.7	116.4	-2.2		-39.9	217	969	21 30 51
21 35 30	J1848+3219	16 22 24	56.6	113.6	-2.4		-40.6	18	969	21 35 30
21 36 50	=1846+322	16 23 45	56.7	114.0	-2.4		-40.5	80	1010	21 35 31
21 36 50	J1834+3205	16 23 45	58.4	118.4	-2.2		-38.6	-24	1010	No stop
21 38 50	---	16 25 45	58.7	119.0	-2.2		-38.3	96	1072	21 36 51
21 38 50	J1848+3219	16 25 45	57.0	114.6	-2.4		-40.3	-24	1072	No stop
21 40 50	=1846+322	16 27 45	57.3	115.2	-2.4		-40.0	96	1134	21 38 51
21 40 50	LSRJ1835+325	16 27 45	59.5	118.3	-2.1		-39.1	-22	1134	No stop
21 44 50	---	16 31 46	60.1	119.6	-2.1		-38.5	218	1257	21 40 51
21 45 30	J1848+3219	16 32 26	57.9	116.6	-2.3		-39.5	18	1257	21 45 30
21 46 50	=1846+322	16 33 46	58.1	117.0	-2.3		-39.3	80	1298	21 45 31
21 46 50	LSRJ1835+325	16 33 46	60.3	120.3	-2.0		-38.2	-22	1298	No stop
21 50 50	---	16 37 47	60.8	121.6	-2.0		-37.6	218	1422	21 46 51
21 51 30	J1848+3219	16 38 27	58.7	118.5	-2.2		-38.7	18	1422	21 51 30
21 52 50	=1846+322	16 39 47	58.9	118.9	-2.2		-38.5	80	1463	21 51 31
21 52 50	LSRJ1835+325	16 39 47	61.1	122.3	-1.9		-37.3	-22	1463	No stop
21 56 50	---	16 43 48	61.6	123.7	-1.9		-36.6	218	1587	21 52 51
21 57 30	J1848+3219	16 44 28	59.5	120.4	-2.1		-37.8	18	1587	21 57 30
21 58 50	=1846+322	16 45 48	59.7	120.8	-2.1		-37.6	80	1628	21 57 31
21 58 50	LSRJ1835+325	16 45 48	61.8	124.4	-1.8		-36.2	-22	1628	No stop
22 02 50	---	16 49 49	62.3	125.9	-1.8		-35.5	218	1752	21 58 51
22 03 30	J1848+3219	16 50 29	60.3	122.4	-2.0		-36.9	18	1752	22 03 30
22 04 50	=1846+322	16 51 49	60.5	122.9	-2.0		-36.6	80	1793	22 03 31
22 04 50	LSRJ1835+325	16 51 49	62.6	126.6	-1.7		-35.1	-23	1793	No stop
22 08 50	---	16 55 50	63.1	128.1	-1.7		-34.3	217	1917	22 04 51
22 09 30	J1848+3219	16 56 30	61.0	124.5	-1.9		-35.9	18	1917	22 09 30
22 10 50	=1846+322	16 57 50	61.2	125.0	-1.9		-35.6	80	1958	22 09 31
22 10 50	J1834+3205	16 57 50	62.6	130.3	-1.6		-32.7	-26	1958	No stop
22 12 50	---	16 59 51	62.9	131.1	-1.6		-32.3	94	2020	22 10 51
22 12 50	J1848+3219	16 59 51	61.5	125.7	-1.8		-35.3	-26	2020	No stop
22 14 50	=1846+322	17 01 51	61.7	126.4	-1.8		-34.9	94	2082	22 12 51

Schedule for TORUN (Code Tr) Page 4

LSR J1835 follow-up observations

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT	Source	Start / Stop						Early	Disk	TPStart
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC
--- Tue 14 Jun 2022 Day 165 ---										
22 14 50	LSRJ1835+325	17 01 51	63.8	130.5	-1.6		-33.0	-23	2082	No stop
22 18 50	---	17 05 52	64.2	132.1	-1.5		-32.1	217	2205	22 14 51
22 19 30	J1848+3219	17 06 32	62.3	128.2	-1.7		-34.0	17	2205	22 19 30
22 20 50	=1846+322	17 07 52	62.4	128.7	-1.7		-33.7	80	2247	22 19 31
22 20 50	LSRJ1835+325	17 07 52	64.4	132.9	-1.5		-31.6	-24	2247	No stop
22 24 50	---	17 11 53	64.9	134.6	-1.4		-30.7	216	2370	22 20 51
22 25 30	J1848+3219	17 12 33	63.0	130.5	-1.6		-32.7	17	2370	22 25 30
22 26 50	=1846+322	17 13 53	63.1	131.0	-1.6		-32.4	80	2411	22 25 31
22 26 50	LSRJ1835+325	17 13 53	65.1	135.4	-1.4		-30.2	-24	2411	No stop
22 30 50	---	17 17 54	65.5	137.2	-1.3		-29.1	216	2535	22 26 51
22 31 30	J1848+3219	17 18 34	63.6	132.9	-1.5		-31.4	16	2535	22 31 30
22 32 50	=1846+322	17 19 54	63.8	133.4	-1.5		-31.1	80	2576	22 31 31
22 32 50	LSRJ1835+325	17 19 54	65.7	138.1	-1.3		-28.6	-25	2576	No stop
22 36 50	---	17 23 55	66.1	139.9	-1.2		-27.5	215	2700	22 32 51
22 37 30	J1848+3219	17 24 35	64.3	135.4	-1.4		-30.0	16	2700	22 37 30
22 38 50	=1846+322	17 25 55	64.4	135.9	-1.4		-29.6	80	2741	22 37 31
22 38 50	LSRJ1835+325	17 25 55	66.3	140.8	-1.2		-26.9	-25	2741	No stop
22 42 50	---	17 29 56	66.7	142.7	-1.1		-25.7	215	2865	22 38 51
22 43 30	J1848+3219	17 30 36	64.9	137.9	-1.3		-28.4	15	2865	22 43 30
22 44 50	=1846+322	17 31 56	65.0	138.5	-1.3		-28.1	80	2906	22 43 31
22 44 50	J1834+3205	17 31 56	66.1	145.0	-1.1		-24.0	-28	2906	No stop
22 46 50	---	17 33 56	66.2	146.0	-1.0		-23.4	92	2968	22 44 51
22 46 50	J1848+3219	17 33 56	65.2	139.4	-1.3		-27.5	-28	2968	No stop
22 48 50	=1846+322	17 35 57	65.4	140.3	-1.2		-27.0	92	3030	22 46 51
22 48 50	LSRJ1835+325	17 35 57	67.2	145.6	-1.0		-23.8	-26	3030	No stop
22 52 50	---	17 39 57	67.5	147.6	-0.9		-22.5	214	3153	22 48 51
22 53 30	J1848+3219	17 40 37	65.9	142.5	-1.1		-25.7	14	3153	22 53 30
22 54 50	=1846+322	17 41 58	66.0	143.1	-1.1		-25.3	80	3195	22 53 31
22 54 50	LSRJ1835+325	17 41 58	67.7	148.7	-0.9		-21.9	-26	3195	No stop
22 58 50	---	17 45 58	68.0	150.7	-0.8		-20.5	214	3318	22 54 51

Schedule for TORUN (Code Tr) Page 5

LSR J1835 follow-up observations

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT	Source	Start / Stop						Early	Disk	TPStart
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC
--- Tue 14 Jun 2022 Day 165 ---										
22 59 30	J1848+3219	17 46 38	66.4	145.3	-1.0		-23.9	14	3318	22 59 30
23 00 50	=1846+322	17 47 59	66.5	146.0	-1.0		-23.4	80	3360	22 59 31
23 00 50	LSRJ1835+325	17 47 59	68.1	151.8	-0.8		-19.8	-27	3360	No stop
23 04 50	---	17 51 59	68.4	153.9	-0.7		-18.3	213	3483	23 00 51
23 05 30	J1848+3219	17 52 39	66.9	148.3	-0.9		-21.9	13	3483	23 05 30
23 06 50	=1846+322	17 53 59	67.0	148.9	-0.9		-21.5	80	3524	23 05 31
23 06 50	LSRJ1835+325	17 53 59	68.5	155.0	-0.7		-17.6	-28	3524	No stop
23 10 50	---	17 58 00	68.8	157.2	-0.6		-16.1	212	3648	23 06 51
23 11 30	J1848+3219	17 58 40	67.3	151.3	-0.8		-19.9	13	3648	23 11 30
23 12 50	=1846+322	18 00 00	67.4	152.0	-0.8		-19.5	80	3689	23 11 31
23 12 50	LSRJ1835+325	18 00 00	68.9	158.4	-0.6		-15.3	-28	3689	No stop
23 16 50	---	18 04 01	69.1	160.6	-0.5		-13.7	212	3813	23 12 51
23 17 30	J1848+3219	18 04 41	67.8	154.5	-0.7		-17.8	12	3813	23 17 30
23 18 50	=1846+322	18 06 01	67.8	155.2	-0.7		-17.4	80	3854	23 17 31
23 18 50	J1834+3205	18 06 01	68.3	162.8	-0.5		-12.1	-31	3854	No stop
23 20 50	---	18 08 02	68.4	163.9	-0.5		-11.3	89	3916	23 18 51
23 20 50	J1848+3219	18 08 02	68.0	156.3	-0.7		-16.6	-30	3916	No stop
23 22 50	=1846+322	18 10 02	68.1	157.3	-0.7		-15.9	90	3978	23 20 51
23 22 50	LSRJ1835+325	18 10 02	69.4	164.1	-0.4		-11.3	-29	3978	No stop
23 26 50	---	18 14 03	69.5	166.5	-0.4		-9.7	211	4102	23 22 51
23 27 30	J1848+3219	18 14 43	68.3	159.9	-0.6		-14.1	12	4102	23 27 30
23 28 50	=1846+322	18 16 03	68.4	160.7	-0.6		-13.6	80	4143	23 27 31
23 28 50	LSRJ1835+325	18 16 03	69.6	167.6	-0.3		-8.8	-29	4143	No stop
23 32 50	---	18 20 04	69.7	170.0	-0.3		-7.1	211	4266	23 28 51
23 33 30	J1848+3219	18 20 44	68.6	163.3	-0.5		-11.8	11	4266	23 33 30
23 34 50	=1846+322	18 22 04	68.7	164.1	-0.5		-11.3	80	4308	23 33 31
23 34 50	LSRJ1835+325	18 22 04	69.8	171.2	-0.2		-6.3	-30	4308	No stop
23 38 50	---	18 26 05	69.8	173.7	-0.2		-4.5	210	4431	23 34 51
23 39 30	J1848+3219	18 26 45	68.9	166.7	-0.4		-9.4	11	4431	23 39 30
23 40 50	=1846+322	18 28 05	68.9	167.5	-0.4		-8.8	80	4473	23 39 31

Schedule for TORUN (Code Tr) Page 6

LSR J1835 follow-up observations

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT	Source	Start / Stop						Early	Disk	TPStart
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC
--- Tue 14 Jun 2022 Day 165 ---										
23 40 50	LSRJ1835+325	18 28 05	69.9	174.9	-0.1		-3.7	-30	4473	No stop
23 44 50	---	18 32 06	69.9	177.3	-0.1		-1.9	210	4596	23 40 51
23 45 30	J1848+3219	18 32 46	69.0	170.2	-0.3		-6.9	11	4596	23 45 30
23 46 50	=1846+322	18 34 06	69.1	171.0	-0.3		-6.4	80	4637	23 45 31
23 46 50	LSRJ1835+325	18 34 06	69.9	178.5	-0.0		-1.0	-31	4637	No stop
23 50 50	---	18 38 07	69.9	181.0	0.0		0.7	209	4761	23 46 51
23 51 30	J1848+3219	18 38 47	69.2	173.8	-0.2		-4.4	10	4761	23 51 30
23 52 50	=1846+322	18 40 07	69.2	174.6	-0.2		-3.8	80	4802	23 51 31
23 52 50	J1834+3205	18 40 07	69.0	182.6	0.1		1.9	-32	4802	No stop
23 54 50	---	18 42 07	69.0	183.8	0.1		2.7	88	4864	23 52 51
23 54 50	J1848+3219	18 42 07	69.2	175.8	-0.1		-3.0	-31	4864	No stop
23 56 50	=1846+322	18 44 08	69.2	177.0	-0.1		-2.2	89	4926	23 54 51
--- Start: Tue 14 Jun 2022 Day 165 -- Stop: Wed 15 Jun 2022 Day 166 ---										
23 56 50	LSRJ1835+325	18 44 08	69.9	184.7	0.1		3.3	-31	4926	No stop
00 00 50	---	18 48 08	69.8	187.1	0.2		5.1	209	5050	23 56 51
00 01 40	J1848+3219	18 48 58	69.2	179.9	-0.0		-0.1	20	5050	00 01 40
00 02 50	=1846+322	18 50 09	69.2	180.5	0.0		0.4	70	5086	00 01 41
00 02 50	LSRJ1835+325	18 50 09	69.8	188.3	0.2		5.9	-31	5086	No stop
00 06 50	---	18 54 09	69.7	190.7	0.3		7.7	209	5209	00 02 51
00 07 40	J1848+3219	18 54 59	69.2	183.4	0.1		2.4	20	5209	00 07 40
00 08 50	=1846+322	18 56 10	69.2	184.1	0.1		2.9	70	5246	00 07 41
00 09 30	1830+285	18 56 50	65.1	192.1	0.4		8.3	9	5246	00 09 30
00 13 30	---	19 00 50	65.0	194.2	0.5		9.6	240	5369	00 09 31
00 14 20	J1848+3219	19 01 41	69.1	187.4	0.2		5.3	21	5369	00 14 20
00 15 30	=1846+322	19 02 51	69.1	188.1	0.2		5.7	70	5405	00 14 21
00 15 30	LSRJ1835+325	19 02 51	69.4	195.9	0.4		11.3	-31	5405	No stop
00 19 30	---	19 06 51	69.2	198.2	0.5		12.9	209	5529	00 15 31
00 20 20	J1848+3219	19 07 42	69.0	190.9	0.3		7.7	20	5529	00 20 20
00 21 30	=1846+322	19 08 52	68.9	191.6	0.3		8.2	70	5565	00 20 21

Schedule for TORUN (Code Tr) Page 7

LSR J1835 follow-up observations

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT	Source	Start / Stop						Early	Disk	TPStart
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC
--- Wed 15 Jun 2022 Day 166 ---										
00 21 30	LSRJ1835+325	19 08 52	69.1	199.3	0.5		13.7	-31	5565	No stop
00 25 30	---	19 12 52	68.9	201.6	0.6		15.3	209	5689	00 21 31
00 26 20	J1848+3219	19 13 43	68.8	194.4	0.4		10.2	20	5689	00 26 20
00 27 30	=1846+322	19 14 53	68.7	195.1	0.4		10.7	70	5725	00 26 21
00 27 30	LSRJ1835+325	19 14 53	68.8	202.7	0.6		16.1	-31	5725	No stop
00 31 30	---	19 18 53	68.5	204.9	0.7		17.6	209	5848	00 27 31
00 32 20	J1848+3219	19 19 44	68.5	197.8	0.5		12.6	20	5848	00 32 20
00 33 30	=1846+322	19 20 54	68.5	198.5	0.5		13.0	70	5884	00 32 21
00 33 30	LSRJ1835+325	19 20 54	68.4	206.0	0.7		18.3	-31	5884	No stop
00 37 30	---	19 24 54	68.1	208.2	0.8		19.8	209	6008	00 33 31
00 38 20	J1848+3219	19 25 45	68.2	201.2	0.6		14.9	21	6008	00 38 20
00 39 30	=1846+322	19 26 55	68.2	201.8	0.6		15.3	70	6044	00 38 21
00 39 30	LSRJ1835+325	19 26 55	68.0	209.2	0.8		20.5	-30	6044	No stop
00 43 30	---	19 30 55	67.7	211.3	0.9		21.8	210	6168	00 39 31
00 44 20	J1848+3219	19 31 46	67.9	204.5	0.7		17.1	21	6168	00 44 20
00 45 30	=1846+322	19 32 56	67.8	205.1	0.7		17.5	70	6204	00 44 21
00 45 30	J1834+3205	19 32 56	66.6	211.8	1.0		22.0	-29	6204	No stop
00 47 30	---	19 34 56	66.5	212.8	1.0		22.6	91	6266	00 45 31
00 47 30	J1848+3219	19 34 56	67.7	206.1	0.8		18.3	-28	6266	No stop
00 49 30	=1846+322	19 36 56	67.5	207.2	0.8		19.0	92	6328	00 47 31
00 49 30	LSRJ1835+325	19 36 56	67.2	214.3	1.0		23.8	-30	6328	No stop
00 53 30	---	19 40 57	66.8	216.3	1.1		25.1	210	6451	00 49 31
00 54 20	J1848+3219	19 41 47	67.2	209.7	0.9		20.6	21	6451	00 54 20
00 55 30	=1846+322	19 42 57	67.1	210.3	0.9		21.0	70	6487	00 54 21
00 55 30	LSRJ1835+325	19 42 57	66.7	217.3	1.1		25.7	-29	6487	No stop
00 59 30	---	19 46 58	66.3	219.1	1.2		26.9	211	6611	00 55 31
01 00 20	J1848+3219	19 47 48	66.7	212.7	1.0		22.6	22	6611	01 00 20
01 01 30	=1846+322	19 48 58	66.6	213.3	1.0		23.0	70	6647	01 00 21
01 01 30	LSRJ1835+325	19 48 58	66.1	220.1	1.2		27.5	-29	6647	No stop
01 05 30	---	19 52 59	65.7	221.9	1.3		28.6	211	6771	01 01 31

Schedule for TORUN (Code Tr) Page 8

LSR J1835 follow-up observations

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT	Source	Start / Stop						Early	Disk	TPStart
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC
--- Wed 15 Jun 2022 Day 166 ---										
01 06 20	J1848+3219	19 53 49	66.2	215.6	1.1		24.5	22	6771	01 06 20
01 07 30	=1846+322	19 54 59	66.1	216.2	1.1		24.8	70	6807	01 06 21
01 07 30	LSRJ1835+325	19 54 59	65.5	222.8	1.3		29.1	-29	6807	No stop
01 11 30	---	19 59 00	65.1	224.5	1.4		30.1	211	6930	01 07 31
01 12 20	J1848+3219	19 59 50	65.7	218.5	1.2		26.2	22	6930	01 12 20
01 13 30	=1846+322	20 01 00	65.6	219.0	1.2		26.6	70	6967	01 12 21
01 13 30	LSRJ1835+325	20 01 00	64.9	225.4	1.4		30.6	-28	6967	No stop
01 17 30	---	20 05 01	64.4	227.1	1.5		31.6	212	7090	01 13 31
01 18 20	J1848+3219	20 05 51	65.1	221.2	1.3		27.9	23	7090	01 18 20
01 19 30	=1846+322	20 07 01	65.0	221.7	1.3		28.2	70	7126	01 18 21
01 19 30	J1834+3205	20 07 01	63.4	227.1	1.5		31.3	-26	7126	No stop
01 21 30	---	20 09 02	63.1	227.9	1.6		31.8	94	7188	01 19 31
01 21 30	J1848+3219	20 09 02	64.8	222.6	1.3		28.7	-25	7188	No stop
01 23 30	=1846+322	20 11 02	64.6	223.4	1.4		29.3	95	7250	01 21 31
01 23 30	LSRJ1835+325	20 11 02	63.8	229.5	1.6		33.0	-27	7250	No stop
01 27 30	---	20 15 03	63.3	231.1	1.6		33.9	213	7374	01 23 31
01 28 20	J1848+3219	20 15 53	64.1	225.5	1.4		30.5	23	7374	01 28 20
01 29 30	=1846+322	20 17 03	63.9	226.0	1.5		30.7	70	7410	01 28 21
01 29 30	LSRJ1835+325	20 17 03	63.1	231.9	1.7		34.3	-27	7410	No stop
01 33 30	---	20 21 04	62.6	233.4	1.7		35.1	213	7533	01 29 31
01 34 20	J1848+3219	20 21 54	63.4	227.9	1.5		31.9	24	7533	01 34 20
01 35 30	=1846+322	20 23 04	63.3	228.4	1.6		32.1	70	7569	01 34 21
01 35 30	LSRJ1835+325	20 23 04	62.3	234.1	1.8		35.5	-27	7569	No stop
01 39 30	---	20 27 05	61.8	235.6	1.8		36.2	213	7693	01 35 31
01 40 20	J1848+3219	20 27 55	62.7	230.3	1.6		33.2	24	7693	01 40 20
01 41 30	=1846+322	20 29 05	62.6	230.8	1.7		33.4	70	7729	01 40 21
01 41 30	LSRJ1835+325	20 29 05	61.6	236.3	1.9		36.6	-26	7729	No stop
01 45 30	---	20 33 06	61.1	237.7	1.9		37.2	214	7853	01 41 31
01 46 20	J1848+3219	20 33 56	62.0	232.6	1.7		34.4	24	7853	01 46 20
01 47 30	=1846+322	20 35 06	61.9	233.0	1.8		34.6	70	7889	01 46 21

Schedule for TORUN (Code Tr) Page 9

LSR J1835 follow-up observations

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Wed 15 Jun 2022 Day 166 ---										
01 47 30	LSRJ1835+325	20 35 06	60.8	238.4	2.0		37.6	-26	7889	No stop
01 51 30	---	20 39 07	60.3	239.7	2.0		38.2	214	8013	01 47 31
01 52 20	J1848+3219	20 39 57	61.3	234.8	1.8		35.5	25	8013	01 52 20
01 53 30	=1846+322	20 41 07	61.1	235.2	1.9		35.7	70	8049	01 52 21
01 53 30	J1834+3205	20 41 07	59.2	239.5	2.1		37.7	-24	8049	No stop
01 55 30	---	20 43 07	59.0	240.2	2.1		38.0	96	8110	01 53 31
01 55 30	J1848+3219	20 43 07	60.9	235.9	1.9		36.1	-23	8110	No stop
01 57 30	=1846+322	20 45 08	60.6	236.6	1.9		36.4	97	8172	01 55 31
01 57 30	LSRJ1835+325	20 45 08	59.5	241.7	2.1		39.1	-25	8172	No stop
02 01 30	---	20 49 08	59.0	243.0	2.2		39.6	215	8296	01 57 31
02 02 20	J1848+3219	20 49 58	60.0	238.3	2.0		37.2	25	8296	02 02 20
02 03 30	=1846+322	20 51 09	59.9	238.7	2.0		37.4	70	8332	02 02 21
02 03 30	LSRJ1835+325	20 51 09	58.7	243.6	2.2		39.9	-25	8332	No stop
02 07 30	---	20 55 09	58.2	244.8	2.3		40.4	215	8456	02 03 31
02 08 20	J1848+3219	20 55 59	59.3	240.3	2.1		38.1	26	8456	02 08 20
02 09 30	=1846+322	20 57 09	59.1	240.6	2.1		38.3	70	8492	02 08 21
02 09 30	LSRJ1835+325	20 57 09	57.9	245.4	2.3		40.6	-25	8492	No stop
02 13 30	---	21 01 10	57.4	246.6	2.4		41.1	215	8615	02 09 31
02 14 20	J1848+3219	21 02 00	58.5	242.2	2.2		38.9	26	8615	02 14 20
02 15 30	=1846+322	21 03 10	58.3	242.5	2.2		39.1	70	8651	02 14 21
02 15 30	LSRJ1835+325	21 03 10	57.1	247.2	2.4		41.3	-24	8651	No stop
02 19 30	---	21 07 11	56.5	248.3	2.5		41.7	216	8775	02 15 31
02 20 20	J1848+3219	21 08 01	57.7	244.0	2.3		39.7	26	8775	02 20 20
02 21 30	=1846+322	21 09 11	57.5	244.4	2.3		39.9	70	8811	02 20 21
02 21 30	LSRJ1835+325	21 09 11	56.3	248.9	2.5		41.9	-24	8811	No stop
02 25 30	---	21 13 12	55.7	250.0	2.6		42.3	216	8935	02 21 31
02 26 20	J1848+3219	21 14 02	56.8	245.8	2.4		40.4	26	8935	02 26 20
02 27 30	=1846+322	21 15 12	56.7	246.2	2.4		40.6	70	8971	02 26 21
02 27 30	J1834+3205	21 15 12	54.6	249.7	2.7		41.7	-22	8971	No stop
02 29 30	---	21 17 13	54.3	250.3	2.7		41.9	98	9033	02 27 31

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Schedule for TORUN     (Code Tr )                                Page  10
              LSR J1835 follow-up observations
  UP:  D => Below limits;  H => Below horizon mask;  W => still slewing at end;  blank => Up.
  Early: Seconds between end of slew and start.   Dwell: On source seconds.
  Disk: GBytes recorded to this point.
  TPStart:  Recording start time.  Frequencies are LO sum (band edge).
  SYNC: Time correlator is expected to sync up.
-------------------------------------------------------------------------------------------
Start UT  Source               Start / Stop                 Early    Disk   TPStart
Stop UT                  LST      EL    AZ   HA  UP   ParA  Dwell   GBytes    SYNC
-------------------------------------------------------------------------------------------

 --- Wed  15 Jun 2022   Day 166 ---

02 29 30  J1848+3219   21 17 13  56.4 246.8  2.5      40.8   -22     9033   No stop
02 31 30  =1846+322    21 19 13  56.1 247.3  2.5      41.0    98     9095   02 29 31

02 31 30 LSRJ1835+325  21 19 13  54.8 251.7  2.7      42.8   -24     9095   No stop
02 35 30  ---          21 23 14  54.3 252.7  2.8      43.1   216     9218   02 31 31

02 36 20  J1848+3219   21 24 04  55.5 248.7  2.6      41.5    27     9218   02 36 20
02 37 30  =1846+322    21 25 14  55.3 249.0  2.6      41.6    70     9254   02 36 21

02 37 30 LSRJ1835+325  21 25 14  54.0 253.2  2.8      43.3   -24     9254   No stop
02 41 30  ---          21 29 15  53.4 254.3  2.9      43.6   216     9378   02 37 31

02 42 20  J1848+3219   21 30 05  54.6 250.4  2.7      42.0    27     9378   02 42 20
02 43 30  =1846+322    21 31 15  54.4 250.7  2.7      42.1    70     9414   02 42 21

02 43 30 LSRJ1835+325  21 31 15  53.1 254.8  2.9      43.7   -23     9414   No stop
02 47 30  ---          21 35 16  52.5 255.8  3.0      44.0   217     9538   02 43 31

02 48 20  J1848+3219   21 36 06  53.8 252.0  2.8      42.5    27     9538   02 48 20
02 49 30  =1846+322    21 37 16  53.6 252.3  2.8      42.6    70     9574   02 48 21

02 49 30 LSRJ1835+325  21 37 16  52.2 256.3  3.0      44.1   -23     9574   No stop
02 53 30  ---          21 41 17  51.6 257.3  3.1      44.3   217     9698   02 49 31

02 54 20  J1848+3219   21 42 07  52.9 253.5  2.9      43.0    27     9698   02 54 20
02 55 30  =1846+322    21 43 17  52.7 253.8  2.9      43.0    70     9734   02 54 21

02 56 00  1830+285     21 43 47  47.6 253.9  3.2      41.1    -3     9734   02 56 00
03 00 00  ---          21 47 48  47.0 254.9  3.2      41.3   237     9857   02 56 01



SETUP FILE INFORMATION:
   NOTE: If DOPPLER, FREQ, or BW were used, see the individual scans for the final BBC settings.


 ======== Setup file: sess222.C4096

   Setup group:    8         Station: TORUN            Total bit rate:  4096
   Format: VDIF              Bits per sample: 2        Sample rate: 64.000
   Number of channels: 32    DBE type: DBBC_DDC        Speedup factor:   1.00

   Disk used to record data.
```

```
 1st LO=   4088.00   4088.00   4088.00   4088.00   4088.00   4088.00   4088.00   4088.00
           4088.00   4088.00   4088.00   4088.00   4088.00   4088.00   4088.00   4088.00
           4088.00   4088.00   4088.00   4088.00   4088.00   4088.00   4088.00   4088.00
           4088.00   4088.00   4088.00   4088.00   4088.00   4088.00   4088.00   4088.00
 Net SB=         L         L         U         U         L         L         U         U
                 L         L         U         U         L         L         U         U
                 L         L         U         U         L         L         U         U
                 L         L         U         U         L         L         U         U
 IF SB =         U         U         U         U         U         U         U         U
                 U         U         U         U         U         U         U         U
                 U         U         U         U         U         U         U         U
                 U         U         U         U         U         U         U         U
 Pol.  =       RCP       LCP       RCP       LCP       RCP       LCP       RCP       LCP
               RCP       LCP       RCP       LCP       RCP       LCP       RCP       LCP
               RCP       LCP       RCP       LCP       RCP       LCP       RCP       LCP
               RCP       LCP       RCP       LCP       RCP       LCP       RCP       LCP
 BBC   =         1         9         1         9         2        10         2        10
                 3        11         3        11         4        12         4        12
                 5        13         5        13         6        14         6        14
                 7        15         7        15         8        16         8        16
 BBC SB=         L         L         U         U         L         L         U         U
                 L         L         U         U         L         L         U         U
                 L         L         U         U         L         L         U         U
                 L         L         U         U         L         L         U         U
 IF    =        A1        B1        A1        B1        A1        B1        A1        B1
                A1        B1        A1        B1        A1        B1        A1        B1
                A1        B1        A1        B1        A1        B1        A1        B1
                A1        B1        A1        B1        A1        B1        A1        B1

 The following frequency sets based on these setups were used.

 Frequency Set:   9  Setup file default.  Used with PCAL = off
 LO sum=   4632.00  4632.00  4632.00  4632.00  4696.00  4696.00  4696.00  4696.00
           4760.00  4760.00  4760.00  4760.00  4824.00  4824.00  4824.00  4824.00
           4888.00  4888.00  4888.00  4888.00  4952.00  4952.00  4952.00  4952.00
           5016.00  5016.00  5016.00  5016.00  5080.00  5080.00  5080.00  5080.00
 BBC fr=    544.00   544.00   544.00   544.00   608.00   608.00   608.00   608.00
            672.00   672.00   672.00   672.00   736.00   736.00   736.00   736.00
            800.00   800.00   800.00   800.00   864.00   864.00   864.00   864.00
            928.00   928.00   928.00   928.00   992.00   992.00   992.00   992.00
 Bandwd=     32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00
             32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00
             32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00
             32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00
  Matching frequency sets:   9

 Track assignments are:
  track1=   1,  2,  3,  4,  5,  6,  7,  8,  9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 2
  barrel=roll_off


POSITIONS OF SOURCES USED IN RECORDING SCANS

 Source                        Source position (RA/Dec)                        Error
                     (B1950)            (J2000)            (Date)             (mas)

* LSRJ1835+325      18 33 46.940176   * 18 35 37.880357     18 36 28.589856       0.00
                    32 57 22.09729    * 32 59 53.31134      33 00 54.21810        0.00

* J1834+3205        18 32 56.698696   * 18 34 49.087200     18 35 40.427393       0.00
```

```
                    32 02 57.74164    * 32 05 25.38800      32 06 24.84237        0.00

* 1830+285          18 30 52.379792   * 18 32 50.185623     18 33 43.884914       0.03
  J1832+2833        28 31 17.07914    * 28 33 35.95525      28 34 31.96681        0.04
  J1832+28          /home/guest/rmc/SCHED/sched11.6/catalogs/sources.gsfc
                    GSFC 2016a X/S astro solution,   1329 observations.

  1846+322          18 46 29.612030   * 18 48 22.088573     18 49 13.430316       0.00
* J1848+3219        32 15 36.66044    * 32 19 02.60384      32 20 27.33074        0.00
                    /home/guest/rmc/SCHED/sched11.6/catalogs/sources.gsfc
                    GSFC 2016a X/S astro solution,  38727 observations.
```

eg111ctr

Nature and properties of pc scale jets in FR0

PI: *Gabriele Giovannini*

Address: Istituto di Radioastronomia di Bologna

Observing mode: vlbi

```
Schedule for TORUN     (Code Tr )                                   Page   2
               Nature and properties of pc scale jets in FR0
  UP:  D => Below limits;  H => Below horizon mask;  W => still slewing at end;  blank => Up.
  Early: Seconds between end of slew and start.   Dwell: On source seconds.
  Disk: GBytes recorded to this point.
  TPStart:  Recording start time.  Frequencies are LO sum (band edge).
  SYNC: Time correlator is expected to sync up.
-----------------------------------------------------------------------------------------
Start UT  Source                Start / Stop                 Early    Disk   TPStart
Stop UT                  LST      EL    AZ   HA  UP   ParA  Dwell   GBytes    SYNC
-----------------------------------------------------------------------------------------
 --- Wed  15 Jun 2022   Day 166 ---
 Next scan frequencies:  4830.49  4830.49  4830.49  4830.49  4894.49  4894.49  4894.49  4894.49
                         4958.49  4958.49  4958.49  4958.49  5022.49  5022.49  5022.49  5022.49
 Next BBC frequencies:    630.49   630.49   630.49   630.49   694.49   694.49   694.49   694.49
                          758.49   758.49   758.49   758.49   822.49   822.49   822.49   822.49
 Next scan bandwidths:     32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00
                           32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00

19 00 00  3C345        13 50 25  57.9  96.8 -2.9     -50.9     0        0   19 00 00
19 05 00  ---          13 55 26  58.7  98.0 -2.8     -50.7   300       77   19 00 01

19 05 30  J1609+2641   13 55 56  53.7 123.5 -2.2     -34.1   -36       77   19 05 30
19 08 30  =CTD93       13 58 57  54.1 124.4 -2.2     -33.7   144      124   19 05 31

19 08 30  J1559+25     13 58 57  54.6 128.1 -2.0     -31.7   -22      124   No stop
19 12 00  ---          14 02 27  55.0 129.3 -2.0     -31.1   188      178   19 08 31

19 12 00  J1609+2641   14 02 27  54.5 125.5 -2.1     -33.1   -22      178   No stop
19 13 30  =CTD93       14 03 58  54.7 126.0 -2.1     -32.9    68      201   19 12 01

19 13 30  J1559+25     14 03 58  55.1 129.8 -1.9     -30.8   -23      201   No stop
19 17 00  ---          14 07 28  55.5 131.0 -1.9     -30.2   187      255   19 13 31

19 17 30  J1609+2641   14 07 58  55.2 127.3 -2.0     -32.3     8      255   19 17 30
19 18 30  =CTD93       14 08 59  55.3 127.7 -2.0     -32.1    60      271   19 17 31

19 18 30  J1559+25     14 08 59  55.7 131.5 -1.9     -30.0   -23      271   No stop
19 22 00  ---          14 12 29  56.1 132.7 -1.8     -29.4   187      325   19 18 31

19 22 00  J1609+2641   14 12 29  55.7 128.8 -2.0     -31.6   -22      325   No stop
19 23 30  =CTD93       14 13 59  55.9 129.3 -1.9     -31.3    68      348   19 22 01

19 23 30  J1559+25     14 13 59  56.3 133.3 -1.8     -29.1   -23      348   No stop
19 27 00  ---          14 17 30  56.6 134.5 -1.7     -28.4   187      402   19 23 31

19 27 30  J1609+2641   14 18 00  56.3 130.7 -1.9     -30.6     7      402   19 27 30
19 28 30  =CTD93       14 19 00  56.4 131.1 -1.9     -30.4    60      417   19 27 31

19 28 30  J1559+25     14 19 00  56.8 135.1 -1.7     -28.1   -23      417   No stop
19 32 00  ---          14 22 31  57.2 136.3 -1.6     -27.4   187      471   19 28 31

19 32 00  J1609+2641   14 22 31  56.8 132.3 -1.8     -29.8   -23      471   No stop
19 33 30  =CTD93       14 24 01  57.0 132.8 -1.8     -29.5    67      495   19 32 01
```

Schedule for TORUN (Code Tr) Page 3

Nature and properties of pc scale jets in FR0

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT	Source	Start / Stop						Early	Disk	TPStart
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC
--- Wed 15 Jun 2022 Day 166 ---										
19 33 30	J1559+25	14 24 01	57.3	136.9	-1.6		-27.1	-23	495	No stop
19 37 00	---	14 27 32	57.7	138.2	-1.6		-26.4	187	549	19 33 31
19 37 30	J1609+2641	14 28 02	57.4	134.3	-1.7		-28.7	7	549	19 37 30
19 38 30	=CTD93	14 29 02	57.5	134.6	-1.7		-28.5	60	564	19 37 31
19 38 30	J1559+25	14 29 02	57.8	138.8	-1.5		-26.1	-23	564	No stop
19 42 00	---	14 32 32	58.2	140.1	-1.5		-25.3	187	618	19 38 31
19 42 00	J1609+2641	14 32 32	57.9	135.9	-1.6		-27.8	-23	618	No stop
19 43 30	=CTD93	14 34 03	58.1	136.5	-1.6		-27.5	67	642	19 42 01
19 43 30	J1559+25	14 34 03	58.3	140.7	-1.4		-25.0	-24	642	No stop
19 47 00	---	14 37 33	58.7	142.1	-1.4		-24.2	186	696	19 43 31
19 47 30	J1609+2641	14 38 03	58.5	138.0	-1.5		-26.7	7	696	19 47 30
19 48 30	=CTD93	14 39 03	58.6	138.4	-1.5		-26.5	60	711	19 47 31
19 48 30	J1559+25	14 39 03	58.8	142.7	-1.4		-23.9	-24	711	No stop
19 52 00	---	14 42 34	59.1	144.1	-1.3		-23.1	186	765	19 48 31
19 52 00	J1609+2641	14 42 34	58.9	139.8	-1.5		-25.7	-23	765	No stop
19 53 30	=CTD93	14 44 04	59.1	140.4	-1.4		-25.4	67	788	19 52 01
19 53 30	J1559+25	14 44 04	59.2	144.7	-1.3		-22.7	-24	788	No stop
19 57 00	---	14 47 35	59.5	146.1	-1.2		-21.8	186	842	19 53 31
19 57 30	J1609+2641	14 48 05	59.4	141.9	-1.4		-24.5	7	842	19 57 30
19 58 30	=CTD93	14 49 05	59.5	142.3	-1.4		-24.2	60	858	19 57 31
19 58 30	J1559+25	14 49 05	59.7	146.7	-1.2		-21.5	-24	858	No stop
20 02 00	---	14 52 36	59.9	148.2	-1.1		-20.6	186	912	19 58 31
20 02 00	J1609+2641	14 52 36	59.9	143.8	-1.3		-23.4	-24	912	No stop
20 03 30	=CTD93	14 54 06	60.0	144.4	-1.3		-23.0	66	935	20 02 01
20 03 30	J1559+25	14 54 06	60.1	148.8	-1.1		-20.2	-24	935	No stop
20 07 00	---	14 57 37	60.3	150.3	-1.1		-19.3	186	989	20 03 31
20 07 30	J1609+2641	14 58 07	60.3	146.0	-1.2		-22.0	6	989	20 07 30
20 08 30	=CTD93	14 59 07	60.4	146.5	-1.2		-21.8	60	1005	20 07 31
20 08 30	J1559+25	14 59 07	60.4	151.0	-1.0		-18.9	-24	1005	No stop
20 12 00	---	15 02 37	60.7	152.5	-1.0		-17.9	186	1059	20 08 31
20 12 00	J1609+2641	15 02 37	60.7	148.0	-1.1		-20.9	-24	1059	No stop
20 13 30	=CTD93	15 04 08	60.8	148.6	-1.1		-20.5	66	1082	20 12 01

Schedule for TORUN (Code Tr) Page 4

Nature and properties of pc scale jets in FR0

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Wed 15 Jun 2022 Day 166 ---										
20 13 30	J1559+25	15 04 08	60.8	153.2	-0.9		-17.5	-24	1082	No stop
20 17 00	---	15 07 38	61.0	154.7	-0.9		-16.6	186	1136	20 13 31
20 17 30	J1609+2641	15 08 08	61.1	150.3	-1.0		-19.4	6	1136	20 17 30
20 18 30	=CTD93	15 09 08	61.2	150.8	-1.0		-19.1	60	1152	20 17 31
20 18 30	J1559+25	15 09 08	61.1	155.4	-0.9		-16.1	-25	1152	No stop
20 22 00	---	15 12 39	61.3	157.0	-0.8		-15.1	185	1206	20 18 31
20 22 00	J1609+2641	15 12 39	61.5	152.3	-1.0		-18.2	-24	1206	No stop
20 23 30	=CTD93	15 14 09	61.6	153.0	-0.9		-17.8	66	1229	20 22 01
20 23 30	J1559+25	15 14 09	61.4	157.7	-0.8		-14.7	-25	1229	No stop
20 27 00	---	15 17 40	61.6	159.3	-0.7		-13.7	185	1283	20 23 31
20 27 30	J1609+2641	15 18 10	61.8	154.8	-0.9		-16.6	6	1283	20 27 30
20 28 30	=CTD93	15 19 10	61.9	155.3	-0.8		-16.3	60	1298	20 27 31
20 28 30	J1559+25	15 19 10	61.7	159.9	-0.7		-13.2	-25	1298	No stop
20 32 00	---	15 22 41	61.9	161.6	-0.6		-12.2	185	1353	20 28 31
20 32 00	J1609+2641	15 22 41	62.1	156.9	-0.8		-15.3	-24	1353	No stop
20 33 30	=CTD93	15 24 11	62.2	157.6	-0.8		-14.9	66	1376	20 32 01
20 33 30	J1559+25	15 24 11	61.9	162.3	-0.6		-11.7	-25	1376	No stop
20 37 00	---	15 27 41	62.1	163.9	-0.6		-10.6	185	1430	20 33 31
20 37 30	J1609+2641	15 28 12	62.4	159.4	-0.7		-13.7	6	1430	20 37 30
20 38 30	=CTD93	15 29 12	62.5	159.9	-0.7		-13.4	60	1445	20 37 31
20 38 30	J1559+25	15 29 12	62.1	164.6	-0.5		-10.2	-25	1445	No stop
20 42 00	---	15 32 42	62.3	166.3	-0.5		-9.1	185	1499	20 38 31
20 42 00	J1609+2641	15 32 42	62.6	161.6	-0.6		-12.3	-24	1499	No stop
20 43 30	=CTD93	15 34 12	62.7	162.3	-0.6		-11.8	66	1523	20 42 01
20 43 30	J1559+25	15 34 12	62.3	167.0	-0.4		-8.6	-25	1523	No stop
20 47 00	---	15 37 43	62.4	168.7	-0.4		-7.5	185	1577	20 43 31
20 47 30	J1609+2641	15 38 13	62.9	164.2	-0.5		-10.5	6	1577	20 47 30
20 48 30	=CTD93	15 39 13	62.9	164.7	-0.5		-10.2	60	1592	20 47 31
20 48 30	J1559+25	15 39 13	62.5	169.4	-0.4		-7.0	-25	1592	No stop
20 52 00	---	15 42 44	62.6	171.1	-0.3		-5.9	185	1646	20 48 31

Schedule for TORUN (Code Tr) Page 5

Nature and properties of pc scale jets in FR0

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Wed 15 Jun 2022 Day 166 ---										
20 52 00	J1609+2641	15 42 44	63.0	166.4	-0.5		-9.1	-24	1646	No stop
20 53 30	=CTD93	15 44 14	63.1	167.1	-0.4		-8.6	66	1669	20 52 01
20 53 30	J1559+25	15 44 14	62.6	171.9	-0.3		-5.4	-25	1669	No stop
20 57 00	---	15 47 45	62.7	173.6	-0.2		-4.3	185	1724	20 53 31
20 57 30	J1609+2641	15 48 15	63.2	169.1	-0.4		-7.3	6	1724	20 57 30
20 58 30	=CTD93	15 49 15	63.3	169.6	-0.3		-7.0	60	1739	20 57 31
20 58 30	3C345	15 49 15	73.8	139.7	-0.9		-30.4	-73	1739	No stop
21 03 30	---	15 54 16	74.2	142.7	-0.8		-28.3	227	1816	20 58 31
21 04 00	J1609+2641	15 54 46	63.4	172.3	-0.3		-5.2	-45	1816	21 04 00
21 07 00	=CTD93	15 57 46	63.4	173.8	-0.2		-4.2	135	1863	21 04 01
21 07 00	J1559+25	15 57 46	62.8	178.5	-0.1		-1.0	-25	1863	No stop
21 10 30	---	16 01 17	62.8	180.2	0.0		0.2	185	1917	21 07 01
21 10 30	J1609+2641	16 01 17	63.5	175.6	-0.1		-3.0	-24	1917	No stop
21 12 00	=CTD93	16 02 47	63.5	176.3	-0.1		-2.5	66	1940	21 10 31
21 12 00	J1559+25	16 02 47	62.8	181.0	0.0		0.6	-25	1940	No stop
21 15 30	---	16 06 18	62.8	182.7	0.1		1.8	185	1994	21 12 01
21 16 00	J1609+2641	16 06 48	63.5	178.3	-0.1		-1.1	6	1994	21 16 00
21 17 00	=CTD93	16 07 48	63.5	178.8	-0.0		-0.8	60	2010	21 16 01
21 17 00	J1559+25	16 07 48	62.8	183.4	0.1		2.3	-25	2010	No stop
21 20 30	---	16 11 19	62.7	185.2	0.2		3.4	185	2064	21 17 01
21 20 30	J1609+2641	16 11 19	63.5	180.6	0.0		0.4	-24	2064	No stop
21 22 00	=CTD93	16 12 49	63.5	181.3	0.0		0.9	66	2087	21 20 31
21 22 00	J1559+25	16 12 49	62.7	185.9	0.2		3.9	-24	2087	No stop
21 25 30	---	16 16 19	62.6	187.6	0.3		5.1	186	2141	21 22 01
21 26 00	J1609+2641	16 16 49	63.5	183.3	0.1		2.2	6	2141	21 26 00
21 27 00	=CTD93	16 17 50	63.5	183.8	0.1		2.6	60	2156	21 26 01
21 27 00	J1559+25	16 17 50	62.6	188.3	0.3		5.6	-24	2156	No stop
21 30 30	---	16 21 20	62.5	190.0	0.3		6.7	186	2211	21 27 01
21 30 30	J1609+2641	16 21 20	63.5	185.6	0.2		3.8	-24	2211	No stop
21 32 00	=CTD93	16 22 50	63.4	186.3	0.2		4.3	66	2234	21 30 31

Schedule for TORUN (Code Tr) Page 6

Nature and properties of pc scale jets in FR0

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Wed 15 Jun 2022 Day 166 ---										
21 32 00	J1559+25	16 22 50	62.5	190.8	0.4		7.2	-24	2234	No stop
21 35 30	---	16 26 21	62.4	192.5	0.4		8.3	186	2288	21 32 01
21 36 00	J1609+2641	16 26 51	63.4	188.3	0.3		5.6	7	2288	21 36 00
21 37 00	=CTD93	16 27 51	63.3	188.8	0.3		5.9	60	2303	21 36 01
21 37 00	J1559+25	16 27 51	62.3	193.2	0.5		8.8	-24	2303	No stop
21 40 30	---	16 31 22	62.2	194.9	0.5		9.8	186	2357	21 37 01
21 40 30	J1609+2641	16 31 22	63.2	190.6	0.4		7.1	-23	2357	No stop
21 42 00	=CTD93	16 32 52	63.2	191.3	0.4		7.6	67	2381	21 40 31
21 42 00	J1559+25	16 32 52	62.1	195.6	0.5		10.3	-24	2381	No stop
21 45 30	---	16 36 23	62.0	197.2	0.6		11.4	186	2435	21 42 01
21 46 00	J1609+2641	16 36 53	63.1	193.3	0.4		8.9	7	2435	21 46 00
21 47 00	=CTD93	16 37 53	63.0	193.8	0.5		9.2	60	2450	21 46 01
21 47 00	J1559+25	16 37 53	61.9	197.9	0.6		11.9	-24	2450	No stop
21 50 30	---	16 41 24	61.7	199.6	0.7		12.9	186	2504	21 47 01
21 50 30	J1609+2641	16 41 24	62.9	195.5	0.5		10.3	-23	2504	No stop
21 52 00	=CTD93	16 42 54	62.8	196.2	0.5		10.8	67	2527	21 50 31
21 52 00	J1559+25	16 42 54	61.7	200.3	0.7		13.4	-23	2527	No stop
21 55 30	---	16 46 24	61.5	201.9	0.8		14.4	187	2582	21 52 01
21 56 00	J1609+2641	16 46 54	62.7	198.1	0.6		12.0	7	2582	21 56 00
21 57 00	=CTD93	16 47 55	62.6	198.6	0.6		12.4	60	2597	21 56 01
21 57 00	J1559+25	16 47 55	61.4	202.5	0.8		14.8	-23	2597	No stop
22 00 30	---	16 51 25	61.2	204.1	0.8		15.8	187	2651	21 57 01
22 00 30	J1609+2641	16 51 25	62.4	200.2	0.7		13.4	-22	2651	No stop
22 02 00	=CTD93	16 52 55	62.4	200.9	0.7		13.9	68	2674	22 00 31
22 02 00	J1559+25	16 52 55	61.1	204.8	0.9		16.3	-23	2674	No stop
22 05 30	---	16 56 26	60.9	206.4	0.9		17.2	187	2728	22 02 01
22 06 00	J1609+2641	16 56 56	62.1	202.8	0.8		15.1	8	2728	22 06 00
22 07 00	=CTD93	16 57 56	62.1	203.3	0.8		15.4	60	2744	22 06 01
22 07 00	J1559+25	16 57 56	60.8	207.0	1.0		17.7	-23	2744	No stop
22 10 30	---	17 01 27	60.5	208.6	1.0		18.6	187	2798	22 07 01

Schedule for TORUN (Code Tr) Page 7

Nature and properties of pc scale jets in FR0

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Wed 15 Jun 2022 Day 166 ---										
22 10 30	J1609+2641	17 01 27	61.9	204.9	0.9		16.4	-22	2798	No stop
22 12 00	=CTD93	17 02 57	61.8	205.6	0.9		16.8	68	2821	22 10 31
22 12 00	J1559+25	17 02 57	60.4	209.2	1.0		19.0	-22	2821	No stop
22 15 30	---	17 06 28	60.1	210.7	1.1		19.9	188	2875	22 12 01
22 16 00	J1609+2641	17 06 58	61.5	207.4	0.9		18.0	8	2875	22 16 00
22 17 00	=CTD93	17 07 58	61.4	207.8	1.0		18.3	60	2891	22 16 01
22 17 00	J1559+25	17 07 58	60.0	211.3	1.1		20.3	-22	2891	No stop
22 20 30	---	17 11 28	59.7	212.8	1.2		21.2	188	2945	22 17 01
22 20 30	J1609+2641	17 11 28	61.2	209.4	1.0		19.2	-21	2945	No stop
22 22 00	=CTD93	17 12 59	61.1	210.0	1.0		19.6	69	2968	22 20 31
22 22 00	J1559+25	17 12 59	59.6	213.4	1.2		21.6	-22	2968	No stop
22 25 30	---	17 16 29	59.3	214.9	1.3		22.4	188	3022	22 22 01
22 26 00	J1609+2641	17 16 59	60.8	211.7	1.1		20.7	9	3022	22 26 00
22 27 00	=CTD93	17 17 59	60.7	212.2	1.1		21.0	60	3038	22 26 01
22 27 00	J1559+25	17 17 59	59.2	215.5	1.3		22.8	-22	3038	No stop
22 30 30	---	17 21 30	58.9	216.9	1.3		23.6	188	3092	22 27 01
22 30 30	J1609+2641	17 21 30	60.4	213.7	1.2		21.9	-21	3092	No stop
22 32 00	=CTD93	17 23 00	60.3	214.3	1.2		22.2	69	3115	22 30 31
22 32 00	J1559+25	17 23 00	58.7	217.5	1.4		24.0	-21	3115	No stop
22 35 30	---	17 26 31	58.4	218.9	1.4		24.8	189	3169	22 32 01
22 36 00	J1609+2641	17 27 01	59.9	215.9	1.3		23.2	9	3169	22 36 00
22 37 00	=CTD93	17 28 01	59.8	216.3	1.3		23.5	60	3184	22 36 01
22 37 00	J1559+25	17 28 01	58.3	219.5	1.5		25.1	-21	3184	No stop
22 40 30	---	17 31 32	57.9	220.8	1.5		25.9	189	3239	22 37 01
22 40 30	J1609+2641	17 31 32	59.5	217.8	1.4		24.3	-20	3239	No stop
22 42 00	=CTD93	17 33 02	59.4	218.4	1.4		24.6	70	3262	22 40 31
22 42 00	J1559+25	17 33 02	57.8	221.4	1.5		26.2	-21	3262	No stop
22 45 30	---	17 36 33	57.4	222.7	1.6		26.9	189	3316	22 42 01
22 46 00	J1609+2641	17 37 03	59.0	220.0	1.4		25.6	10	3316	22 46 00
22 47 00	=CTD93	17 38 03	58.9	220.3	1.5		25.8	60	3331	22 46 01

```
Schedule for TORUN     (Code Tr )                                  Page   8
               Nature and properties of pc scale jets in FR0
  UP:  D => Below limits;  H => Below horizon mask;  W => still slewing at end;  blank => Up.
  Early: Seconds between end of slew and start.   Dwell: On source seconds.
  Disk: GBytes recorded to this point.
  TPStart:  Recording start time.  Frequencies are LO sum (band edge).
  SYNC: Time correlator is expected to sync up.
-----------------------------------------------------------------------------------------
Start UT  Source               Start / Stop                 Early    Disk   TPStart
Stop UT                  LST      EL    AZ   HA  UP   ParA  Dwell   GBytes    SYNC
-----------------------------------------------------------------------------------------

 --- Wed  15 Jun 2022   Day 166 ---

22 47 00  J1559+25     17 38 03  57.3 223.3  1.6      27.2   -21     3331   No stop
22 52 00  ---          17 43 04  56.8 225.1  1.7      28.2   279     3409   22 47 01

22 52 00  J1609+2641   17 43 04  58.4 222.3  1.5      26.9   -20     3409   No stop
22 53 30  =CTD93       17 44 34  58.2 222.8  1.6      27.2    70     3432   22 52 01

22 53 30  J1559+25     17 44 34  56.6 225.6  1.7      28.5   -20     3432   No stop
22 58 30  ---          17 49 35  56.1 227.4  1.8      29.4   280     3509   22 53 31

22 59 00  J1609+2641   17 50 05  57.7 224.9  1.7      28.3    10     3509   22 59 00
23 00 00  =CTD93       17 51 05  57.6 225.3  1.7      28.5    60     3524   22 59 01



SETUP FILE INFORMATION:
   NOTE: If DOPPLER, FREQ, or BW were used, see the individual scans for the final BBC settings.


 ======== Setup file: sess222.C2048

   Setup group:    8         Station: TORUN            Total bit rate:  2048
   Format: VDIF              Bits per sample: 2        Sample rate: 64.000
   Number of channels: 16    DBE type: DBBC_DDC        Speedup factor:   1.00

   Disk used to record data.
```

```
  1st LO=   4200.00   4200.00   4200.00   4200.00   4200.00   4200.00   4200.00   4200.00
            4200.00   4200.00   4200.00   4200.00   4200.00   4200.00   4200.00   4200.00
  Net SB=         L         L         U         U         L         L         U         U
                  L         L         U         U         L         L         U         U
  IF SB =         U         U         U         U         U         U         U         U
                  U         U         U         U         U         U         U         U
  Pol.  =       RCP       LCP       RCP       LCP       RCP       LCP       RCP       LCP
                RCP       LCP       RCP       LCP       RCP       LCP       RCP       LCP
  BBC   =         1         9         1         9         2        10         2        10
                  3        11         3        11         4        12         4        12
  BBC SB=         L         L         U         U         L         L         U         U
                  L         L         U         U         L         L         U         U
  IF    =        A1        B1        A1        B1        A1        B1        A1        B1
                 A1        B1        A1        B1        A1        B1        A1        B1

 The following frequency sets based on these setups were used.

  Frequency Set:   9  Setup file default.  Used with PCAL = off
  LO sum=   4830.49  4830.49  4830.49  4830.49  4894.49  4894.49  4894.49  4894.49
            4958.49  4958.49  4958.49  4958.49  5022.49  5022.49  5022.49  5022.49
  BBC fr=    630.49   630.49   630.49   630.49   694.49   694.49   694.49   694.49
             758.49   758.49   758.49   758.49   822.49   822.49   822.49   822.49
  Bandwd=     32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00
              32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00
   Matching frequency sets:   9

  Track assignments are:
   track1=   1,  2,  3,  4,  5,  6,  7,  8,  9, 10, 11, 12, 13, 14, 15, 16
   barrel=roll_off



POSITIONS OF SOURCES USED IN RECORDING SCANS

  Source                          Source position (RA/Dec)                        Error
                       (B1950)             (J2000)             (Date)             (mas)

* J1559+25          15 57 45.979215   * 15 59 51.615300     16 00 48.808100       0.00
                    26 04 51.75293    * 25 56 26.32500      25 52 42.96984        0.00
                    target

  CTD93             16 07 09.290080   * 16 09 13.320748     16 10 09.830969       0.13
* J1609+2641        26 49 18.65805    * 26 41 29.03605      26 38 01.26169        0.15
  1607+268          /home/guest/rmc/SCHED/sched11.6/catalogs/sources.gsfc
  J1609+26          GSFC 2016a X/S astro solution,    324 observations.

* 3C345             16 41 17.606229   * 16 42 58.809967     16 43 45.510347       0.79
  J1642+3948        39 54 10.81492    * 39 48 36.99399      39 46 08.61503        0.59
  1641+399          /home/guest/rmc/SCHED/sched11.6/catalogs/sources.gsfc
  J1642+39          GSFC 2016a X/S astro solution,  53724 observations.
```

eg111dtr

Nature and properties of pc scale jets in FR0

PI: *Gabriele Giovannini*

```
Address:  Istituto di Radioastronomia di Bologna

Observing mode: vlbi
Schedule for TORUN     (Code Tr )                                    Page   2
               Nature and properties of pc scale jets in FR0
  UP:  D => Below limits;  H => Below horizon mask;  W => still slewing at end;  blank => Up.
  Early: Seconds between end of slew and start.   Dwell: On source seconds.
  Disk: GBytes recorded to this point.
  TPStart:  Recording start time.  Frequencies are LO sum (band edge).
  SYNC: Time correlator is expected to sync up.
-----------------------------------------------------------------------------------------
Start UT  Source               Start / Stop                 Early    Disk   TPStart
Stop UT                  LST      EL    AZ   HA  UP   ParA  Dwell   GBytes    SYNC
-----------------------------------------------------------------------------------------
 --- Thu  16 Jun 2022   Day 167 ---
 Next scan frequencies:  4830.49  4830.49  4830.49  4830.49  4894.49  4894.49  4894.49  4894.49
                         4958.49  4958.49  4958.49  4958.49  5022.49  5022.49  5022.49  5022.49
 Next BBC frequencies:    630.49   630.49   630.49   630.49   694.49   694.49   694.49   694.49
                          758.49   758.49   758.49   758.49   822.49   822.49   822.49   822.49
 Next scan bandwidths:     32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00
                           32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00

19 00 00  3C345        13 54 22  58.5  97.7 -2.8     -50.7     0        0   19 00 00
19 05 00  ---          13 59 23  59.2  98.9 -2.7     -50.5   300       77   19 00 01

19 05 30  J1659+2629   13 59 53  47.4 110.5 -3.0     -38.9   -28       77   19 05 30
19 08 00  =1657+265    14 02 23  47.7 111.2 -3.0     -38.7   122      116   19 05 31

19 08 00  J1703+24     14 02 23  45.3 112.1 -3.0     -37.6   -23      116   No stop
19 11 30  ---          14 05 54  45.7 113.0 -3.0     -37.3   187      170   19 08 01

19 11 30  J1659+2629   14 05 54  48.2 112.1 -2.9     -38.4   -23      170   No stop
19 13 00  =1657+265    14 07 24  48.4 112.5 -2.9     -38.3    67      193   19 11 31

19 13 00  J1703+24     14 07 24  46.0 113.4 -3.0     -37.2   -23      193   No stop
19 16 30  ---          14 10 55  46.4 114.3 -2.9     -36.9   187      247   19 13 01

19 17 00  J1659+2629   14 11 25  49.0 113.6 -2.8     -37.9     7      247   19 17 00
19 18 30  =1657+265    14 12 55  49.2 114.0 -2.8     -37.8    90      271   19 17 01

19 18 30  J1703+24     14 12 55  46.7 114.8 -2.9     -36.7   -23      271   No stop
19 22 00  ---          14 16 26  47.2 115.8 -2.8     -36.3   187      325   19 18 31

19 22 00  J1659+2629   14 16 26  49.7 114.9 -2.7     -37.5   -23      325   No stop
19 23 30  =1657+265    14 17 56  49.9 115.3 -2.7     -37.3    67      348   19 22 01

19 23 30  J1703+24     14 17 56  47.4 116.2 -2.8     -36.2   -23      348   No stop
19 27 00  ---          14 21 26  47.9 117.1 -2.7     -35.8   187      402   19 23 31

19 27 30  J1659+2629   14 21 57  50.4 116.5 -2.6     -36.9     7      402   19 27 30
19 29 00  =1657+265    14 23 27  50.6 116.9 -2.6     -36.7    90      425   19 27 31

19 29 00  J1703+24     14 23 27  48.1 117.7 -2.7     -35.6   -23      425   No stop
19 32 30  ---          14 26 57  48.6 118.7 -2.6     -35.3   187      479   19 29 01

19 32 30  J1659+2629   14 26 57  51.1 117.9 -2.6     -36.4   -23      479   No stop
19 34 00  =1657+265    14 28 28  51.3 118.3 -2.5     -36.2    67      502   19 32 31
```

Schedule for TORUN (Code Tr) Page 3

Nature and properties of pc scale jets in FR0

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Thu 16 Jun 2022 Day 167 ---										
19 34 00	J1703+24	14 28 28	48.8	119.1	-2.6		-35.1	-23	502	No stop
19 37 30	---	14 31 58	49.2	120.1	-2.5		-34.7	187	556	19 34 01
19 38 00	J1659+2629	14 32 28	51.8	119.5	-2.5		-35.7	7	556	19 38 00
19 39 30	=1657+265	14 33 59	52.0	119.9	-2.4		-35.5	90	580	19 38 01
19 39 30	J1703+24	14 33 59	49.5	120.7	-2.5		-34.5	-23	580	No stop
19 43 00	---	14 37 29	50.0	121.7	-2.5		-34.0	187	634	19 39 31
19 43 00	J1659+2629	14 37 29	52.4	121.0	-2.4		-35.1	-23	634	No stop
19 44 30	=1657+265	14 38 59	52.6	121.4	-2.4		-34.9	67	657	19 43 01
19 44 30	J1703+24	14 38 59	50.1	122.2	-2.4		-33.9	-23	657	No stop
19 48 00	---	14 42 30	50.6	123.2	-2.4		-33.4	187	711	19 44 31
19 48 30	J1659+2629	14 43 00	53.2	122.7	-2.3		-34.4	7	711	19 48 30
19 50 00	=1657+265	14 44 30	53.3	123.1	-2.3		-34.2	90	734	19 48 31
19 50 00	J1703+24	14 44 30	50.8	123.8	-2.3		-33.2	-23	734	No stop
19 53 30	---	14 48 01	51.3	124.9	-2.3		-32.7	187	788	19 50 01
19 53 30	J1659+2629	14 48 01	53.8	124.2	-2.2		-33.7	-23	788	No stop
19 55 00	=1657+265	14 49 31	54.0	124.7	-2.2		-33.5	67	812	19 53 31
19 55 00	J1703+24	14 49 31	51.5	125.3	-2.3		-32.5	-23	812	No stop
19 58 30	---	14 53 02	51.9	126.4	-2.2		-32.0	187	866	19 55 01
19 59 00	J1659+2629	14 53 32	54.5	126.0	-2.1		-32.9	7	866	19 59 00
20 00 30	=1657+265	14 55 02	54.6	126.5	-2.1		-32.6	90	889	19 59 01
20 00 30	J1703+24	14 55 02	52.1	127.1	-2.2		-31.7	-23	889	No stop
20 04 00	---	14 58 33	52.5	128.2	-2.1		-31.2	187	943	20 00 31
20 04 00	J1659+2629	14 58 33	55.1	127.6	-2.0		-32.1	-23	943	No stop
20 05 30	=1657+265	15 00 03	55.2	128.1	-2.0		-31.9	67	966	20 04 01
20 05 30	J1703+24	15 00 03	52.7	128.7	-2.1		-30.9	-23	966	No stop
20 09 00	---	15 03 33	53.1	129.8	-2.0		-30.4	187	1020	20 05 31
20 09 30	J1659+2629	15 04 03	55.7	129.5	-1.9		-31.2	7	1020	20 09 30
20 11 00	=1657+265	15 05 34	55.9	130.0	-1.9		-30.9	90	1043	20 09 31
20 11 00	J1703+24	15 05 34	53.4	130.5	-2.0		-30.0	-23	1043	No stop
20 14 30	---	15 09 04	53.8	131.6	-1.9		-29.5	187	1098	20 11 01
20 14 30	J1659+2629	15 09 04	56.3	131.2	-1.9		-30.3	-23	1098	No stop
20 16 00	=1657+265	15 10 35	56.5	131.7	-1.8		-30.0	67	1121	20 14 31

Schedule for TORUN (Code Tr) Page 4

Nature and properties of pc scale jets in FR0

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Thu 16 Jun 2022 Day 167 ---										
20 16 00	J1703+24	15 10 35	53.9	132.1	-1.9		-29.2	-23	1121	No stop
20 19 30	---	15 14 05	54.3	133.3	-1.8		-28.6	187	1175	20 16 01
20 20 00	J1659+2629	15 14 35	56.9	133.1	-1.8		-29.3	7	1175	20 20 00
20 21 30	=1657+265	15 16 05	57.1	133.7	-1.7		-29.0	90	1198	20 20 01
20 21 30	J1703+24	15 16 05	54.5	134.0	-1.8		-28.2	-23	1198	No stop
20 25 00	---	15 19 36	54.9	135.3	-1.8		-27.6	187	1252	20 21 31
20 25 00	J1659+2629	15 19 36	57.4	135.0	-1.7		-28.3	-24	1252	No stop
20 26 30	=1657+265	15 21 06	57.6	135.5	-1.7		-28.0	66	1275	20 25 01
20 26 30	J1703+24	15 21 06	55.1	135.8	-1.7		-27.3	-23	1275	No stop
20 30 00	---	15 24 37	55.4	137.0	-1.7		-26.6	187	1329	20 26 31
20 30 30	J1659+2629	15 25 07	58.0	137.0	-1.6		-27.2	6	1329	20 30 30
20 32 00	=1657+265	15 26 37	58.2	137.6	-1.6		-26.9	90	1353	20 30 31
20 32 00	J1703+24	15 26 37	55.6	137.8	-1.6		-26.3	-23	1353	No stop
20 35 30	---	15 30 08	56.0	139.0	-1.6		-25.6	187	1407	20 32 01
20 35 30	J1659+2629	15 30 08	58.5	138.9	-1.5		-26.2	-24	1407	No stop
20 37 00	=1657+265	15 31 38	58.7	139.5	-1.5		-25.8	66	1430	20 35 31
20 37 00	J1703+24	15 31 38	56.1	139.6	-1.6		-25.2	-23	1430	No stop
20 40 30	---	15 35 09	56.5	140.9	-1.5		-24.5	187	1484	20 37 01
20 41 00	J1659+2629	15 35 39	59.0	141.1	-1.4		-24.9	6	1484	20 41 00
20 42 30	=1657+265	15 37 09	59.2	141.6	-1.4		-24.6	90	1507	20 41 01
20 42 30	J1703+24	15 37 09	56.7	141.7	-1.5		-24.1	-23	1507	No stop
20 46 00	---	15 40 39	57.0	143.0	-1.4		-23.3	187	1561	20 42 31
20 46 00	J1659+2629	15 40 39	59.5	143.1	-1.3		-23.8	-24	1561	No stop
20 47 30	=1657+265	15 42 10	59.6	143.7	-1.3		-23.4	66	1584	20 46 01
20 47 30	J1703+24	15 42 10	57.1	143.6	-1.4		-23.0	-23	1584	No stop
20 51 00	---	15 45 40	57.4	144.9	-1.3		-22.2	187	1639	20 47 31
20 51 30	J1659+2629	15 46 10	60.0	145.3	-1.2		-22.4	7	1639	20 51 30
20 53 00	=1657+265	15 47 41	60.1	145.9	-1.2		-22.1	90	1662	20 51 31
20 53 00	3C345	15 47 41	73.6	138.7	-0.9		-31.0	-65	1662	No stop
20 58 00	---	15 52 41	74.1	141.7	-0.9		-28.9	235	1739	20 53 01

Schedule for TORUN (Code Tr) Page 5

Nature and properties of pc scale jets in FR0

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Thu 16 Jun 2022 Day 167 ---										
20 58 30	J1659+2629	15 53 12	60.6	148.3	-1.1		-20.7	-34	1739	20 58 30
21 01 00	=1657+265	15 55 42	60.8	149.3	-1.1		-20.0	116	1778	20 58 31
21 01 00	J1703+24	15 55 42	58.2	149.0	-1.2		-19.8	-23	1778	No stop
21 04 30	---	15 59 13	58.5	150.4	-1.1		-19.0	187	1832	21 01 01
21 04 30	J1659+2629	15 59 13	61.0	150.8	-1.0		-19.1	-23	1832	No stop
21 06 00	=1657+265	16 00 43	61.1	151.5	-1.0		-18.7	67	1855	21 04 31
21 06 00	J1703+24	16 00 43	58.6	151.0	-1.1		-18.6	-23	1855	No stop
21 09 30	---	16 04 13	58.9	152.5	-1.0		-17.7	187	1909	21 06 01
21 10 00	J1659+2629	16 04 43	61.4	153.3	-0.9		-17.6	7	1909	21 10 00
21 11 30	=1657+265	16 06 14	61.5	154.0	-0.9		-17.1	90	1932	21 10 01
21 11 30	J1703+24	16 06 14	59.0	153.3	-1.0		-17.2	-23	1932	No stop
21 15 00	---	16 09 44	59.2	154.8	-0.9		-16.3	187	1986	21 11 31
21 15 00	J1659+2629	16 09 44	61.7	155.5	-0.8		-16.1	-23	1986	No stop
21 16 30	=1657+265	16 11 14	61.8	156.2	-0.8		-15.7	67	2010	21 15 01
21 16 30	J1703+24	16 11 14	59.3	155.5	-0.9		-15.9	-23	2010	No stop
21 20 00	---	16 14 45	59.5	157.0	-0.8		-14.9	187	2064	21 16 31
21 20 30	J1659+2629	16 15 15	62.1	158.1	-0.8		-14.5	7	2064	21 20 30
21 22 00	=1657+265	16 16 45	62.2	158.8	-0.7		-14.1	90	2087	21 20 31
21 22 00	J1703+24	16 16 45	59.7	157.9	-0.8		-14.4	-23	2087	No stop
21 25 30	---	16 20 16	59.8	159.4	-0.7		-13.4	187	2141	21 22 01
21 25 30	J1659+2629	16 20 16	62.3	160.4	-0.7		-13.0	-23	2141	No stop
21 27 00	=1657+265	16 21 46	62.4	161.1	-0.6		-12.5	67	2164	21 25 31
21 27 00	J1703+24	16 21 46	59.9	160.1	-0.7		-13.0	-23	2164	No stop
21 30 30	---	16 25 17	60.1	161.6	-0.7		-12.0	187	2218	21 27 01
21 31 00	J1659+2629	16 25 47	62.6	163.0	-0.6		-11.3	7	2218	21 31 00
21 32 30	=1657+265	16 27 17	62.7	163.7	-0.6		-10.8	90	2241	21 31 01
21 32 30	J1703+24	16 27 17	60.2	162.5	-0.6		-11.4	-23	2241	No stop
21 36 00	---	16 30 48	60.3	164.1	-0.6		-10.4	187	2296	21 32 31
21 36 00	J1659+2629	16 30 48	62.8	165.4	-0.5		-9.7	-23	2296	No stop
21 37 30	=1657+265	16 32 18	62.9	166.1	-0.5		-9.2	67	2319	21 36 01

Schedule for TORUN (Code Tr) Page 6

Nature and properties of pc scale jets in FR0

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Thu 16 Jun 2022 Day 167 ---										
21 37 30	J1703+24	16 32 18	60.4	164.8	-0.5		-9.9	-23	2319	No stop
21 41 00	---	16 35 48	60.5	166.4	-0.5		-8.9	187	2373	21 37 31
21 41 30	J1659+2629	16 36 19	63.0	168.1	-0.4		-8.0	7	2373	21 41 30
21 43 00	=1657+265	16 37 49	63.0	168.8	-0.4		-7.5	90	2396	21 41 31
21 43 00	J1703+24	16 37 49	60.6	167.3	-0.5		-8.3	-23	2396	No stop
21 46 30	---	16 41 19	60.7	168.9	-0.4		-7.2	187	2450	21 43 01
21 46 30	J1659+2629	16 41 19	63.1	170.6	-0.3		-6.3	-23	2450	No stop
21 48 00	=1657+265	16 42 50	63.2	171.3	-0.3		-5.8	67	2473	21 46 31
21 48 00	J1703+24	16 42 50	60.8	169.6	-0.4		-6.8	-23	2473	No stop
21 51 30	---	16 46 20	60.8	171.3	-0.3		-5.7	187	2527	21 48 01
21 52 00	J1659+2629	16 46 50	63.2	173.3	-0.2		-4.5	7	2527	21 52 00
21 53 30	=1657+265	16 48 21	63.3	174.0	-0.2		-4.0	90	2551	21 52 01
21 53 30	J1703+24	16 48 21	60.9	172.2	-0.3		-5.1	-23	2551	No stop
21 57 00	---	16 51 51	60.9	173.9	-0.2		-4.0	187	2605	21 53 31
21 57 00	J1659+2629	16 51 51	63.3	175.8	-0.1		-2.8	-23	2605	No stop
21 58 30	=1657+265	16 53 21	63.3	176.5	-0.1		-2.3	67	2628	21 57 01
21 58 30	J1703+24	16 53 21	61.0	174.6	-0.2		-3.6	-23	2628	No stop
22 02 00	---	16 56 52	61.0	176.2	-0.1		-2.5	187	2682	21 58 31
22 02 30	J1659+2629	16 57 22	63.4	178.5	-0.0		-1.0	7	2682	22 02 30
22 04 00	=1657+265	16 58 52	63.4	179.3	-0.0		-0.5	90	2705	22 02 31
22 04 00	J1703+24	16 58 52	61.0	177.1	-0.1		-1.9	-23	2705	No stop
22 07 30	---	17 02 23	61.0	178.8	-0.0		-0.8	187	2759	22 04 01
22 07 30	J1659+2629	17 02 23	63.4	181.0	0.0		0.7	-23	2759	No stop
22 09 00	=1657+265	17 03 53	63.4	181.8	0.1		1.2	67	2782	22 07 31
22 09 00	J1703+24	17 03 53	61.1	179.5	-0.0		-0.3	-23	2782	No stop
22 12 30	---	17 07 24	61.0	181.2	0.0		0.8	187	2837	22 09 01
22 13 00	J1659+2629	17 07 54	63.3	183.8	0.1		2.5	8	2837	22 13 00
22 14 30	=1657+265	17 09 24	63.3	184.5	0.2		3.0	90	2860	22 13 01
22 14 30	J1703+24	17 09 24	61.0	182.1	0.1		1.4	-22	2860	No stop
22 18 00	---	17 12 55	61.0	183.8	0.1		2.5	188	2914	22 14 31

Schedule for TORUN (Code Tr) Page 7

Nature and properties of pc scale jets in FR0

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Thu 16 Jun 2022 Day 167 ---										
22 18 00	J1659+2629	17 12 55	63.3	186.3	0.2		4.2	-22	2914	No stop
22 19 30	=1657+265	17 14 25	63.2	187.0	0.2		4.7	68	2937	22 18 01
22 19 30	J1703+24	17 14 25	61.0	184.5	0.2		2.9	-22	2937	No stop
22 23 00	---	17 17 55	60.9	186.1	0.2		4.0	188	2991	22 19 31
22 23 30	J1659+2629	17 18 25	63.2	189.0	0.3		6.0	8	2991	22 23 30
22 25 00	=1657+265	17 19 56	63.1	189.7	0.3		6.5	90	3014	22 23 31
22 25 00	J1703+24	17 19 56	60.9	187.1	0.3		4.6	-22	3014	No stop
22 28 30	---	17 23 26	60.8	188.7	0.3		5.7	188	3068	22 25 01
22 28 30	J1659+2629	17 23 26	63.0	191.5	0.4		7.7	-22	3068	No stop
22 30 00	=1657+265	17 24 57	63.0	192.2	0.4		8.1	68	3092	22 28 31
22 30 00	J1703+24	17 24 57	60.8	189.4	0.3		6.2	-22	3092	No stop
22 33 30	---	17 28 27	60.7	191.0	0.4		7.2	188	3146	22 30 01
22 34 00	J1659+2629	17 28 57	62.8	194.1	0.5		9.4	8	3146	22 34 00
22 35 30	=1657+265	17 30 27	62.8	194.9	0.5		9.9	90	3169	22 34 01
22 35 30	J1703+24	17 30 27	60.7	191.9	0.4		7.8	-22	3169	No stop
22 39 00	---	17 33 58	60.5	193.6	0.5		8.9	188	3223	22 35 31
22 39 00	J1659+2629	17 33 58	62.6	196.5	0.6		11.0	-22	3223	No stop
22 40 30	=1657+265	17 35 28	62.6	197.3	0.6		11.5	68	3246	22 39 01
22 40 30	J1703+24	17 35 28	60.5	194.2	0.5		9.3	-22	3246	No stop
22 44 00	---	17 38 59	60.3	195.8	0.6		10.4	188	3300	22 40 31
22 44 30	J1659+2629	17 39 29	62.4	199.2	0.7		12.7	8	3300	22 44 30
22 46 00	=1657+265	17 40 59	62.3	199.9	0.7		13.2	90	3324	22 44 31
22 46 00	J1703+24	17 40 59	60.3	196.8	0.6		10.9	-22	3324	No stop
22 51 00	---	17 46 00	60.0	199.0	0.7		12.4	278	3401	22 46 01
22 51 00	J1659+2629	17 46 00	62.0	202.2	0.8		14.7	-21	3401	No stop
22 52 30	=1657+265	17 47 30	61.9	202.9	0.8		15.1	69	3424	22 51 01
22 52 30	J1703+24	17 47 30	60.0	199.7	0.7		12.8	-21	3424	No stop
22 58 00	---	17 53 01	59.7	202.1	0.8		14.3	309	3509	22 52 31
22 58 30	J1659+2629	17 53 31	61.6	205.6	0.9		16.9	8	3509	22 58 30
23 00 00	=1657+265	17 55 01	61.5	206.3	0.9		17.3	90	3532	22 58 31

SETUP FILE INFORMATION:

```
  NOTE: If DOPPLER, FREQ, or BW were used, see the individual scans for the final BBC settings.


======== Setup file: sess222.C2048

  Setup group:    8         Station: TORUN            Total bit rate:  2048
  Format: VDIF              Bits per sample: 2        Sample rate: 64.000
  Number of channels: 16    DBE type: DBBC_DDC        Speedup factor:   1.00

  Disk used to record data.
```

```
  1st LO=   4200.00   4200.00   4200.00   4200.00   4200.00   4200.00   4200.00   4200.00
            4200.00   4200.00   4200.00   4200.00   4200.00   4200.00   4200.00   4200.00
  Net SB=         L         L         U         U         L         L         U         U
                  L         L         U         U         L         L         U         U
  IF SB =         U         U         U         U         U         U         U         U
                  U         U         U         U         U         U         U         U
  Pol.  =       RCP       LCP       RCP       LCP       RCP       LCP       RCP       LCP
                RCP       LCP       RCP       LCP       RCP       LCP       RCP       LCP
  BBC   =         1         9         1         9         2        10         2        10
                  3        11         3        11         4        12         4        12
  BBC SB=         L         L         U         U         L         L         U         U
                  L         L         U         U         L         L         U         U
  IF    =        A1        B1        A1        B1        A1        B1        A1        B1
                 A1        B1        A1        B1        A1        B1        A1        B1

 The following frequency sets based on these setups were used.

  Frequency Set:   9  Setup file default.  Used with PCAL = off
  LO sum=   4830.49  4830.49  4830.49  4830.49  4894.49  4894.49  4894.49  4894.49
            4958.49  4958.49  4958.49  4958.49  5022.49  5022.49  5022.49  5022.49
  BBC fr=    630.49   630.49   630.49   630.49   694.49   694.49   694.49   694.49
             758.49   758.49   758.49   758.49   822.49   822.49   822.49   822.49
  Bandwd=     32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00
              32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00
   Matching frequency sets:   9

  Track assignments are:
   track1=   1,  2,  3,  4,  5,  6,  7,  8,  9, 10, 11, 12, 13, 14, 15, 16
   barrel=roll_off



POSITIONS OF SOURCES USED IN RECORDING SCANS

  Source                        Source position (RA/Dec)                      Error
                      (B1950)            (J2000)            (Date)            (mas)

* J1703+24          17 01 53.831031   * 17 03 58.503400     17 04 55.332279       0.00
                    24 14 46.38212    * 24 10 39.52000      24 08 48.41899        0.00
                    target

* 3C345             16 41 17.606229   * 16 42 58.809967     16 43 45.517987       0.79
  J1642+3948        39 54 10.81492    * 39 48 36.99399      39 46 08.83165        0.59
  1641+399          /home/guest/rmc/SCHED/sched11.6/catalogs/sources.gsfc
  J1642+39          GSFC 2016a X/S astro solution,  53724 observations.

  1657+265          16 57 22.517632   * 16 59 24.149445     17 00 19.658491       0.08
* J1659+2629        26 34 03.01799    * 26 29 36.94315      26 27 37.56174        0.11
                    /home/guest/rmc/SCHED/sched11.6/catalogs/sources.gsfc
                    GSFC 2016a X/S astro solution,    219 observations.
```

rm017btr

e-EVN: RM017B, EN011B, EA065H

PI: *Miller-Jones, Nanci, Atri*

```
Address:  JIVE

Observing mode: realtime e-vlbi
Schedule for TORUN     (Code Tr )                                   Page   2
               e-EVN: RM017B, EN011B, EA065H
  UP:  D => Below limits;  H => Below horizon mask;  W => still slewing at end;  blank => Up.
  Early: Seconds between end of slew and start.   Dwell: On source seconds.
  Disk: GBytes recorded to this point.
  TPStart:  Recording start time.  Frequencies are LO sum (band edge).
  SYNC: Time correlator is expected to sync up.
-----------------------------------------------------------------------------------------
Start UT  Source                Start / Stop                 Early    Disk   TPStart
Stop UT                  LST      EL    AZ   HA  UP   ParA  Dwell   GBytes    SYNC
-----------------------------------------------------------------------------------------
 --- Tue  21 Jun 2022   Day 172 ---
 ---------- CLOCK-SEARCH ----------

 Next scan frequencies:  4830.49  4830.49  4830.49  4830.49  4894.49  4894.49  4894.49  4894.49
                         4958.49  4958.49  4958.49  4958.49  5022.49  5022.49  5022.49  5022.49
 Next BBC frequencies:    630.49   630.49   630.49   630.49   694.49   694.49   694.49   694.49
                          758.49   758.49   758.49   758.49   822.49   822.49   822.49   822.49
 Next scan bandwidths:     32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00
                           32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00

09 00 00  J0646+4451   04 12 26  63.5  92.3 -2.6     -57.8     0        0   09 00 00
09 14 00  =0642+449    04 26 29  65.6  95.4 -2.4     -57.5   840      216   09 00 01

09 17 00  J0646+4451   04 29 29  66.1  96.1 -2.3     -57.3   173      216   09 17 00
09 29 00  =0642+449    04 41 31  67.9  99.1 -2.1     -56.7   720      402   09 17 01

09 32 00  J0646+4451   04 44 32  68.3  99.9 -2.1     -56.5   173      402   09 32 00
09 44 00  =0642+449    04 56 33  70.1 103.2 -1.9     -55.5   720      587   09 32 01

09 47 00  J0646+4451   04 59 34  70.5 104.1 -1.8     -55.2   173      587   09 47 00
09 59 00  =0642+449    05 11 36  72.3 108.0 -1.6     -53.6   720      773   09 47 01

10 02 00  J0646+4451   05 14 36  72.7 109.1 -1.6     -53.2   173      773   10 02 00
10 14 00  =0642+449    05 26 38  74.4 113.7 -1.4     -50.8   720      958   10 02 01

10 17 00  J0646+4451   05 29 39  74.8 115.0 -1.3     -50.1   173      958   10 17 00
10 29 00  =0642+449    05 41 41  76.4 120.6 -1.1     -46.8   720     1144   10 17 01

10 32 00  J0646+4451   05 44 41  76.8 122.2 -1.1     -45.8   172     1144   10 32 00
10 44 00  =0642+449    05 56 43  78.2 129.4 -0.9     -40.9   720     1329   10 32 01

10 47 00  J0646+4451   05 59 44  78.6 131.4 -0.8     -39.4   172     1329   10 47 00
10 59 00  =0642+449    06 11 46  79.8 140.6 -0.6     -32.5   720     1515   10 47 01

11 02 00  J0646+4451   06 14 46  80.1 143.3 -0.6     -30.4   171     1515   11 02 00
11 14 00  =0642+449    06 26 48  81.0 155.0 -0.4     -21.0   720     1700   11 02 01

11 17 00  J0646+4451   06 29 49  81.2 158.3 -0.3     -18.3   170     1700   11 17 00
11 29 00  =0642+449    06 41 51  81.7 172.3 -0.1      -6.5   720     1886   11 17 01

11 32 00  J0927+3902   06 44 51  58.8 100.3 -2.7     -49.4    21     1886   11 32 00
11 44 00  =4C39.25     06 56 53  60.6 103.4 -2.5     -48.7   720     2071   11 32 01
```

Schedule for TORUN (Code Tr) Page 3

e-EVN: RM017B, EN011B, EA065H

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Tue 21 Jun 2022 Day 172 ---										
11 47 00	J0927+3902	06 59 54	61.0	104.2	-2.5		-48.5	173	2071	11 47 00
11 59 00	=4C39.25	07 11 56	62.8	107.5	-2.3		-47.4	720	2257	11 47 01
12 02 00	J0927+3902	07 14 56	63.2	108.4	-2.2		-47.1	173	2257	12 02 00
12 14 00	=4C39.25	07 26 58	64.9	112.0	-2.0		-45.7	720	2442	12 02 01
12 17 00	J0927+3902	07 29 59	65.3	113.0	-2.0		-45.3	173	2442	12 17 00
12 29 00	=4C39.25	07 42 01	67.0	117.2	-1.8		-43.4	720	2628	12 17 01
12 32 00	J0927+3902	07 45 01	67.4	118.3	-1.7		-42.9	173	2628	12 32 00
12 44 00	=4C39.25	07 57 03	68.9	122.9	-1.5		-40.4	720	2813	12 32 01
---------- RM017B ----------										
12 54 00	J0927+3902	08 07 05	70.1	127.3	-1.4		-37.9	592	2813	12 54 00
12 57 00	=4C39.25	08 10 05	70.5	128.7	-1.3		-37.1	180	2860	12 54 01
13 00 00	J1329+3154	08 13 06	31.0	77.1	-5.3		-43.5	18	2860	13 00 00
13 01 20	=1327+321	08 14 26	31.2	77.3	-5.3		-43.6	80	2880	13 00 01
13 01 20	J1342+3507	08 14 26	31.7	72.5	-5.5		-44.4	-25	2880	No stop
13 03 00	=1340+353	08 16 06	31.9	72.8	-5.5		-44.4	75	2906	13 01 21
13 03 00	AT2022CMC	08 16 06	31.7	75.7	-5.3		-44.0	-20	2906	No stop
13 05 30	---	08 18 37	32.0	76.1	-5.3		-44.1	130	2945	13 03 01
13 05 30	J1329+3154	08 18 37	31.8	78.1	-5.2		-43.7	-18	2945	No stop
13 06 50	=1327+321	08 19 57	32.0	78.3	-5.2		-43.8	62	2965	13 05 31
13 06 50	J1342+3507	08 19 57	32.5	73.4	-5.4		-44.6	-25	2965	No stop
13 08 30	=1340+353	08 21 37	32.7	73.7	-5.4		-44.7	75	2991	13 06 51
13 09 00	AT2022CMC	08 22 07	32.5	76.7	-5.2		-44.2	10	2991	13 09 00
13 11 30	---	08 24 38	32.9	77.2	-5.2		-44.3	150	3030	13 09 01
13 11 30	J1329+3154	08 24 38	32.7	79.1	-5.1		-43.9	-18	3030	No stop
13 12 50	=1327+321	08 25 58	32.9	79.4	-5.1		-44.0	62	3050	13 11 31
13 12 50	J1342+3507	08 25 58	33.3	74.5	-5.3		-44.9	-25	3050	No stop
13 14 30	=1340+353	08 27 38	33.6	74.7	-5.3		-45.0	75	3076	13 12 51
13 14 30	AT2022CMC	08 27 38	33.3	77.7	-5.1		-44.5	-21	3076	No stop
13 17 00	---	08 30 08	33.7	78.2	-5.1		-44.6	129	3115	13 14 31
13 17 00	J1329+3154	08 30 08	33.5	80.2	-5.0		-44.1	-18	3115	No stop
13 18 20	=1327+321	08 31 29	33.7	80.4	-5.0		-44.2	62	3135	13 17 01

Schedule for TORUN (Code Tr) Page 4

e-EVN: RM017B, EN011B, EA065H

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Tue 21 Jun 2022 Day 172 ---										
13 18 20	J1342+3507	08 31 29	34.1	75.4	-5.2		-45.2	-25	3135	No stop
13 20 00	=1340+353	08 33 09	34.4	75.7	-5.2		-45.3	75	3161	13 18 21
13 20 30	AT2022CMC	08 33 39	34.2	78.8	-5.0		-44.7	9	3161	13 20 30
13 23 00	---	08 36 09	34.6	79.3	-5.0		-44.8	150	3200	13 20 31
13 23 00	J1329+3154	08 36 09	34.4	81.3	-4.9		-44.3	-18	3200	No stop
13 24 20	=1327+321	08 37 30	34.6	81.5	-4.9		-44.3	62	3220	13 23 01
13 24 20	J1342+3507	08 37 30	35.0	76.5	-5.1		-45.5	-25	3220	No stop
13 26 00	=1340+353	08 39 10	35.2	76.8	-5.1		-45.5	75	3246	13 24 21
13 26 00	AT2022CMC	08 39 10	35.0	79.8	-4.9		-44.9	-21	3246	No stop
13 28 30	---	08 41 40	35.4	80.3	-4.9		-45.0	129	3285	13 26 01
13 28 30	J1329+3154	08 41 40	35.2	82.3	-4.8		-44.4	-18	3285	No stop
13 29 50	=1327+321	08 43 01	35.4	82.5	-4.8		-44.5	62	3306	13 28 31
13 29 50	J1342+3507	08 43 01	35.8	77.4	-5.0		-45.7	-25	3306	No stop
13 31 30	=1340+353	08 44 41	36.0	77.7	-5.0		-45.8	75	3331	13 29 51
13 32 00	AT2022CMC	08 45 11	35.9	80.9	-4.8		-45.1	9	3331	13 32 00
13 34 30	---	08 47 41	36.3	81.4	-4.8		-45.1	150	3370	13 32 01
13 34 30	J1329+3154	08 47 41	36.1	83.4	-4.7		-44.6	-18	3370	No stop
13 35 50	=1327+321	08 49 02	36.3	83.6	-4.7		-44.6	62	3391	13 34 31
13 35 50	J1342+3507	08 49 02	36.7	78.5	-4.9		-45.9	-25	3391	No stop
13 37 30	=1340+353	08 50 42	36.9	78.8	-4.9		-46.0	75	3416	13 35 51
13 37 30	AT2022CMC	08 50 42	36.8	81.9	-4.8		-45.2	-21	3416	No stop
13 40 00	---	08 53 12	37.1	82.4	-4.7		-45.3	129	3455	13 37 31
13 40 00	J1329+3154	08 53 12	36.9	84.4	-4.6		-44.7	-18	3455	No stop
13 41 20	=1327+321	08 54 32	37.1	84.7	-4.6		-44.7	62	3476	13 40 01
13 41 20	J1342+3507	08 54 32	37.5	79.5	-4.8		-46.1	-25	3476	No stop
13 43 00	=1340+353	08 56 13	37.7	79.8	-4.8		-46.2	75	3501	13 41 21
13 43 30	AT2022CMC	08 56 43	37.6	83.0	-4.7		-45.4	9	3501	13 43 30
13 46 00	---	08 59 13	38.0	83.5	-4.6		-45.4	150	3540	13 43 31
13 46 00	J1329+3154	08 59 13	37.8	85.6	-4.5		-44.8	-18	3540	No stop
13 47 20	=1327+321	09 00 33	38.0	85.8	-4.5		-44.8	62	3561	13 46 01

Schedule for TORUN (Code Tr) Page 5

e-EVN: RM017B, EN011B, EA065H

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Tue 21 Jun 2022 Day 172 ---										
13 47 20	J1342+3507	09 00 33	38.4	80.6	-4.7		-46.3	-25	3561	No stop
13 49 00	=1340+353	09 02 14	38.6	80.9	-4.7		-46.4	75	3586	13 47 21
13 49 00	AT2022CMC	09 02 14	38.5	84.0	-4.6		-45.5	-21	3586	No stop
13 51 30	---	09 04 44	38.8	84.5	-4.5		-45.5	129	3625	13 49 01
13 51 30	J1329+3154	09 04 44	38.6	86.6	-4.4		-44.9	-18	3625	No stop
13 52 50	=1327+321	09 06 04	38.8	86.9	-4.4		-44.9	62	3646	13 51 31
13 52 50	J1342+3507	09 06 04	39.2	81.6	-4.6		-46.5	-26	3646	No stop
13 54 30	=1340+353	09 07 45	39.5	81.9	-4.6		-46.5	74	3671	13 52 51
13 55 00	AT2022CMC	09 08 15	39.4	85.2	-4.5		-45.6	9	3671	13 55 00
13 57 30	---	09 10 45	39.7	85.7	-4.4		-45.6	150	3710	13 55 01
13 57 30	J1329+3154	09 10 45	39.5	87.8	-4.3		-44.9	-18	3710	No stop
13 58 50	=1327+321	09 12 05	39.7	88.1	-4.3		-44.9	62	3731	13 57 31
13 58 50	J1342+3507	09 12 05	40.1	82.7	-4.5		-46.6	-26	3731	No stop
14 00 30	=1340+353	09 13 46	40.3	83.0	-4.5		-46.7	74	3756	13 58 51
14 00 30	AT2022CMC	09 13 46	40.2	86.2	-4.4		-45.7	-21	3756	No stop
14 03 00	---	09 16 16	40.6	86.7	-4.3		-45.7	129	3795	14 00 31
14 03 00	J1329+3154	09 16 16	40.4	88.9	-4.2		-44.9	-18	3795	No stop
14 04 20	=1327+321	09 17 36	40.6	89.2	-4.2		-44.9	62	3816	14 03 01
14 04 20	J1342+3507	09 17 36	40.9	83.7	-4.4		-46.8	-26	3816	No stop
14 06 00	=1340+353	09 19 17	41.2	84.0	-4.4		-46.8	74	3841	14 04 21
14 06 30	AT2022CMC	09 19 47	41.1	87.4	-4.3		-45.7	9	3841	14 06 30
14 09 00	---	09 22 17	41.5	87.9	-4.2		-45.8	150	3880	14 06 31
14 09 00	J1329+3154	09 22 17	41.3	90.1	-4.1		-44.9	-18	3880	No stop
14 10 20	=1327+321	09 23 37	41.5	90.4	-4.1		-44.9	62	3901	14 09 01
14 10 20	J1342+3507	09 23 37	41.8	84.8	-4.3		-46.9	-26	3901	No stop
14 12 00	=1340+353	09 25 18	42.1	85.1	-4.3		-46.9	74	3926	14 10 21
14 12 00	AT2022CMC	09 25 18	41.9	88.5	-4.2		-45.8	-22	3926	No stop
14 14 30	---	09 27 48	42.3	89.0	-4.1		-45.8	128	3965	14 12 01
14 14 30	J1329+3154	09 27 48	42.1	91.2	-4.1		-44.9	-18	3965	No stop
14 15 50	=1327+321	09 29 08	42.3	91.5	-4.0		-44.9	62	3986	14 14 31

Schedule for TORUN (Code Tr) Page 6

e-EVN: RM017B, EN011B, EA065H

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Tue 21 Jun 2022 Day 172 ---										
14 15 50	J1342+3507	09 29 08	42.6	85.8	-4.2		-47.0	-26	3986	No stop
14 17 30	=1340+353	09 30 48	42.9	86.2	-4.2		-47.0	74	4011	14 15 51
14 18 00	AT2022CMC	09 31 19	42.8	89.7	-4.1		-45.8	8	4011	14 18 00
14 20 30	---	09 33 49	43.2	90.2	-4.0		-45.8	150	4050	14 18 01
14 20 30	J1329+3154	09 33 49	43.0	92.4	-4.0		-44.9	-19	4050	No stop
14 21 50	=1327+321	09 35 09	43.2	92.7	-3.9		-44.9	61	4071	14 20 31
14 21 50	J1342+3507	09 35 09	43.5	87.0	-4.1		-47.1	-26	4071	No stop
14 23 30	=1340+353	09 36 49	43.8	87.3	-4.1		-47.1	74	4096	14 21 51
14 23 30	AT2022CMC	09 36 49	43.7	90.8	-4.0		-45.8	-22	4096	No stop
14 26 00	---	09 39 20	44.0	91.3	-3.9		-45.8	128	4135	14 23 31
14 26 00	J1329+3154	09 39 20	43.8	93.6	-3.9		-44.8	-19	4135	No stop
14 27 20	=1327+321	09 40 40	44.0	93.8	-3.8		-44.8	61	4156	14 26 01
14 27 20	J1342+3507	09 40 40	44.4	88.1	-4.0		-47.1	-26	4156	No stop
14 29 00	=1340+353	09 42 20	44.6	88.4	-4.0		-47.1	74	4181	14 27 21
14 29 30	AT2022CMC	09 42 50	44.6	92.0	-3.9		-45.8	8	4181	14 29 30
14 32 00	---	09 45 21	44.9	92.5	-3.8		-45.7	150	4220	14 29 31
14 32 00	J1329+3154	09 45 21	44.7	94.8	-3.8		-44.7	-19	4220	No stop
14 33 20	=1327+321	09 46 41	44.9	95.1	-3.7		-44.7	61	4241	14 32 01
14 33 20	J1342+3507	09 46 41	45.3	89.2	-3.9		-47.1	-27	4241	No stop
14 35 00	=1340+353	09 48 21	45.5	89.6	-3.9		-47.1	73	4266	14 33 21
14 35 00	AT2022CMC	09 48 21	45.4	93.1	-3.8		-45.7	-22	4266	No stop
14 37 30	---	09 50 52	45.8	93.7	-3.7		-45.7	128	4305	14 35 01
14 37 30	J1329+3154	09 50 52	45.6	96.0	-3.7		-44.6	-19	4305	No stop
14 38 50	=1327+321	09 52 12	45.8	96.3	-3.6		-44.6	61	4326	14 37 31
14 38 50	J1342+3507	09 52 12	46.1	90.3	-3.9		-47.1	-27	4326	No stop
14 40 30	=1340+353	09 53 52	46.4	90.7	-3.8		-47.1	73	4352	14 38 51
14 41 00	AT2022CMC	09 54 22	46.3	94.4	-3.7		-45.6	8	4352	14 41 00
14 43 30	---	09 56 53	46.7	94.9	-3.6		-45.6	150	4390	14 41 01
14 43 30	J1329+3154	09 56 53	46.5	97.3	-3.6		-44.5	-19	4390	No stop
14 44 50	=1327+321	09 58 13	46.7	97.6	-3.5		-44.4	61	4411	14 43 31

Schedule for TORUN (Code Tr) Page 7

e-EVN: RM017B, EN011B, EA065H

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Tue 21 Jun 2022 Day 172 ---										
14 44 50	J1342+3507	09 58 13	47.0	91.6	-3.8		-47.1	-27	4411	No stop
14 46 30	=1340+353	09 59 53	47.3	91.9	-3.7		-47.1	73	4437	14 44 51
14 46 30	AT2022CMC	09 59 53	47.1	95.6	-3.6		-45.5	-22	4437	No stop
14 49 00	---	10 02 24	47.5	96.1	-3.6		-45.5	128	4475	14 46 31
14 49 00	J1329+3154	10 02 24	47.3	98.6	-3.5		-44.3	-19	4475	No stop
14 50 20	=1327+321	10 03 44	47.5	98.9	-3.5		-44.3	61	4496	14 49 01
14 50 20	J1342+3507	10 03 44	47.8	92.7	-3.7		-47.1	-27	4496	No stop
14 52 00	=1340+353	10 05 24	48.1	93.0	-3.6		-47.1	73	4522	14 50 21
14 52 30	AT2022CMC	10 05 54	48.0	96.9	-3.5		-45.4	8	4522	14 52 30
14 55 00	---	10 08 25	48.4	97.4	-3.5		-45.3	150	4560	14 52 31
14 55 00	J1329+3154	10 08 25	48.2	99.9	-3.4		-44.1	-19	4560	No stop
14 56 20	=1327+321	10 09 45	48.4	100.2	-3.4		-44.0	61	4581	14 55 01
14 56 20	J1342+3507	10 09 45	48.7	94.0	-3.6		-47.0	-27	4581	No stop
14 58 00	=1340+353	10 11 25	49.0	94.3	-3.5		-47.0	73	4607	14 56 21
14 58 00	AT2022CMC	10 11 25	48.8	98.1	-3.4		-45.2	-23	4607	No stop
15 00 30	---	10 13 55	49.2	98.7	-3.4		-45.1	127	4645	14 58 01
15 00 30	J1329+3154	10 13 55	49.0	101.2	-3.3		-43.9	-19	4645	No stop
15 01 50	=1327+321	10 15 16	49.2	101.5	-3.3		-43.8	61	4666	15 00 31
15 01 50	J1342+3507	10 15 16	49.6	95.1	-3.5		-46.9	-28	4666	No stop
15 03 30	=1340+353	10 16 56	49.8	95.5	-3.4		-46.9	72	4692	15 01 51
15 04 00	AT2022CMC	10 17 26	49.7	99.5	-3.3		-45.0	7	4692	15 04 00
15 06 30	---	10 19 56	50.1	100.0	-3.3		-44.9	150	4730	15 04 01
15 06 30	J1329+3154	10 19 56	49.9	102.6	-3.2		-43.6	-19	4730	No stop
15 07 50	=1327+321	10 21 17	50.1	102.9	-3.2		-43.5	61	4751	15 06 31
15 07 50	J1342+3507	10 21 17	50.5	96.5	-3.4		-46.8	-28	4751	No stop
15 09 30	=1340+353	10 22 57	50.7	96.8	-3.3		-46.7	72	4777	15 07 51
15 09 30	AT2022CMC	10 22 57	50.5	100.7	-3.2		-44.8	-23	4777	No stop
15 12 00	---	10 25 27	50.9	101.3	-3.2		-44.7	127	4815	15 09 31
15 12 00	J1329+3154	10 25 27	50.7	103.9	-3.1		-43.3	-20	4815	No stop
15 13 20	=1327+321	10 26 48	50.9	104.3	-3.1		-43.2	60	4836	15 12 01

Schedule for TORUN (Code Tr) Page 8

e-EVN: RM017B, EN011B, EA065H

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Tue 21 Jun 2022 Day 172 ---										
15 13 20	J1342+3507	10 26 48	51.3	97.7	-3.3		-46.6	-28	4836	No stop
15 15 00	=1340+353	10 28 28	51.5	98.1	-3.3		-46.5	72	4862	15 13 21
15 15 30	AT2022CMC	10 28 58	51.4	102.2	-3.1		-44.5	7	4862	15 15 30
15 18 00	---	10 31 28	51.8	102.8	-3.1		-44.4	150	4900	15 15 31
15 18 00	J1329+3154	10 31 28	51.5	105.4	-3.0		-42.9	-20	4900	No stop
15 19 20	=1327+321	10 32 49	51.7	105.8	-3.0		-42.8	60	4921	15 18 01
15 19 20	J1342+3507	10 32 49	52.2	99.0	-3.2		-46.4	-28	4921	No stop
15 21 00	=1340+353	10 34 29	52.4	99.4	-3.2		-46.3	72	4947	15 19 21
15 21 00	AT2022CMC	10 34 29	52.2	103.5	-3.0		-44.2	-23	4947	No stop
15 23 30	---	10 36 59	52.6	104.1	-3.0		-44.0	127	4985	15 21 01
15 24 30	J1419+3821	10 37 59	49.6	88.4	-3.7		-49.9	13	4985	15 24 30
15 26 30	=1417+385	10 40 00	49.9	88.8	-3.7		-49.9	120	5016	15 24 31
15 27 30	J1329+3154	10 41 00	52.9	107.9	-2.8		-42.3	7	5016	15 27 30
15 28 50	=1327+321	10 42 20	53.1	108.2	-2.8		-42.2	80	5037	15 27 31
15 28 50	J1342+3507	10 42 20	53.6	101.3	-3.0		-46.0	-29	5037	No stop
15 30 30	=1340+353	10 44 00	53.8	101.7	-3.0		-45.9	71	5063	15 28 51
15 30 30	AT2022CMC	10 44 00	53.6	105.9	-2.9		-43.6	-24	5063	No stop
15 33 00	---	10 46 31	54.0	106.5	-2.8		-43.4	126	5101	15 30 31
15 33 00	J1329+3154	10 46 31	53.7	109.3	-2.7		-41.8	-20	5101	No stop
15 34 20	=1327+321	10 47 51	53.9	109.7	-2.7		-41.7	60	5122	15 33 01
15 34 20	J1342+3507	10 47 51	54.4	102.6	-2.9		-45.7	-29	5122	No stop
15 36 00	=1340+353	10 49 31	54.6	103.0	-2.9		-45.6	71	5148	15 34 21
15 36 30	AT2022CMC	10 50 01	54.5	107.5	-2.8		-43.1	6	5148	15 36 30
15 39 00	---	10 52 32	54.8	108.1	-2.7		-42.9	150	5186	15 36 31
15 39 00	J1329+3154	10 52 32	54.5	110.9	-2.6		-41.3	-20	5186	No stop
15 40 20	=1327+321	10 53 52	54.7	111.3	-2.6		-41.2	60	5207	15 39 01
15 40 20	J1342+3507	10 53 52	55.3	104.1	-2.8		-45.3	-29	5207	No stop
15 42 00	=1340+353	10 55 32	55.5	104.5	-2.8		-45.2	71	5233	15 40 21
15 42 00	AT2022CMC	10 55 32	55.3	108.9	-2.7		-42.7	-24	5233	No stop
15 44 30	---	10 58 03	55.6	109.6	-2.6		-42.5	126	5271	15 42 01

Schedule for TORUN (Code Tr) Page 9

e-EVN: RM017B, EN011B, EA065H

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Tue 21 Jun 2022 Day 172 ---										
15 44 30	J1329+3154	10 58 03	55.3	112.5	-2.5		-40.8	-20	5271	No stop
15 45 50	=1327+321	10 59 23	55.5	112.9	-2.5		-40.6	60	5292	15 44 31
15 45 50	J1342+3507	10 59 23	56.1	105.5	-2.7		-44.9	-29	5292	No stop
15 47 30	=1340+353	11 01 03	56.3	106.0	-2.7		-44.8	71	5318	15 45 51
15 48 00	AT2022CMC	11 01 33	56.1	110.6	-2.6		-42.2	6	5318	15 48 00
15 50 30	---	11 04 04	56.5	111.3	-2.5		-41.9	150	5356	15 48 01
15 50 30	J1329+3154	11 04 04	56.1	114.2	-2.4		-40.1	-21	5356	No stop
15 51 50	=1327+321	11 05 24	56.3	114.6	-2.4		-40.0	59	5377	15 50 31
15 51 50	J1342+3507	11 05 24	56.9	107.1	-2.6		-44.5	-30	5377	No stop
15 53 30	=1340+353	11 07 04	57.2	107.6	-2.6		-44.3	70	5403	15 51 51
15 53 30	AT2022CMC	11 07 04	56.9	112.1	-2.5		-41.6	-24	5403	No stop
15 56 00	---	11 09 35	57.2	112.9	-2.4		-41.3	126	5441	15 53 31
15 56 00	J1329+3154	11 09 35	56.9	115.8	-2.4		-39.5	-21	5441	No stop
15 57 20	=1327+321	11 10 55	57.1	116.2	-2.3		-39.3	59	5462	15 56 01
15 57 20	J1342+3507	11 10 55	57.7	108.6	-2.5		-44.0	-30	5462	No stop
15 59 00	=1340+353	11 12 35	58.0	109.1	-2.5		-43.9	70	5488	15 57 21
15 59 30	AT2022CMC	11 13 05	57.7	113.9	-2.4		-41.0	6	5488	15 59 30
16 02 00	---	11 15 36	58.1	114.6	-2.3		-40.7	150	5526	15 59 31
16 02 00	J1329+3154	11 15 36	57.7	117.7	-2.3		-38.7	-21	5526	No stop
16 03 20	=1327+321	11 16 56	57.9	118.1	-2.2		-38.6	59	5547	16 02 01
16 03 20	J1342+3507	11 16 56	58.6	110.3	-2.4		-43.4	-30	5547	No stop
16 05 00	=1340+353	11 18 36	58.8	110.8	-2.4		-43.3	70	5573	16 03 21
16 05 00	AT2022CMC	11 18 36	58.5	115.5	-2.3		-40.3	-25	5573	No stop
16 07 30	---	11 21 06	58.8	116.3	-2.2		-40.0	125	5611	16 05 01
16 07 30	J1329+3154	11 21 06	58.4	119.4	-2.2		-38.0	-21	5611	No stop
16 08 50	=1327+321	11 22 27	58.6	119.8	-2.1		-37.8	59	5632	16 07 31
16 08 50	J1342+3507	11 22 27	59.4	111.9	-2.4		-42.9	-31	5632	No stop
16 10 30	=1340+353	11 24 07	59.6	112.4	-2.3		-42.7	69	5658	16 08 51
16 11 00	AT2022CMC	11 24 37	59.3	117.4	-2.2		-39.5	5	5658	16 11 00
16 13 30	---	11 27 07	59.6	118.2	-2.1		-39.2	150	5696	16 11 01

Schedule for TORUN (Code Tr) Page 10

e-EVN: RM017B, EN011B, EA065H

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Tue 21 Jun 2022 Day 172 ---										
16 13 30	J1329+3154	11 27 07	59.2	121.4	-2.1		-37.1	-21	5696	No stop
16 14 50	=1327+321	11 28 28	59.4	121.8	-2.0		-36.9	59	5717	16 13 31
16 14 50	J1342+3507	11 28 28	60.2	113.7	-2.3		-42.2	-31	5717	No stop
16 16 30	=1340+353	11 30 08	60.4	114.2	-2.2		-42.0	69	5743	16 14 51
16 16 30	AT2022CMC	11 30 08	60.0	119.2	-2.1		-38.7	-25	5743	No stop
16 19 00	---	11 32 38	60.3	120.0	-2.1		-38.4	125	5781	16 16 31
16 19 00	J1329+3154	11 32 38	59.9	123.2	-2.0		-36.2	-21	5781	No stop
16 20 20	=1327+321	11 33 59	60.1	123.7	-1.9		-36.0	59	5802	16 19 01
16 20 20	J1342+3507	11 33 59	60.9	115.4	-2.2		-41.5	-31	5802	No stop
16 22 00	=1340+353	11 35 39	61.2	116.0	-2.1		-41.2	69	5828	16 20 21
16 22 30	AT2022CMC	11 36 09	60.8	121.2	-2.0		-37.8	5	5828	16 22 30
16 25 00	---	11 38 39	61.1	122.0	-2.0		-37.4	150	5866	16 22 31
16 25 00	J1329+3154	11 38 39	60.7	125.3	-1.9		-35.2	-21	5866	No stop
16 26 20	=1327+321	11 40 00	60.8	125.8	-1.8		-35.0	59	5887	16 25 01
16 26 20	J1342+3507	11 40 00	61.7	117.4	-2.1		-40.6	-32	5887	No stop
16 28 00	=1340+353	11 41 40	62.0	117.9	-2.0		-40.4	68	5913	16 26 21
16 28 00	AT2022CMC	11 41 40	61.5	123.1	-1.9		-36.9	-26	5913	No stop
16 30 30	---	11 44 10	61.8	124.0	-1.9		-36.5	124	5951	16 28 01
16 30 30	J1329+3154	11 44 10	61.3	127.3	-1.8		-34.2	-22	5951	No stop
16 31 50	=1327+321	11 45 30	61.5	127.8	-1.8		-33.9	58	5972	16 30 31
16 31 50	J1342+3507	11 45 30	62.5	119.2	-2.0		-39.8	-32	5972	No stop
16 33 30	=1340+353	11 47 11	62.7	119.8	-1.9		-39.5	68	5998	16 31 51
16 34 00	AT2022CMC	11 47 41	62.2	125.2	-1.8		-35.8	4	5998	16 34 00
16 36 30	---	11 50 11	62.5	126.2	-1.8		-35.4	150	6036	16 34 01
16 36 30	J1329+3154	11 50 11	62.0	129.6	-1.7		-33.0	-22	6036	No stop
16 37 50	=1327+321	11 51 31	62.2	130.1	-1.7		-32.7	58	6057	16 36 31
16 37 50	J1342+3507	11 51 31	63.3	121.3	-1.9		-38.8	-32	6057	No stop
16 39 30	=1340+353	11 53 12	63.5	121.9	-1.8		-38.5	68	6083	16 37 51
16 39 30	AT2022CMC	11 53 12	62.9	127.3	-1.7		-34.8	-26	6083	No stop
16 42 00	---	11 55 42	63.2	128.2	-1.7		-34.3	124	6121	16 39 31

Schedule for TORUN (Code Tr) Page 11

e-EVN: RM017B, EN011B, EA065H

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Tue 21 Jun 2022 Day 172 ---										
16 42 00	J1329+3154	11 55 42	62.7	131.7	-1.6		-31.8	-22	6121	No stop
16 43 20	=1327+321	11 57 02	62.8	132.2	-1.6		-31.5	58	6142	16 42 01
16 43 20	J1342+3507	11 57 02	64.0	123.3	-1.8		-37.8	-33	6142	No stop
16 45 00	=1340+353	11 58 43	64.2	123.9	-1.7		-37.5	67	6168	16 43 21
16 45 30	AT2022CMC	11 59 13	63.6	129.6	-1.6		-33.5	4	6168	16 45 30
16 48 00	---	12 01 43	63.9	130.6	-1.6		-33.0	150	6207	16 45 31
16 48 00	J1329+3154	12 01 43	63.3	134.1	-1.5		-30.5	-22	6207	No stop
16 49 20	=1327+321	12 03 03	63.5	134.6	-1.5		-30.2	58	6227	16 48 01
16 49 20	J1342+3507	12 03 03	64.7	125.6	-1.7		-36.6	-33	6227	No stop
16 51 00	=1340+353	12 04 44	64.9	126.2	-1.6		-36.3	67	6253	16 49 21
16 51 00	AT2022CMC	12 04 44	64.2	131.8	-1.5		-32.3	-26	6253	No stop
16 53 30	---	12 07 14	64.5	132.8	-1.5		-31.7	124	6292	16 51 01
16 53 30	J1329+3154	12 07 14	63.9	136.4	-1.4		-29.2	-22	6292	No stop
16 54 50	=1327+321	12 08 34	64.0	136.9	-1.4		-28.8	58	6312	16 53 31
16 54 50	J1342+3507	12 08 34	65.4	127.7	-1.6		-35.4	-33	6312	No stop
16 56 30	=1340+353	12 10 15	65.6	128.4	-1.6		-35.1	67	6338	16 54 51
16 57 00	AT2022CMC	12 10 45	64.9	134.3	-1.4		-30.9	3	6338	16 57 00
16 59 30	---	12 13 15	65.2	135.4	-1.4		-30.2	150	6377	16 57 01
16 59 30	J1329+3154	12 13 15	64.5	139.0	-1.3		-27.6	-22	6377	No stop
17 00 50	=1327+321	12 14 35	64.6	139.6	-1.3		-27.3	58	6397	16 59 31
17 00 50	J1342+3507	12 14 35	66.1	130.2	-1.5		-34.1	-33	6397	No stop
17 02 30	=1340+353	12 16 16	66.3	130.9	-1.5		-33.7	67	6423	17 00 51
17 02 30	AT2022CMC	12 16 16	65.5	136.7	-1.3		-29.5	-27	6423	No stop
17 05 00	---	12 18 46	65.7	137.8	-1.3		-28.8	123	6462	17 02 31
17 05 00	J1329+3154	12 18 46	65.0	141.4	-1.2		-26.1	-22	6462	No stop
17 06 20	=1327+321	12 20 06	65.2	142.0	-1.2		-25.8	58	6482	17 05 01
17 06 20	J1342+3507	12 20 06	66.7	132.5	-1.4		-32.7	-34	6482	No stop
17 08 00	=1340+353	12 21 46	66.9	133.3	-1.4		-32.3	66	6508	17 06 21
17 08 30	AT2022CMC	12 22 17	66.1	139.4	-1.2		-27.8	3	6508	17 08 30
17 11 00	---	12 24 47	66.3	140.5	-1.2		-27.1	150	6547	17 08 31

Schedule for TORUN (Code Tr) Page 12

e-EVN: RM017B, EN011B, EA065H

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Tue 21 Jun 2022 Day 172 ---										
17 11 00	J1329+3154	12 24 47	65.6	144.2	-1.1		-24.4	-22	6547	No stop
17 12 20	=1327+321	12 26 07	65.7	144.8	-1.1		-24.0	58	6567	17 11 01
17 12 20	J1342+3507	12 26 07	67.3	135.2	-1.3		-31.1	-34	6567	No stop
17 14 00	=1340+353	12 27 47	67.5	136.0	-1.3		-30.6	66	6593	17 12 21
17 14 00	AT2022CMC	12 27 47	66.6	141.9	-1.1		-26.2	-27	6593	No stop
17 16 30	---	12 30 18	66.8	143.1	-1.1		-25.5	123	6632	17 14 01
17 16 30	J1329+3154	12 30 18	66.1	146.8	-1.0		-22.8	-22	6632	No stop
17 17 50	=1327+321	12 31 38	66.2	147.5	-1.0		-22.3	58	6652	17 16 31
17 17 50	J1342+3507	12 31 38	67.9	137.8	-1.2		-29.5	-34	6652	No stop
17 19 30	=1340+353	12 33 18	68.1	138.6	-1.2		-29.0	66	6678	17 17 51
17 20 00	AT2022CMC	12 33 48	67.1	144.8	-1.0		-24.4	3	6678	17 20 00
17 22 30	---	12 36 19	67.4	146.1	-1.0		-23.6	150	6717	17 20 01
17 22 30	J1329+3154	12 36 19	66.5	149.8	-0.9		-20.8	-22	6717	No stop
17 23 50	=1327+321	12 37 39	66.6	150.4	-0.9		-20.4	58	6737	17 22 31
17 23 50	J1342+3507	12 37 39	68.5	140.7	-1.1		-27.7	-34	6737	No stop
17 25 30	=1340+353	12 39 19	68.7	141.5	-1.1		-27.1	66	6763	17 23 51
17 25 30	AT2022CMC	12 39 19	67.6	147.6	-0.9		-22.6	-28	6763	No stop
17 28 00	---	12 41 50	67.8	148.9	-0.9		-21.7	122	6802	17 25 31
17 28 00	J1329+3154	12 41 50	66.9	152.6	-0.8		-19.0	-22	6802	No stop
17 29 20	=1327+321	12 43 10	67.0	153.2	-0.8		-18.5	58	6822	17 28 01
17 29 20	J1342+3507	12 43 10	69.0	143.5	-1.0		-25.9	-34	6822	No stop
17 31 00	=1340+353	12 44 50	69.2	144.3	-1.0		-25.3	66	6848	17 29 21
17 31 30	AT2022CMC	12 45 20	68.1	150.7	-0.8		-20.5	2	6848	17 31 30
17 34 00	---	12 47 51	68.2	152.0	-0.8		-19.6	150	6887	17 31 31
17 34 00	J1329+3154	12 47 51	67.3	155.7	-0.7		-16.9	-22	6887	No stop
17 35 20	=1327+321	12 49 11	67.4	156.4	-0.7		-16.4	58	6907	17 34 01
17 35 20	J1342+3507	12 49 11	69.5	146.6	-0.9		-23.8	-34	6907	No stop
17 37 00	=1340+353	12 50 51	69.7	147.5	-0.9		-23.2	66	6933	17 35 21
17 37 00	AT2022CMC	12 50 51	68.5	153.6	-0.7		-18.6	-28	6933	No stop
17 39 30	---	12 53 22	68.6	155.0	-0.7		-17.6	122	6972	17 37 01

Schedule for TORUN (Code Tr) Page 13

e-EVN: RM017B, EN011B, EA065H

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Tue 21 Jun 2022 Day 172 ---										
17 39 30	J1329+3154	12 53 22	67.6	158.6	-0.6		-14.9	-22	6972	No stop
17 40 50	=1327+321	12 54 42	67.7	159.3	-0.6		-14.4	58	6992	17 39 31
17 40 50	J1342+3507	12 54 42	70.0	149.6	-0.8		-21.8	-34	6992	No stop
17 42 30	=1340+353	12 56 22	70.1	150.6	-0.8		-21.1	66	7018	17 40 51
17 43 00	AT2022CMC	12 56 52	68.8	156.9	-0.6		-16.3	2	7018	17 43 00
17 45 30	---	12 59 23	69.0	158.3	-0.6		-15.3	150	7057	17 43 01
17 45 30	J1329+3154	12 59 23	67.9	161.9	-0.5		-12.7	-22	7057	No stop
17 46 50	=1327+321	13 00 43	68.0	162.6	-0.5		-12.2	58	7077	17 45 31
17 46 50	J1342+3507	13 00 43	70.4	153.0	-0.7		-19.4	-34	7077	No stop
17 48 30	=1340+353	13 02 23	70.5	154.0	-0.7		-18.7	66	7103	17 46 51
17 48 30	AT2022CMC	13 02 23	69.1	160.1	-0.6		-14.2	-28	7103	No stop
17 51 00	---	13 04 53	69.3	161.5	-0.5		-13.2	122	7142	17 48 31
17 51 00	J1329+3154	13 04 53	68.2	165.0	-0.4		-10.5	-22	7142	No stop
17 52 20	=1327+321	13 06 14	68.2	165.7	-0.4		-10.0	58	7162	17 51 01
17 52 20	J1342+3507	13 06 14	70.8	156.3	-0.6		-17.2	-33	7162	No stop
17 54 00	=1340+353	13 07 54	70.9	157.3	-0.6		-16.5	67	7188	17 52 21
17 54 30	AT2022CMC	13 08 24	69.4	163.5	-0.5		-11.7	3	7188	17 54 30
17 57 00	---	13 10 54	69.5	165.0	-0.4		-10.7	150	7227	17 54 31
17 57 00	J1329+3154	13 10 54	68.4	168.4	-0.3		-8.2	-22	7227	No stop
17 58 20	=1327+321	13 12 15	68.4	169.2	-0.3		-7.6	58	7247	17 57 01
17 58 20	J1342+3507	13 12 15	71.1	159.9	-0.5		-14.6	-33	7247	No stop
18 00 00	=1340+353	13 13 55	71.2	160.9	-0.5		-13.9	67	7273	17 58 21
18 00 00	AT2022CMC	13 13 55	69.6	166.8	-0.4		-9.4	-27	7273	No stop
18 02 30	---	13 16 25	69.7	168.3	-0.3		-8.4	123	7312	18 00 01
18 03 30	J1419+3821	13 17 26	71.6	137.3	-1.1		-31.2	-17	7312	18 03 30
18 05 30	=1417+385	13 19 26	71.8	138.4	-1.0		-30.5	103	7343	18 03 31
18 06 30	J1329+3154	13 20 26	68.6	173.9	-0.2		-4.3	-26	7343	18 06 30
18 07 50	=1327+321	13 21 46	68.6	174.7	-0.2		-3.8	54	7363	18 06 31
18 07 50	J1342+3507	13 21 46	71.5	165.8	-0.4		-10.3	-32	7363	No stop
18 09 30	=1340+353	13 23 27	71.6	166.9	-0.3		-9.6	68	7389	18 07 51

Schedule for TORUN (Code Tr) Page 14

e-EVN: RM017B, EN011B, EA065H

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Tue 21 Jun 2022 Day 172 ---										
18 09 30	AT2022CMC	13 23 27	69.9	172.5	-0.2		-5.4	-27	7389	No stop
18 12 00	---	13 25 57	69.9	174.0	-0.2		-4.3	123	7428	18 09 31
18 12 00	J1329+3154	13 25 57	68.7	177.1	-0.1		-2.1	-21	7428	No stop
18 13 20	=1327+321	13 27 17	68.7	177.9	-0.1		-1.5	59	7448	18 12 01
18 13 20	J1342+3507	13 27 17	71.7	169.4	-0.3		-7.8	-31	7448	No stop
18 15 00	=1340+353	13 28 57	71.7	170.4	-0.2		-7.0	69	7474	18 13 21
18 15 30	AT2022CMC	13 29 28	70.0	176.2	-0.1		-2.8	4	7474	18 15 30
18 18 00	---	13 31 58	70.0	177.7	-0.1		-1.7	150	7513	18 15 31
18 18 00	J1329+3154	13 31 58	68.7	180.6	0.0		0.4	-21	7513	No stop
18 19 20	=1327+321	13 33 18	68.7	181.4	0.0		1.0	59	7533	18 18 01
18 19 20	J1342+3507	13 33 18	71.8	173.3	-0.2		-4.9	-31	7533	No stop
18 21 00	=1340+353	13 34 58	71.9	174.4	-0.1		-4.1	69	7559	18 19 21
18 21 00	AT2022CMC	13 34 58	70.0	179.5	-0.0		-0.3	-26	7559	No stop
18 23 30	---	13 37 29	70.0	181.1	0.0		0.8	124	7598	18 21 01
18 23 30	J1329+3154	13 37 29	68.7	183.8	0.1		2.7	-20	7598	No stop
18 24 50	=1327+321	13 38 49	68.6	184.6	0.1		3.3	60	7618	18 23 31
18 24 50	J1342+3507	13 38 49	71.9	176.9	-0.1		-2.3	-30	7618	No stop
18 26 30	=1340+353	13 40 29	71.9	178.0	-0.1		-1.5	70	7644	18 24 51
18 27 00	AT2022CMC	13 40 59	70.0	183.2	0.1		2.3	5	7644	18 27 00
18 29 30	---	13 43 30	70.0	184.7	0.1		3.4	150	7683	18 27 01
18 29 30	J1329+3154	13 43 30	68.6	187.3	0.2		5.2	-20	7683	No stop
18 30 50	=1327+321	13 44 50	68.5	188.1	0.2		5.7	60	7703	18 29 31
18 30 50	J1342+3507	13 44 50	71.9	180.9	0.0		0.6	-29	7703	No stop
18 32 30	=1340+353	13 46 30	71.9	182.0	0.0		1.4	71	7729	18 30 51
18 32 30	AT2022CMC	13 46 30	69.9	186.6	0.2		4.7	-25	7729	No stop
18 35 00	---	13 49 01	69.9	188.1	0.2		5.8	125	7768	18 32 31
18 35 00	J1329+3154	13 49 01	68.4	190.5	0.3		7.4	-19	7768	No stop
18 36 20	=1327+321	13 50 21	68.4	191.3	0.3		7.9	61	7788	18 35 01
18 36 20	J1342+3507	13 50 21	71.9	184.5	0.1		3.3	-28	7788	No stop
18 38 00	=1340+353	13 52 01	71.9	185.6	0.1		4.1	72	7814	18 36 21

Schedule for TORUN (Code Tr) Page 15

e-EVN: RM017B, EN011B, EA065H

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Tue 21 Jun 2022 Day 172 ---										
18 38 30	AT2022CMC	13 52 31	69.8	190.2	0.3		7.3	6	7814	18 38 30
18 41 00	---	13 55 02	69.7	191.7	0.3		8.4	150	7853	18 38 31
18 41 00	J1329+3154	13 55 02	68.3	193.9	0.4		9.8	-19	7853	No stop
18 42 20	=1327+321	13 56 22	68.2	194.7	0.4		10.3	61	7873	18 41 01
18 42 20	J1342+3507	13 56 22	71.8	188.4	0.2		6.2	-27	7873	No stop
18 44 00	=1340+353	13 58 02	71.7	189.5	0.2		7.0	73	7899	18 42 21
18 44 00	AT2022CMC	13 58 02	69.6	193.5	0.4		9.6	-23	7899	No stop
18 46 30	---	14 00 33	69.5	195.0	0.4		10.7	127	7938	18 44 01
18 46 30	J1329+3154	14 00 33	68.0	197.0	0.5		11.9	-19	7938	No stop
18 47 50	=1327+321	14 01 53	68.0	197.8	0.5		12.5	61	7958	18 46 31
18 47 50	J1342+3507	14 01 53	71.6	192.0	0.3		8.8	-28	7958	No stop
18 49 30	=1340+353	14 03 33	71.6	193.1	0.3		9.5	72	7984	18 47 51
18 50 00	AT2022CMC	14 04 03	69.4	197.0	0.5		12.1	7	7984	18 50 00
18 52 30	---	14 06 34	69.3	198.5	0.5		13.1	150	8023	18 50 01
18 52 30	J1329+3154	14 06 34	67.7	200.3	0.6		14.2	-19	8023	No stop
18 53 50	=1327+321	14 07 54	67.7	201.1	0.6		14.7	61	8043	18 52 31
18 53 50	J1342+3507	14 07 54	71.4	195.8	0.4		11.5	-28	8043	No stop
18 55 30	=1340+353	14 09 34	71.3	196.9	0.4		12.3	72	8069	18 53 51
18 55 30	AT2022CMC	14 09 34	69.1	200.2	0.6		14.3	-22	8069	No stop
18 58 00	---	14 12 04	69.0	201.6	0.6		15.3	128	8108	18 55 31
18 58 00	J1329+3154	14 12 04	67.4	203.3	0.7		16.2	-19	8108	No stop
18 59 20	=1327+321	14 13 25	67.4	204.0	0.7		16.7	61	8128	18 58 01
18 59 20	J1342+3507	14 13 25	71.2	199.3	0.5		14.0	-28	8128	No stop
19 01 00	=1340+353	14 15 05	71.1	200.3	0.5		14.7	72	8154	18 59 21
19 01 30	AT2022CMC	14 15 35	68.8	203.6	0.7		16.7	8	8154	19 01 30
19 04 00	---	14 18 05	68.6	205.0	0.7		17.6	150	8193	19 01 31
19 04 00	J1329+3154	14 18 05	67.1	206.5	0.8		18.4	-20	8193	No stop
19 05 20	=1327+321	14 19 26	67.0	207.2	0.8		18.8	60	8214	19 04 01
19 05 20	J1342+3507	14 19 26	70.8	202.9	0.6		16.6	-28	8214	No stop
19 07 00	=1340+353	14 21 06	70.7	203.9	0.6		17.3	72	8239	19 05 21

Schedule for TORUN (Code Tr) Page 16

e-EVN: RM017B, EN011B, EA065H

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Tue 21 Jun 2022 Day 172 ---										
19 07 00	AT2022CMC	14 21 06	68.4	206.6	0.8		18.7	-23	8239	No stop
19 09 30	---	14 23 36	68.3	208.0	0.8		19.6	127	8278	19 07 01
19 09 30	J1329+3154	14 23 36	66.7	209.3	0.9		20.2	-20	8278	No stop
19 10 50	=1327+321	14 24 57	66.6	210.0	0.9		20.7	60	8299	19 09 31
19 10 50	J1342+3507	14 24 57	70.5	206.2	0.7		18.9	-28	8299	No stop
19 12 30	=1340+353	14 26 37	70.4	207.1	0.7		19.5	72	8324	19 10 51
19 13 00	AT2022CMC	14 27 07	68.0	209.8	0.9		20.9	7	8324	19 13 00
19 15 30	---	14 29 37	67.8	211.1	0.9		21.7	150	8363	19 13 01
19 15 30	J1329+3154	14 29 37	66.2	212.3	1.0		22.2	-20	8363	No stop
19 16 50	=1327+321	14 30 58	66.1	212.9	1.0		22.6	60	8384	19 15 31
19 16 50	J1342+3507	14 30 58	70.1	209.6	0.8		21.2	-29	8384	No stop
19 18 30	=1340+353	14 32 38	69.9	210.5	0.8		21.9	71	8409	19 16 51
19 18 30	AT2022CMC	14 32 38	67.6	212.6	0.9		22.7	-23	8409	No stop
19 21 00	---	14 35 08	67.4	213.9	1.0		23.6	127	8448	19 18 31
19 21 00	J1329+3154	14 35 08	65.7	214.9	1.1		23.8	-20	8448	No stop
19 22 20	=1327+321	14 36 28	65.6	215.5	1.1		24.2	60	8469	19 21 01
19 22 20	J1342+3507	14 36 28	69.6	212.6	0.9		23.3	-29	8469	No stop
19 24 00	=1340+353	14 38 09	69.5	213.5	0.9		23.9	71	8494	19 22 21
19 24 30	AT2022CMC	14 38 39	67.1	215.6	1.0		24.7	7	8494	19 24 30
19 27 00	---	14 41 09	66.8	216.8	1.1		25.5	150	8533	19 24 31
19 27 00	J1329+3154	14 41 09	65.2	217.7	1.2		25.6	-20	8533	No stop
19 28 20	=1327+321	14 42 29	65.1	218.3	1.2		26.0	60	8554	19 27 01
19 28 20	J1342+3507	14 42 29	69.1	215.8	1.0		25.4	-29	8554	No stop
19 30 00	=1340+353	14 44 10	69.0	216.7	1.0		26.0	71	8579	19 28 21
19 30 00	AT2022CMC	14 44 10	66.6	218.3	1.1		26.4	-23	8579	No stop
19 32 30	---	14 46 40	66.3	219.5	1.2		27.1	127	8618	19 30 01
19 32 30	J1329+3154	14 46 40	64.7	220.2	1.3		27.1	-20	8618	No stop
19 33 50	=1327+321	14 48 00	64.6	220.8	1.3		27.5	60	8639	19 32 31
19 33 50	J1342+3507	14 48 00	68.6	218.6	1.1		27.2	-29	8639	No stop
19 35 30	=1340+353	14 49 41	68.5	219.4	1.1		27.8	71	8664	19 33 51

Schedule for TORUN (Code Tr) Page 17

e-EVN: RM017B, EN011B, EA065H

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Tue 21 Jun 2022 Day 172 ---										
19 36 00	AT2022CMC	14 50 11	66.0	221.1	1.2		28.1	7	8664	19 36 00
19 38 30	---	14 52 41	65.7	222.2	1.3		28.8	150	8703	19 36 01
19 38 30	J1329+3154	14 52 41	64.1	222.8	1.4		28.7	-20	8703	No stop
19 39 50	=1327+321	14 54 01	64.0	223.4	1.4		29.0	60	8724	19 38 31
19 39 50	J1342+3507	14 54 01	68.1	221.6	1.2		29.1	-29	8724	No stop
19 41 30	=1340+353	14 55 42	67.9	222.4	1.2		29.6	71	8749	19 39 51
19 41 30	AT2022CMC	14 55 42	65.4	223.5	1.3		29.6	-23	8749	No stop
19 44 00	---	14 58 12	65.2	224.6	1.4		30.2	127	8788	19 41 31
19 44 00	J1329+3154	14 58 12	63.5	225.1	1.5		30.0	-20	8788	No stop
19 45 20	=1327+321	14 59 32	63.4	225.7	1.5		30.4	60	8809	19 44 01
19 45 20	J1342+3507	14 59 32	67.5	224.1	1.3		30.7	-29	8809	No stop
19 47 00	=1340+353	15 01 13	67.3	224.9	1.3		31.2	71	8834	19 45 21
19 47 30	AT2022CMC	15 01 43	64.8	226.1	1.4		31.1	7	8834	19 47 30
19 50 00	---	15 04 13	64.5	227.2	1.5		31.7	150	8873	19 47 31
19 50 00	J1329+3154	15 04 13	62.9	227.6	1.6		31.4	-20	8873	No stop
19 51 20	=1327+321	15 05 33	62.7	228.1	1.6		31.7	60	8894	19 50 01
19 51 20	J1342+3507	15 05 33	66.8	226.9	1.4		32.3	-29	8894	No stop
19 53 00	=1340+353	15 07 14	66.7	227.6	1.4		32.8	71	8919	19 51 21
19 53 00	AT2022CMC	15 07 14	64.2	228.4	1.5		32.4	-23	8919	No stop
19 55 30	---	15 09 44	63.9	229.4	1.6		33.0	127	8958	19 53 01
19 55 30	J1329+3154	15 09 44	62.2	229.7	1.6		32.6	-20	8958	No stop
19 56 50	=1327+321	15 11 04	62.1	230.2	1.7		32.9	60	8979	19 55 31
19 56 50	J1342+3507	15 11 04	66.2	229.2	1.5		33.7	-29	8979	No stop
19 58 30	=1340+353	15 12 44	66.0	229.9	1.5		34.1	71	9004	19 56 51
19 59 00	AT2022CMC	15 13 15	63.5	230.8	1.6		33.7	7	9004	19 59 00
20 01 30	---	15 15 45	63.2	231.8	1.7		34.3	150	9043	19 59 01
20 01 30	J1329+3154	15 15 45	61.5	232.0	1.7		33.8	-20	9043	No stop
20 02 50	=1327+321	15 17 05	61.4	232.5	1.8		34.1	60	9064	20 01 31
20 02 50	J1342+3507	15 17 05	65.5	231.7	1.6		35.1	-29	9064	No stop
20 04 30	=1340+353	15 18 45	65.3	232.4	1.6		35.5	71	9089	20 02 51

Schedule for TORUN (Code Tr) Page 18

e-EVN: RM017B, EN011B, EA065H

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Tue 21 Jun 2022 Day 172 ---										
20 04 30	AT2022CMC	15 18 45	62.8	232.9	1.7		34.9	-23	9089	No stop
20 07 00	---	15 21 16	62.5	233.8	1.8		35.4	127	9128	20 04 31
20 07 00	J1329+3154	15 21 16	60.9	234.0	1.8		34.9	-20	9128	No stop
20 08 20	=1327+321	15 22 36	60.7	234.5	1.9		35.1	60	9149	20 07 01
20 08 20	J1342+3507	15 22 36	64.9	233.9	1.7		36.3	-29	9149	No stop
20 10 00	=1340+353	15 24 16	64.7	234.5	1.7		36.7	71	9174	20 08 21
20 10 30	AT2022CMC	15 24 46	62.1	235.1	1.8		36.0	7	9174	20 10 30
20 13 00	---	15 27 17	61.8	236.0	1.9		36.5	150	9213	20 10 31
20 13 00	J1329+3154	15 27 17	60.1	236.1	1.9		35.9	-20	9213	No stop
20 14 20	=1327+321	15 28 37	60.0	236.6	2.0		36.1	60	9234	20 13 01
20 14 20	J1342+3507	15 28 37	64.1	236.2	1.8		37.5	-29	9234	No stop
20 16 00	=1340+353	15 30 17	63.9	236.8	1.8		37.8	71	9260	20 14 21
20 16 00	AT2022CMC	15 30 17	61.4	237.1	1.9		37.0	-23	9260	No stop
20 18 30	---	15 32 48	61.1	237.9	2.0		37.4	127	9298	20 16 01
20 18 30	J1329+3154	15 32 48	59.4	238.0	2.0		36.8	-20	9298	No stop
20 19 50	=1327+321	15 34 08	59.3	238.4	2.1		37.0	60	9319	20 18 31
20 19 50	J1342+3507	15 34 08	63.4	238.2	1.8		38.5	-29	9319	No stop
20 21 30	=1340+353	15 35 48	63.2	238.8	1.9		38.8	71	9345	20 19 51
20 22 00	AT2022CMC	15 36 18	60.7	239.1	2.0		38.0	7	9345	20 22 00
20 24 30	---	15 38 49	60.3	240.0	2.1		38.4	150	9383	20 22 01
20 24 30	J1329+3154	15 38 49	58.7	240.0	2.1		37.7	-20	9383	No stop
20 25 50	=1327+321	15 40 09	58.5	240.4	2.2		37.9	60	9404	20 24 31
20 25 50	J1342+3507	15 40 09	62.7	240.3	1.9		39.6	-29	9404	No stop
20 27 30	=1340+353	15 41 49	62.4	240.9	2.0		39.8	71	9430	20 25 51
20 27 30	AT2022CMC	15 41 49	59.9	241.0	2.1		38.8	-23	9430	No stop
20 30 00	---	15 44 20	59.6	241.8	2.1		39.2	127	9468	20 27 31
20 30 00	J1329+3154	15 44 20	58.0	241.7	2.2		38.5	-20	9468	No stop
20 31 20	=1327+321	15 45 40	57.8	242.1	2.2		38.7	60	9489	20 30 01
20 31 20	J1342+3507	15 45 40	61.9	242.2	2.0		40.4	-29	9489	No stop
20 33 00	=1340+353	15 47 20	61.7	242.7	2.1		40.7	71	9515	20 31 21

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Schedule for TORUN     (Code Tr )                                Page  19
               e-EVN: RM017B, EN011B, EA065H
  UP:  D => Below limits;  H => Below horizon mask;  W => still slewing at end;  blank => Up.
  Early: Seconds between end of slew and start.   Dwell: On source seconds.
  Disk: GBytes recorded to this point.
  TPStart:  Recording start time.  Frequencies are LO sum (band edge).
  SYNC: Time correlator is expected to sync up.
-----------------------------------------------------------------------------------------
Start UT  Source               Start / Stop                 Early    Disk   TPStart
Stop UT                  LST      EL    AZ   HA  UP   ParA  Dwell   GBytes    SYNC
-----------------------------------------------------------------------------------------

 --- Tue  21 Jun 2022   Day 172 ---

20 33 30  AT2022CMC    15 47 50  59.1 242.9  2.2      39.7     7     9515   20 33 30
20 36 00  ---          15 50 21  58.8 243.7  2.2      40.0   150     9553   20 33 31

20 36 00  J1329+3154   15 50 21  57.1 243.6  2.3      39.2   -20     9553   No stop
20 37 20  =1327+321    15 51 41  57.0 244.0  2.3      39.4    60     9574   20 36 01

20 37 20  J1342+3507   15 51 41  61.1 244.1  2.1      41.3   -29     9574   No stop
20 39 00  =1340+353    15 53 21  60.9 244.7  2.2      41.5    71     9600   20 37 21

20 39 00  AT2022CMC    15 53 21  58.4 244.6  2.3      40.4   -23     9600   No stop
20 41 30  ---          15 55 52  58.1 245.4  2.3      40.7   127     9638   20 39 01

20 41 30  J1329+3154   15 55 52  56.4 245.2  2.4      39.9   -20     9638   No stop
20 42 50  =1327+321    15 57 12  56.2 245.6  2.4      40.1    60     9659   20 41 31

20 42 50  J1342+3507   15 57 12  60.4 245.9  2.2      42.0   -29     9659   No stop
20 44 30  =1340+353    15 58 52  60.1 246.4  2.3      42.2    71     9685   20 42 51

20 45 00  AT2022CMC    15 59 22  57.6 246.4  2.4      41.1     7     9685   20 45 00
20 47 30  ---          16 01 52  57.2 247.1  2.4      41.3   150     9723   20 45 01

20 47 30  J1329+3154   16 01 52  55.6 247.0  2.5      40.6   -20     9723   No stop
20 48 50  =1327+321    16 03 13  55.4 247.4  2.5      40.7    60     9744   20 47 31

20 48 50  J1342+3507   16 03 13  59.5 247.7  2.3      42.7   -29     9744   No stop
20 50 30  =1340+353    16 04 53  59.3 248.2  2.4      42.9    71     9770   20 48 51

20 51 30  J1419+3821   16 05 53  66.6 241.2  1.8      42.1    19     9770   20 51 30
20 53 30  =1417+385    16 07 53  66.4 242.0  1.8      42.5   120     9801   20 51 31

 ---------- EN011B ----------

21 03 30  J1740-0811   16 17 55  26.2 156.9 -1.4     -13.8   411     9801   21 03 30
21 05 00  =1737-081    16 19 25  26.3 157.3 -1.4     -13.5    90     9824   21 03 31

21 05 00  TXS1749      16 19 25  23.6 154.5 -1.6     -15.2   -24     9824   No stop
21 08 00  ---          16 22 26  23.8 155.3 -1.5     -14.8   156     9870   21 05 01

21 08 40  J1740-0811   16 23 06  26.5 158.3 -1.3     -13.0    16     9870   21 08 40
21 09 40  =1737-081    16 24 06  26.5 158.6 -1.3     -12.8    60     9886   21 08 41

21 09 40  TXS1742      16 24 06  26.5 157.0 -1.4     -13.7   -16     9886   No stop
21 12 40  ---          16 27 07  26.7 157.8 -1.3     -13.2   164     9932   21 09 41
```

Schedule for TORUN (Code Tr) Page 20

e-EVN: RM017B, EN011B, EA065H

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Tue 21 Jun 2022 Day 172 ---										
21 12 40	J1740-0811	16 27 07	26.7	159.4	-1.2		-12.3	-16	9932	No stop
21 14 10	=1737-081	16 28 37	26.8	159.8	-1.2		-12.1	74	9955	21 12 41
21 14 10	TXS1749	16 28 37	24.1	156.9	-1.4		-13.8	-24	9955	No stop
21 17 10	---	16 31 37	24.3	157.7	-1.4		-13.4	156	10002	21 14 11
21 17 50	J1740-0811	16 32 17	27.0	160.8	-1.1		-11.5	16	10002	21 17 50
21 18 50	=1737-081	16 33 18	27.0	161.1	-1.1		-11.4	60	10017	21 17 51
21 18 50	TXS1742	16 33 18	27.0	159.5	-1.2		-12.3	-16	10017	No stop
21 21 50	---	16 36 18	27.2	160.3	-1.2		-11.8	164	10063	21 18 51
21 21 50	J1740-0811	16 36 18	27.2	161.9	-1.1		-10.9	-16	10063	No stop
21 23 20	=1737-081	16 37 48	27.2	162.3	-1.1		-10.6	74	10087	21 21 51
21 24 00	J1801-0834	16 38 28	25.8	156.8	-1.4		-13.8	14	10087	21 24 00
21 26 00	---	16 40 29	25.9	157.4	-1.4		-13.5	120	10117	21 24 01
21 26 00	J1740-0811	16 40 29	27.4	163.0	-1.0		-10.2	-27	10117	No stop
21 27 30	=1737-081	16 41 59	27.4	163.4	-1.0		-10.0	63	10141	21 26 01
21 27 30	TXS1749	16 41 59	24.9	160.4	-1.2		-11.8	-23	10141	No stop
21 30 30	---	16 45 00	25.0	161.2	-1.1		-11.3	157	10187	21 27 31
21 31 10	J1740-0811	16 45 40	27.6	164.4	-0.9		-9.4	17	10187	21 31 10
21 32 10	=1737-081	16 46 40	27.6	164.7	-0.9		-9.2	60	10202	21 31 11
21 32 10	TXS1742	16 46 40	27.7	163.2	-1.0		-10.1	-16	10202	No stop
21 35 10	---	16 49 40	27.8	164.0	-1.0		-9.6	164	10249	21 32 11
21 35 10	J1740-0811	16 49 40	27.7	165.5	-0.9		-8.7	-16	10249	No stop
21 36 40	=1737-081	16 51 11	27.8	166.0	-0.8		-8.5	74	10272	21 35 11
21 36 40	TXS1749	16 51 11	25.3	162.9	-1.0		-10.3	-23	10272	No stop
21 39 40	---	16 54 11	25.4	163.7	-1.0		-9.9	157	10318	21 36 41
21 40 20	J1740-0811	16 54 51	27.9	167.0	-0.8		-7.9	17	10318	21 40 20
21 41 20	=1737-081	16 55 51	27.9	167.3	-0.8		-7.7	60	10334	21 40 21
21 41 20	TXS1742	16 55 51	28.1	165.7	-0.8		-8.6	-16	10334	No stop
21 44 20	---	16 58 52	28.2	166.5	-0.8		-8.1	164	10380	21 41 21
21 44 20	J1740-0811	16 58 52	28.0	168.1	-0.7		-7.2	-16	10380	No stop
21 45 50	=1737-081	17 00 22	28.1	168.5	-0.7		-6.9	74	10403	21 44 21

Schedule for TORUN (Code Tr) Page 21

e-EVN: RM017B, EN011B, EA065H

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Tue 21 Jun 2022 Day 172 ---										
21 46 30	J1801-0834	17 01 02	27.0	162.9	-1.0		-10.3	14	10403	21 46 30
21 48 30	---	17 03 03	27.0	163.5	-1.0		-10.0	120	10434	21 46 31
21 48 30	J1740-0811	17 03 03	28.2	169.3	-0.6		-6.5	-27	10434	No stop
21 50 00	=1737-081	17 04 33	28.2	169.7	-0.6		-6.2	63	10458	21 48 31
21 50 00	TXS1749	17 04 33	25.8	166.5	-0.8		-8.2	-23	10458	No stop
21 53 00	---	17 07 33	25.9	167.3	-0.8		-7.7	157	10504	21 50 01
21 53 40	J1740-0811	17 08 13	28.3	170.7	-0.6		-5.6	17	10504	21 53 40
21 54 40	=1737-081	17 09 14	28.3	171.0	-0.5		-5.5	60	10519	21 53 41
21 54 40	TXS1742	17 09 14	28.5	169.4	-0.6		-6.4	-16	10519	No stop
21 57 40	---	17 12 14	28.6	170.3	-0.6		-5.9	164	10566	21 54 41
21 57 40	J1740-0811	17 12 14	28.4	171.8	-0.5		-4.9	-16	10566	No stop
21 59 10	=1737-081	17 13 44	28.4	172.3	-0.5		-4.7	74	10589	21 57 41
21 59 10	TXS1749	17 13 44	26.1	169.0	-0.7		-6.7	-22	10589	No stop
22 02 10	---	17 16 45	26.2	169.8	-0.6		-6.2	158	10635	21 59 11
22 02 50	J1740-0811	17 17 25	28.5	173.3	-0.4		-4.1	18	10635	22 02 50
22 03 50	=1737-081	17 18 25	28.5	173.6	-0.4		-3.9	60	10651	22 02 51
22 03 50	TXS1742	17 18 25	28.7	172.0	-0.5		-4.8	-16	10651	No stop
22 06 50	---	17 21 26	28.8	172.9	-0.4		-4.3	164	10697	22 03 51
22 06 50	J1740-0811	17 21 26	28.6	174.4	-0.3		-3.4	-16	10697	No stop
22 08 20	=1737-081	17 22 56	28.6	174.8	-0.3		-3.1	74	10720	22 06 51
22 09 00	J1801-0834	17 23 36	27.8	169.1	-0.6		-6.6	13	10720	22 09 00
22 11 00	---	17 25 36	27.8	169.7	-0.6		-6.2	120	10751	22 09 01
22 11 00	J1740-0811	17 25 36	28.6	175.6	-0.3		-2.7	-27	10751	No stop
22 12 30	=1737-081	17 27 06	28.6	176.0	-0.2		-2.4	63	10774	22 11 01
22 12 30	TXS1749	17 27 06	26.4	172.6	-0.4		-4.5	-22	10774	No stop
22 15 30	---	17 30 07	26.5	173.5	-0.4		-4.0	158	10821	22 12 31
22 16 10	J1740-0811	17 30 47	28.7	177.0	-0.2		-1.8	18	10821	22 16 10
22 17 10	=1737-081	17 31 47	28.7	177.3	-0.2		-1.6	60	10836	22 16 11
22 17 10	TXS1742	17 31 47	28.9	175.8	-0.2		-2.6	-16	10836	No stop
22 20 10	---	17 34 48	29.0	176.6	-0.2		-2.0	164	10883	22 17 11

Schedule for TORUN (Code Tr) Page 22

e-EVN: RM017B, EN011B, EA065H

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Tue 21 Jun 2022 Day 172 ---										
22 20 10	J1740-0811	17 34 48	28.7	178.2	-0.1		-1.1	-16	10883	No stop
22 21 40	=1737-081	17 36 18	28.7	178.6	-0.1		-0.8	74	10906	22 20 11
22 21 40	TXS1749	17 36 18	26.6	175.2	-0.3		-2.9	-22	10906	No stop
22 24 40	---	17 39 18	26.6	176.0	-0.2		-2.4	158	10952	22 21 41
22 25 20	J1740-0811	17 39 59	28.7	179.6	-0.0		-0.2	18	10952	22 25 20
22 26 20	=1737-081	17 40 59	28.7	179.9	-0.0		-0.0	60	10968	22 25 21
22 26 20	TXS1742	17 40 59	29.0	178.4	-0.1		-1.0	-16	10968	No stop
22 29 20	---	17 43 59	29.0	179.2	-0.0		-0.5	164	11014	22 26 21
22 29 20	J1740-0811	17 43 59	28.7	180.8	0.0		0.5	-16	11014	No stop
22 30 50	=1737-081	17 45 29	28.7	181.2	0.1		0.7	74	11037	22 29 21
22 31 30	J1801-0834	17 46 10	28.2	175.4	-0.3		-2.8	13	11037	22 31 30
22 33 30	---	17 48 10	28.3	176.0	-0.2		-2.4	120	11068	22 31 31
22 33 30	J1740-0811	17 48 10	28.7	181.9	0.1		1.2	-27	11068	No stop
22 35 00	=1737-081	17 49 40	28.7	182.4	0.1		1.4	63	11091	22 33 31
22 35 00	TXS1749	17 49 40	26.7	178.8	-0.1		-0.7	-22	11091	No stop
22 38 00	---	17 52 41	26.7	179.7	-0.0		-0.2	158	11138	22 35 01
22 38 40	J1740-0811	17 53 21	28.7	183.4	0.2		2.1	18	11138	22 38 40
22 39 40	=1737-081	17 54 21	28.6	183.7	0.2		2.2	60	11153	22 38 41
22 39 40	TXS1742	17 54 21	29.0	182.2	0.1		1.3	-16	11153	No stop
22 42 40	---	17 57 21	29.0	183.0	0.2		1.8	164	11200	22 39 41
22 42 40	J1740-0811	17 57 21	28.6	184.5	0.3		2.8	-16	11200	No stop
22 44 10	=1737-081	17 58 52	28.6	185.0	0.3		3.0	74	11223	22 42 41
22 44 10	TXS1749	17 58 52	26.7	181.4	0.1		0.8	-22	11223	No stop
22 47 10	---	18 01 52	26.7	182.2	0.1		1.3	158	11269	22 44 11
22 47 50	J1740-0811	18 02 32	28.5	186.0	0.4		3.6	18	11269	22 47 50
22 48 50	=1737-081	18 03 32	28.5	186.3	0.4		3.8	60	11285	22 47 51
22 48 50	TXS1742	18 03 32	28.9	184.8	0.3		2.9	-16	11285	No stop
22 51 50	---	18 06 33	28.9	185.6	0.3		3.4	164	11331	22 48 51
22 51 50	J1740-0811	18 06 33	28.5	187.1	0.4		4.3	-16	11331	No stop
22 53 20	=1737-081	18 08 03	28.4	187.5	0.4		4.6	74	11354	22 51 51

Schedule for TORUN (Code Tr) Page 23

e-EVN: RM017B, EN011B, EA065H

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Tue 21 Jun 2022 Day 172 ---										
22 54 00	J1801-0834	18 08 43	28.3	181.8	0.1		1.1	13	11354	22 54 00
22 56 00	---	18 10 44	28.3	182.3	0.1		1.4	120	11385	22 54 01
22 56 00	J1740-0811	18 10 44	28.4	188.3	0.5		5.0	-27	11385	No stop
22 57 30	=1737-081	18 12 14	28.4	188.7	0.5		5.3	63	11408	22 56 01
22 57 30	TXS1749	18 12 14	26.6	185.1	0.3		3.1	-22	11408	No stop
23 00 30	---	18 15 14	26.5	185.9	0.4		3.6	158	11455	22 57 31
23 01 10	J1740-0811	18 15 54	28.3	189.7	0.6		5.9	18	11455	23 01 10
23 02 10	=1737-081	18 16 55	28.2	190.0	0.6		6.1	60	11470	23 01 11
23 02 10	TXS1742	18 16 55	28.7	188.5	0.5		5.2	-16	11470	No stop
23 05 10	---	18 19 55	28.6	189.4	0.6		5.7	164	11516	23 02 11
23 05 10	J1740-0811	18 19 55	28.2	190.9	0.6		6.6	-16	11516	No stop
23 06 40	=1737-081	18 21 25	28.1	191.3	0.7		6.8	74	11540	23 05 11
23 06 40	TXS1749	18 21 25	26.4	187.6	0.5		4.6	-22	11540	No stop
23 09 40	---	18 24 26	26.4	188.4	0.5		5.1	158	11586	23 06 41
23 10 20	J1740-0811	18 25 06	28.0	192.3	0.7		7.4	18	11586	23 10 20
23 11 20	=1737-081	18 26 06	28.0	192.6	0.7		7.6	60	11601	23 10 21
23 11 20	TXS1742	18 26 06	28.4	191.1	0.7		6.7	-16	11601	No stop
23 14 20	---	18 29 07	28.3	192.0	0.7		7.2	164	11648	23 11 21
23 14 20	J1740-0811	18 29 07	27.9	193.4	0.8		8.1	-16	11648	No stop
23 15 50	=1737-081	18 30 37	27.8	193.8	0.8		8.3	74	11671	23 14 21
23 16 30	J1801-0834	18 31 17	28.0	188.1	0.5		4.9	13	11671	23 16 30
23 18 30	---	18 33 17	28.0	188.6	0.5		5.2	120	11702	23 16 31
23 18 30	J1740-0811	18 33 17	27.7	194.6	0.9		8.8	-27	11702	No stop
23 20 00	=1737-081	18 34 48	27.7	195.0	0.9		9.0	63	11725	23 18 31
23 20 00	TXS1749	18 34 48	26.1	191.2	0.7		6.8	-22	11725	No stop
23 23 00	---	18 37 48	26.0	192.0	0.7		7.3	158	11771	23 20 01
23 23 40	J1740-0811	18 38 28	27.5	196.0	1.0		9.6	17	11771	23 23 40
23 24 40	=1737-081	18 39 28	27.5	196.3	1.0		9.8	60	11787	23 23 41
23 24 40	TXS1742	18 39 28	28.0	194.8	0.9		8.9	-16	11787	No stop
23 27 40	---	18 42 29	27.9	195.7	0.9		9.4	164	11833	23 24 41

Schedule for TORUN (Code Tr) Page 24

e-EVN: RM017B, EN011B, EA065H

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Tue 21 Jun 2022 Day 172 ---										
23 27 40	J1740-0811	18 42 29	27.3	197.1	1.0		10.3	-16	11833	No stop
23 29 10	=1737-081	18 43 59	27.3	197.5	1.0		10.5	74	11857	23 27 41
23 29 10	TXS1749	18 43 59	25.8	193.7	0.8		8.3	-22	11857	No stop
23 32 10	---	18 47 00	25.7	194.5	0.9		8.8	158	11903	23 29 11
23 32 50	J1740-0811	18 47 40	27.1	198.5	1.1		11.1	17	11903	23 32 50
23 33 50	=1737-081	18 48 40	27.1	198.8	1.1		11.3	60	11918	23 32 51
23 33 50	TXS1742	18 48 40	27.6	197.4	1.0		10.4	-15	11918	No stop
23 36 50	---	18 51 40	27.5	198.2	1.1		10.9	165	11965	23 33 51
23 36 50	J1740-0811	18 51 40	26.9	199.6	1.2		11.7	-16	11965	No stop
23 38 20	=1737-081	18 53 11	26.8	200.0	1.2		12.0	74	11988	23 36 51
23 39 00	J1801-0834	18 53 51	27.4	194.3	0.9		8.6	13	11988	23 39 00
23 41 00	---	18 55 51	27.3	194.9	0.9		9.0	120	12019	23 39 01
23 41 00	J1740-0811	18 55 51	26.7	200.7	1.2		12.4	-27	12019	No stop
23 42 30	=1737-081	18 57 21	26.6	201.2	1.3		12.6	63	12042	23 41 01
23 42 30	TXS1749	18 57 21	25.3	197.3	1.1		10.5	-22	12042	No stop
23 45 30	---	19 00 22	25.1	198.1	1.1		10.9	158	12088	23 42 31
23 46 10	J1740-0811	19 01 02	26.4	202.1	1.3		13.2	17	12088	23 46 10
23 47 10	=1737-081	19 02 02	26.3	202.4	1.3		13.4	60	12104	23 46 11
23 47 10	TXS1742	19 02 02	26.9	201.0	1.3		12.6	-15	12104	No stop
23 50 10	---	19 05 02	26.8	201.8	1.3		13.0	165	12150	23 47 11
23 50 10	J1740-0811	19 05 02	26.2	203.2	1.4		13.8	-16	12150	No stop
23 51 40	=1737-081	19 06 33	26.1	203.6	1.4		14.1	74	12173	23 50 11
23 51 40	TXS1749	19 06 33	24.8	199.8	1.2		11.9	-22	12173	No stop
23 54 40	---	19 09 33	24.7	200.6	1.3		12.4	158	12220	23 51 41
23 55 20	J1740-0811	19 10 13	25.9	204.6	1.5		14.6	17	12220	23 55 20
23 56 20	=1737-081	19 11 14	25.8	204.9	1.5		14.8	60	12235	23 55 21
23 56 20	TXS1742	19 11 14	26.4	203.5	1.4		14.0	-15	12235	No stop
23 59 20	---	19 14 14	26.2	204.3	1.5		14.5	165	12282	23 56 21

Schedule for TORUN (Code Tr) Page 25

e-EVN: RM017B, EN011B, EA065H

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Start: Tue 21 Jun 2022 Day 172 -- Stop: Wed 22 Jun 2022 Day 173 ---										
23 59 20	J1740-0811	19 14 14	25.6	205.7	1.5		15.2	-16	12282	No stop
00 00 50	=1737-081	19 15 44	25.5	206.1	1.6		15.5	74	12305	23 59 21
00 01 30	J1801-0834	19 16 24	26.4	200.5	1.2		12.3	14	12305	00 01 30
00 03 30	---	19 18 25	26.2	201.0	1.3		12.6	120	12336	00 01 31
00 03 30	J1740-0811	19 18 25	25.3	206.8	1.6		15.9	-27	12336	No stop
00 05 00	=1737-081	19 19 55	25.2	207.2	1.6		16.1	63	12359	00 03 31
00 05 00	TXS1749	19 19 55	24.1	203.3	1.4		14.0	-22	12359	No stop
00 08 00	---	19 22 55	23.9	204.1	1.5		14.4	158	12405	00 05 01
00 08 40	J1740-0811	19 23 36	25.0	208.1	1.7		16.6	17	12405	00 08 40
00 09 40	=1737-081	19 24 36	24.9	208.4	1.7		16.8	60	12421	00 08 41
00 09 40	TXS1742	19 24 36	25.6	207.1	1.6		16.0	-15	12421	No stop
00 12 40	---	19 27 36	25.4	207.9	1.7		16.5	165	12467	00 09 41
00 12 40	J1740-0811	19 27 36	24.7	209.2	1.8		17.2	-15	12467	No stop
00 14 10	=1737-081	19 29 06	24.6	209.6	1.8		17.4	75	12490	00 12 41
00 14 10	TXS1749	19 29 06	23.5	205.7	1.6		15.3	-22	12490	No stop
00 17 10	---	19 32 07	23.3	206.5	1.6		15.8	158	12537	00 14 11
00 17 50	J1740-0811	19 32 47	24.3	210.5	1.9		17.9	17	12537	00 17 50
00 18 50	=1737-081	19 33 47	24.2	210.8	1.9		18.1	60	12552	00 17 51
00 18 50	TXS1742	19 33 47	24.9	209.5	1.8		17.4	-15	12552	No stop
00 21 50	---	19 36 48	24.7	210.3	1.8		17.8	165	12599	00 18 51
00 21 50	J1740-0811	19 36 48	24.0	211.6	1.9		18.5	-15	12599	No stop
00 23 20	=1737-081	19 38 18	23.9	211.9	2.0		18.7	75	12622	00 21 51
00 24 00	J1801-0834	19 38 58	25.0	206.5	1.6		15.7	14	12622	00 24 00
00 26 00	---	19 40 58	24.9	207.0	1.6		16.0	120	12653	00 24 01
00 26 00	J1740-0811	19 40 58	23.6	212.6	2.0		19.1	-26	12653	No stop
00 27 30	=1737-081	19 42 29	23.5	213.0	2.0		19.3	64	12676	00 26 01
00 27 30	TXS1749	19 42 29	22.6	209.1	1.8		17.3	-22	12676	No stop
00 30 30	---	19 45 29	22.4	209.9	1.9		17.7	158	12722	00 27 31
00 31 10	J1740-0811	19 46 09	23.2	213.9	2.1		19.8	17	12722	00 31 10
00 32 10	=1737-081	19 47 09	23.1	214.2	2.1		19.9	60	12738	00 31 11

Schedule for TORUN (Code Tr) Page 26

e-EVN: RM017B, EN011B, EA065H

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Wed 22 Jun 2022 Day 173 ---										
00 32 10	TXS1742	19 47 09	23.9	212.9	2.0		19.2	-15	12738	No stop
00 35 10	---	19 50 10	23.6	213.7	2.1		19.7	165	12784	00 32 11
00 35 10	J1740-0811	19 50 10	22.9	215.0	2.1		20.3	-15	12784	No stop
00 36 40	=1737-081	19 51 40	22.7	215.3	2.2		20.5	75	12807	00 35 11
00 36 40	TXS1749	19 51 40	21.9	211.4	2.0		18.6	-22	12807	No stop
00 39 40	---	19 54 41	21.7	212.2	2.0		19.0	158	12854	00 36 41
00 40 20	J1740-0811	19 55 21	22.4	216.3	2.2		21.0	17	12854	00 40 20
00 41 20	=1737-081	19 56 21	22.3	216.5	2.3		21.2	60	12869	00 40 21
00 41 20	TXS1742	19 56 21	23.1	215.3	2.2		20.5	-15	12869	No stop
00 44 20	---	19 59 21	22.8	216.0	2.2		20.9	165	12915	00 41 21
00 44 20	J1740-0811	19 59 21	22.1	217.2	2.3		21.5	-15	12915	No stop
00 45 50	=1737-081	20 00 52	21.9	217.6	2.3		21.7	75	12939	00 44 21
00 46 30	J1801-0834	20 01 32	23.3	212.3	2.0		18.9	14	12939	00 46 30
00 48 30	---	20 03 32	23.2	212.8	2.0		19.2	120	12970	00 46 31
00 48 30	J1740-0811	20 03 32	21.7	218.3	2.4		22.1	-26	12970	No stop
00 50 00	=1737-081	20 05 02	21.5	218.7	2.4		22.3	64	12993	00 48 31
00 50 00	TXS1749	20 05 02	20.8	214.8	2.2		20.4	-22	12993	No stop
00 53 00	---	20 08 03	20.5	215.5	2.2		20.8	158	13039	00 50 01
00 53 40	J1740-0811	20 08 43	21.2	219.6	2.5		22.7	17	13039	00 53 40
00 54 40	=1737-081	20 09 43	21.1	219.8	2.5		22.9	60	13055	00 53 41
00 54 40	TXS1742	20 09 43	21.9	218.6	2.4		22.2	-15	13055	No stop
00 57 40	---	20 12 44	21.6	219.3	2.4		22.6	165	13101	00 54 41
00 57 40	J1740-0811	20 12 44	20.8	220.5	2.5		23.2	-15	13101	No stop
00 59 10	=1737-081	20 14 14	20.7	220.9	2.5		23.4	75	13124	00 57 41
00 59 10	TXS1749	20 14 14	20.0	217.0	2.3		21.6	-22	13124	No stop
01 02 10	---	20 17 14	19.7	217.8	2.4		21.9	158	13170	00 59 11
01 02 50	J1740-0811	20 17 54	20.3	221.8	2.6		23.8	17	13170	01 02 50
01 03 50	=1737-081	20 18 55	20.2	222.0	2.6		24.0	60	13186	01 02 51
01 03 50	TXS1742	20 18 55	21.0	220.9	2.5		23.4	-15	13186	No stop
01 06 50	---	20 21 55	20.7	221.6	2.6		23.7	165	13232	01 03 51

Schedule for TORUN (Code Tr) Page 27

e-EVN: RM017B, EN011B, EA065H

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Wed 22 Jun 2022 Day 173 ---										
01 06 50	J1740-0811	20 21 55	19.9	222.8	2.7		24.3	-16	13232	No stop
01 08 20	=1737-081	20 23 25	19.7	223.1	2.7		24.5	74	13255	01 06 51
01 09 00	J1801-0834	20 24 05	21.4	218.0	2.4		21.9	15	13255	01 09 00
01 11 00	---	20 26 06	21.2	218.5	2.4		22.2	120	13286	01 09 01
01 11 00	J1740-0811	20 26 06	19.5	223.8	2.7		24.8	-26	13286	No stop
01 12 30	=1737-081	20 27 36	19.3	224.1	2.8		25.0	64	13310	01 11 01
01 12 30	TXS1749	20 27 36	18.7	220.2	2.6		23.2	-22	13310	No stop
01 15 30	---	20 30 37	18.4	221.0	2.6		23.6	158	13356	01 12 31
01 16 10	J1740-0811	20 31 17	18.9	225.0	2.8		25.4	17	13356	01 16 10
01 17 10	=1737-081	20 32 17	18.8	225.2	2.9		25.5	60	13371	01 16 11
01 17 10	TXS1742	20 32 17	19.7	224.1	2.8		24.9	-16	13371	No stop
01 20 10	---	20 35 17	19.3	224.8	2.8		25.3	164	13418	01 17 11
01 20 10	J1740-0811	20 35 17	18.5	225.9	2.9		25.8	-16	13418	No stop
01 21 40	=1737-081	20 36 48	18.3	226.3	2.9		26.0	74	13441	01 20 11
01 21 40	TXS1749	20 36 48	17.8	222.4	2.7		24.3	-22	13441	No stop
01 24 40	---	20 39 48	17.5	223.1	2.8		24.7	158	13487	01 21 41
01 25 20	J1740-0811	20 40 28	17.9	227.1	3.0		26.4	17	13487	01 25 20
01 26 20	=1737-081	20 41 28	17.8	227.4	3.0		26.5	60	13503	01 25 21
01 26 20	TXS1742	20 41 28	18.7	226.2	2.9		26.0	-16	13503	No stop
01 29 20	---	20 44 29	18.3	227.0	3.0		26.3	164	13549	01 26 21
01 29 20	J1740-0811	20 44 29	17.5	228.1	3.1		26.8	-16	13549	No stop
01 30 50	=1737-081	20 45 59	17.3	228.4	3.1		27.0	74	13572	01 29 21
01 31 30	J1801-0834	20 46 39	19.2	223.4	2.7		24.7	15	13572	01 31 30
01 33 30	---	20 48 39	19.0	223.9	2.8		24.9	120	13603	01 31 31
01 33 30	J1740-0811	20 48 39	17.0	229.0	3.1		27.3	-25	13603	No stop
01 35 00	=1737-081	20 50 10	16.8	229.4	3.1		27.4	65	13626	01 33 31
01 35 00	TXS1749	20 50 10	16.4	225.5	2.9		25.8	-22	13626	No stop
01 38 00	---	20 53 10	16.1	226.2	3.0		26.1	158	13673	01 35 01
01 38 40	J1740-0811	20 53 50	16.4	230.2	3.2		27.8	17	13673	01 38 40
01 39 40	=1737-081	20 54 50	16.3	230.5	3.2		27.9	60	13688	01 38 41

Schedule for TORUN (Code Tr) Page 28

e-EVN: RM017B, EN011B, EA065H

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Wed 22 Jun 2022 Day 173 ---										
01 39 40	TXS1742	20 54 50	17.2	229.4	3.1		27.4	-16	13688	No stop
01 42 40	---	20 57 51	16.8	230.0	3.2		27.7	164	13735	01 39 41
01 42 40	J1740-0811	20 57 51	15.9	231.1	3.3		28.2	-16	13735	No stop
01 44 10	=1737-081	20 59 21	15.8	231.5	3.3		28.3	74	13758	01 42 41
01 44 10	TXS1749	20 59 21	15.4	227.7	3.1		26.8	-22	13758	No stop
01 47 10	---	21 02 22	15.1	228.3	3.1		27.1	158	13804	01 44 11
01 47 50	J1740-0811	21 03 02	15.3	232.3	3.4		28.7	17	13804	01 47 50
01 48 50	=1737-081	21 04 02	15.2	232.5	3.4		28.8	60	13820	01 47 51
01 48 50	TXS1742	21 04 02	16.1	231.5	3.3		28.3	-16	13820	No stop
01 51 50	---	21 07 02	15.8	232.1	3.3		28.6	164	13866	01 48 51
01 51 50	J1740-0811	21 07 02	14.9	233.2	3.4		29.1	-16	13866	No stop
01 53 20	=1737-081	21 08 33	14.7	233.5	3.5		29.2	74	13889	01 51 51
01 54 00	J1801-0834	21 09 13	16.7	228.7	3.1		27.1	15	13889	01 54 00
01 56 00	---	21 11 13	16.5	229.2	3.1		27.4	120	13920	01 54 01
01 56 00	J1740-0811	21 11 13	14.4	234.1	3.5		29.5	-25	13920	No stop
01 57 30	=1737-081	21 12 43	14.2	234.5	3.5		29.6	65	13943	01 56 01
01 57 30	TXS1749	21 12 43	13.9	230.7	3.3		28.2	-22	13943	No stop
02 00 30	---	21 15 44	13.6	231.3	3.4		28.5	158	13990	01 57 31
02 01 10	J1740-0811	21 16 24	13.7	235.3	3.6		29.9	17	13990	02 01 10
02 02 10	=1737-081	21 17 24	13.6	235.5	3.6		30.0	60	14005	02 01 11
02 02 10	TXS1742	21 17 24	14.5	234.5	3.5		29.6	-16	14005	No stop
02 05 10	---	21 20 25	14.2	235.1	3.6		29.8	164	14052	02 02 11
02 05 10	J1740-0811	21 20 25	13.2	236.2	3.7		30.3	-16	14052	No stop
02 06 40	=1737-081	21 21 55	13.0	236.5	3.7		30.4	74	14075	02 05 11
02 06 40	TXS1749	21 21 55	12.8	232.7	3.5		29.0	-22	14075	No stop
02 09 40	---	21 24 55	12.5	233.4	3.5		29.3	158	14121	02 06 41
02 10 20	J1740-0811	21 25 36	12.6	237.3	3.7		30.7	17	14121	02 10 20
02 11 20	=1737-081	21 26 36	12.4	237.5	3.8		30.8	60	14137	02 10 21
02 11 20	TXS1742	21 26 36	13.4	236.5	3.7		30.4	-16	14137	No stop
02 14 20	---	21 29 36	13.0	237.2	3.7		30.6	164	14183	02 11 21

Schedule for TORUN (Code Tr) Page 29

e-EVN: RM017B, EN011B, EA065H

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Wed 22 Jun 2022 Day 173 ---										
02 14 20	J1740-0811	21 29 36	12.1	238.2	3.8		31.0	-16	14183	No stop
02 15 50	=1737-081	21 31 06	11.9	238.5	3.8		31.2	74	14206	02 14 21
02 16 30	J1801-0834	21 31 47	14.1	233.8	3.5		29.3	15	14206	02 16 30
02 18 30	---	21 33 47	13.9	234.2	3.5		29.5	120	14237	02 16 31
02 18 30	J1740-0811	21 33 47	11.5	239.1	3.9		31.4	-25	14237	No stop
02 20 00	=1737-081	21 35 17	11.3	239.4	3.9		31.5	65	14260	02 18 31
02 20 00	TXS1749	21 35 17	11.2	235.6	3.7		30.2	-22	14260	No stop
02 23 00	---	21 38 18	10.8	236.3	3.7		30.5	158	14307	02 20 01
02 23 40	J1740-0811	21 38 58	10.9	240.2	4.0		31.8	17	14307	02 23 40
02 24 40	=1737-081	21 39 58	10.7	240.4	4.0		31.8	60	14322	02 23 41
02 24 40	TXS1742	21 39 58	11.7	239.4	3.9		31.5	-16	14322	No stop
02 27 40	---	21 42 58	11.3	240.1	3.9		31.7	164	14368	02 24 41
02 27 40	J1740-0811	21 42 58	10.3	241.0	4.0		32.1	-17	14368	No stop
02 29 10	=1737-081	21 44 29	10.1	241.4	4.1		32.2	73	14392	02 27 41
02 29 10	TXS1749	21 44 29	10.1	237.6	3.8		31.0	-22	14392	No stop
02 32 10	---	21 47 29	9.7	238.3	3.9		31.3	158	14438	02 29 11
02 32 50	J1740-0811	21 48 09	9.6	242.1	4.1		32.4	18	14438	02 32 50
02 33 50	=1737-081	21 49 09	9.5	242.4	4.1		32.5	60	14454	02 32 51
02 33 50	TXS1742	21 49 09	10.5	241.4	4.0		32.1	-16	14454	No stop
02 36 50	---	21 52 10	10.1	242.0	4.1		32.4	164	14500	02 33 51
02 39 00	J1801-0834	21 54 20	11.3	238.7	3.9		31.3	108	14500	02 39 00
02 41 00	---	21 56 21	11.0	239.2	3.9		31.4	120	14531	02 39 01
02 55 00	J0019+2021	22 10 23	48.9	129.8	-2.2		-29.5	600	14531	02 55 00
03 00 00	=0017+200	22 15 24	49.5	131.4	-2.1		-28.7	300	14608	02 55 01
---------- GAP ----------										
03 10 00	J0019+2021	22 25 25	50.6	134.6	-1.9		-27.1	592	14608	03 10 00
03 15 00	=0017+200	22 30 26	51.1	136.3	-1.8		-26.3	300	14685	03 10 01
03 20 00	J0019+2021	22 35 27	51.6	138.0	-1.8		-25.4	293	14685	03 20 00
03 30 00	=0017+200	22 45 29	52.6	141.5	-1.6		-23.5	600	14840	03 20 01

Schedule for TORUN (Code Tr) Page 30

e-EVN: RM017B, EN011B, EA065H

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Wed 22 Jun 2022 Day 173 ---										
03 35 00	J0019+2021	22 50 29	53.1	143.3	-1.5		-22.6	293	14840	03 35 00
03 45 00	=0017+200	23 00 31	53.9	146.9	-1.3		-20.5	600	14995	03 35 01
03 50 00	J0019+2021	23 05 32	54.3	148.8	-1.3		-19.4	293	14995	03 50 00
04 00 00	=0017+200	23 15 34	55.1	152.7	-1.1		-17.1	600	15149	03 50 01
04 05 00	J0019+2021	23 20 34	55.4	154.6	-1.0		-15.9	292	15149	04 05 00
04 15 00	=0017+200	23 30 36	56.0	158.7	-0.8		-13.5	600	15304	04 05 01
04 20 00	J0019+2021	23 35 37	56.2	160.7	-0.8		-12.2	292	15304	04 20 00
04 30 00	=0017+200	23 45 38	56.7	164.9	-0.6		-9.6	600	15458	04 20 01
04 35 00	J0019+2021	23 50 39	56.9	167.0	-0.5		-8.3	292	15458	04 35 00
04 45 00	=0017+200	00 00 41	57.2	171.3	-0.3		-5.6	600	15613	04 35 01
04 50 00	J0019+2021	00 05 42	57.3	173.5	-0.3		-4.2	292	15613	04 50 00
05 00 00	=0017+200	00 15 43	57.4	177.8	-0.1		-1.4	600	15767	04 50 01
05 05 00	J0019+2021	00 20 44	57.4	180.0	-0.0		-0.0	292	15767	05 05 00
05 15 00	=0017+200	00 30 46	57.3	184.3	0.2		2.8	600	15922	05 05 01
05 20 00	J0019+2021	00 35 47	57.3	186.5	0.2		4.2	292	15922	05 20 00
05 30 00	=0017+200	00 45 48	57.0	190.8	0.4		6.9	600	16077	05 20 01
05 35 00	J0019+2021	00 50 49	56.9	192.9	0.5		8.3	292	16077	05 35 00
05 45 00	=0017+200	01 00 51	56.5	197.2	0.7		10.9	600	16231	05 35 01
05 50 00	J0019+2021	01 05 52	56.3	199.2	0.8		12.2	292	16231	05 50 00
06 00 00	=0017+200	01 15 53	55.7	203.3	0.9		14.7	600	16386	05 50 01
06 05 00	J0019+2021	01 20 54	55.4	205.3	1.0		15.9	292	16386	06 05 00
06 15 00	=0017+200	01 30 56	54.7	209.2	1.2		18.3	600	16540	06 05 01
06 20 00	J0019+2021	01 35 57	54.3	211.2	1.3		19.4	292	16540	06 20 00
06 30 00	=0017+200	01 45 58	53.5	214.9	1.4		21.5	600	16695	06 20 01
06 35 00	J0019+2021	01 50 59	53.1	216.7	1.5		22.5	293	16695	06 35 00
06 45 00	=0017+200	02 01 01	52.1	220.3	1.7		24.5	600	16850	06 35 01
06 50 00	J0019+2021	02 06 01	51.6	222.0	1.8		25.4	293	16850	06 50 00
07 00 00	=0017+200	02 16 03	50.6	225.3	1.9		27.1	600	17004	06 50 01
07 05 00	J0019+2021	02 21 04	50.1	227.0	2.0		27.9	293	17004	07 05 00
07 15 00	=0017+200	02 31 06	48.9	230.1	2.2		29.5	600	17159	07 05 01

Schedule for TORUN (Code Tr) Page 31

e-EVN: RM017B, EN011B, EA065H

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT	Source	Start / Stop						Early	Disk	TPStart
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC
--- Wed 22 Jun 2022 Day 173 ---										
07 20 00	J0019+2021	02 36 06	48.3	231.7	2.3		30.2	293	17159	07 20 00
07 30 00	=0017+200	02 46 08	47.1	234.7	2.4		31.5	600	17313	07 20 01
07 35 00	J0019+2021	02 51 09	46.5	236.1	2.5		32.2	293	17313	07 35 00
07 45 00	=0017+200	03 01 10	45.2	239.0	2.7		33.3	600	17468	07 35 01
07 50 00	J0019+2021	03 06 11	44.6	240.4	2.8		33.9	293	17468	07 50 00
08 00 00	=0017+200	03 16 13	43.3	243.1	2.9		34.8	600	17622	07 50 01
08 05 00	J0745+1011	03 21 14	22.2	103.1	-4.4		-36.5	5	17622	08 05 00
08 15 00	=0742+103	03 31 15	23.6	105.3	-4.3		-36.1	600	17777	08 05 01
08 20 00	J0745+1011	03 36 16	24.4	106.3	-4.2		-35.8	293	17777	08 20 00
08 30 00	=0742+103	03 46 18	25.8	108.6	-4.0		-35.3	600	17932	08 20 01
08 35 00	J0745+1011	03 51 19	26.5	109.7	-3.9		-35.1	293	17932	08 35 00
08 45 00	=0742+103	04 01 20	27.9	112.0	-3.8		-34.5	600	18086	08 35 01
---------- EA065H ----------										
08 55 00	J0745+1011	04 11 22	29.3	114.3	-3.6		-33.8	593	18086	08 55 00
08 59 00	=0742+103	04 15 23	29.8	115.2	-3.5		-33.5	240	18148	08 55 01
09 00 30	J0653+0403	04 16 53	31.2	132.1	-2.6		-26.5	42	18148	09 00 30
09 03 00	---	04 19 23	31.5	132.7	-2.6		-26.2	150	18187	09 00 31
09 03 00	P0648	04 19 23	31.6	134.6	-2.5		-25.4	-17	18187	No stop
09 05 20	---	04 21 44	31.8	135.2	-2.5		-25.1	123	18223	09 03 01
09 05 20	J0653+0403	04 21 44	31.8	133.3	-2.6		-26.0	-17	18223	No stop
09 06 30	---	04 22 54	31.9	133.6	-2.5		-25.8	53	18241	09 05 21
09 06 30	P0648	04 22 54	32.0	135.5	-2.4		-24.9	-17	18241	No stop
09 08 50	---	04 25 14	32.2	136.1	-2.4		-24.6	123	18277	09 06 31
09 09 30	J0653+0403	04 25 54	32.2	134.4	-2.5		-25.5	23	18277	09 09 30
09 10 30	---	04 26 55	32.3	134.7	-2.5		-25.3	60	18292	09 09 31
09 10 30	P0648	04 26 55	32.4	136.6	-2.4		-24.4	-17	18292	No stop
09 12 50	---	04 29 15	32.6	137.2	-2.3		-24.1	123	18328	09 10 31
09 12 50	J0653+0403	04 29 15	32.6	135.3	-2.4		-25.0	-17	18328	No stop
09 14 00	---	04 30 25	32.7	135.7	-2.4		-24.9	53	18346	09 12 51

Schedule for TORUN (Code Tr) Page 32

e-EVN: RM017B, EN011B, EA065H

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Wed 22 Jun 2022 Day 173 ---										
09 14 00	J0641+0420	04 30 25	34.2	138.8	-2.2		-23.4	-21	18346	No stop
09 15 50	---	04 32 15	34.3	139.3	-2.2		-23.1	89	18375	09 14 01
09 16 30	J0653+0403	04 32 56	32.9	136.3	-2.4		-24.6	19	18375	09 16 30
09 17 30	---	04 33 56	33.0	136.6	-2.4		-24.4	60	18390	09 16 31
09 17 30	P0648	04 33 56	33.1	138.5	-2.3		-23.5	-17	18390	No stop
09 19 50	---	04 36 16	33.3	139.1	-2.2		-23.2	123	18426	09 17 31
09 19 50	J0653+0403	04 36 16	33.3	137.2	-2.3		-24.1	-17	18426	No stop
09 21 00	---	04 37 26	33.4	137.6	-2.3		-24.0	53	18444	09 19 51
09 21 00	P0648	04 37 26	33.4	139.4	-2.2		-23.0	-17	18444	No stop
09 23 20	---	04 39 47	33.7	140.1	-2.2		-22.7	123	18480	09 21 01
09 24 00	J0653+0403	04 40 27	33.7	138.4	-2.2		-23.6	23	18480	09 24 00
09 25 00	---	04 41 27	33.8	138.7	-2.2		-23.4	60	18496	09 24 01
09 25 00	P0648	04 41 27	33.8	140.5	-2.1		-22.5	-17	18496	No stop
09 27 20	---	04 43 47	34.0	141.2	-2.1		-22.1	123	18532	09 25 01
09 27 20	J0653+0403	04 43 47	34.0	139.3	-2.2		-23.1	-17	18532	No stop
09 28 30	---	04 44 57	34.2	139.6	-2.2		-23.0	53	18550	09 27 21
09 28 30	J0641+0420	04 44 57	35.5	142.9	-2.0		-21.3	-21	18550	No stop
09 30 20	---	04 46 48	35.7	143.4	-1.9		-21.0	89	18578	09 28 31
09 31 00	J0653+0403	04 47 28	34.4	140.3	-2.1		-22.6	19	18578	09 31 00
09 32 00	---	04 48 28	34.5	140.6	-2.1		-22.5	60	18594	09 31 01
09 32 00	P0648	04 48 28	34.5	142.5	-2.0		-21.5	-18	18594	No stop
09 34 20	---	04 50 48	34.7	143.2	-2.0		-21.1	122	18630	09 32 01
09 34 20	J0653+0403	04 50 48	34.7	141.3	-2.1		-22.1	-17	18630	No stop
09 35 30	---	04 51 59	34.8	141.6	-2.1		-22.0	53	18648	09 34 21
09 35 30	P0648	04 51 59	34.8	143.5	-2.0		-21.0	-18	18648	No stop
09 37 50	---	04 54 19	35.0	144.2	-1.9		-20.6	122	18684	09 35 31
09 38 30	J0653+0403	04 54 59	35.1	142.4	-2.0		-21.5	23	18684	09 38 30
09 39 30	---	04 55 59	35.2	142.7	-2.0		-21.4	60	18699	09 38 31
09 39 30	P0648	04 55 59	35.1	144.6	-1.9		-20.4	-18	18699	No stop
09 41 50	---	04 58 20	35.3	145.3	-1.8		-20.0	122	18735	09 39 31

Schedule for TORUN (Code Tr) Page 33

e-EVN: RM017B, EN011B, EA065H

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT	Source	Start / Stop						Early	Disk	TPStart
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC
--- Wed 22 Jun 2022 Day 173 ---										
09 41 50	J0653+0403	04 58 20	35.4	143.4	-1.9		-21.0	-17	18735	No stop
09 43 00	---	04 59 30	35.5	143.7	-1.9		-20.9	53	18754	09 41 51
09 43 00	J0641+0420	04 59 30	36.8	147.1	-1.7		-19.1	-22	18754	No stop
09 44 50	---	05 01 20	36.9	147.6	-1.7		-18.8	88	18782	09 43 01
09 45 30	J0653+0403	05 02 00	35.7	144.4	-1.9		-20.5	19	18782	09 45 30
09 46 30	---	05 03 00	35.8	144.7	-1.9		-20.3	60	18797	09 45 31
09 46 30	P0648	05 03 00	35.7	146.7	-1.8		-19.3	-18	18797	No stop
09 48 50	---	05 05 21	35.9	147.3	-1.7		-18.9	122	18833	09 46 31
09 48 50	J0653+0403	05 05 21	36.0	145.4	-1.8		-20.0	-17	18833	No stop
09 50 00	---	05 06 31	36.1	145.7	-1.8		-19.8	53	18851	09 48 51
09 50 00	P0648	05 06 31	36.0	147.7	-1.7		-18.8	-18	18851	No stop
09 52 20	---	05 08 51	36.2	148.4	-1.7		-18.4	122	18887	09 50 01
09 53 00	J0653+0403	05 09 32	36.4	146.6	-1.8		-19.3	23	18887	09 53 00
09 54 00	---	05 10 32	36.5	146.9	-1.7		-19.2	60	18903	09 53 01
09 54 00	P0648	05 10 32	36.3	148.9	-1.6		-18.1	-18	18903	No stop
09 56 20	---	05 12 52	36.5	149.6	-1.6		-17.7	122	18939	09 54 01
09 56 20	J0653+0403	05 12 52	36.6	147.6	-1.7		-18.8	-17	18939	No stop
09 57 30	---	05 14 02	36.7	147.9	-1.7		-18.6	53	18957	09 56 21
09 57 30	J0641+0420	05 14 02	37.9	151.4	-1.5		-16.7	-22	18957	No stop
09 59 20	---	05 15 53	38.0	152.0	-1.5		-16.4	88	18985	09 57 31
10 00 00	J0653+0403	05 16 33	36.9	148.7	-1.6		-18.2	18	18985	10 00 00
10 01 00	---	05 17 33	37.0	149.0	-1.6		-18.1	60	19001	10 00 01
10 01 00	P0648	05 17 33	36.9	150.9	-1.5		-17.0	-18	19001	No stop
10 03 20	---	05 19 53	37.0	151.6	-1.5		-16.6	122	19037	10 01 01
10 03 20	J0653+0403	05 19 53	37.2	149.7	-1.6		-17.7	-17	19037	No stop
10 04 30	---	05 21 03	37.3	150.0	-1.6		-17.5	53	19055	10 03 21
10 04 30	P0648	05 21 03	37.1	152.0	-1.5		-16.4	-18	19055	No stop
10 06 50	---	05 23 24	37.3	152.7	-1.4		-16.0	122	19091	10 04 31
10 07 30	J0653+0403	05 24 04	37.5	150.9	-1.5		-17.0	23	19091	10 07 30
10 08 30	---	05 25 04	37.6	151.2	-1.5		-16.8	60	19106	10 07 31

Schedule for TORUN (Code Tr) Page 34

e-EVN: RM017B, EN011B, EA065H

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

Start UT Stop UT	Source	Start / Stop LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Wed 22 Jun 2022 Day 173 ---										
10 08 30	P0648	05 25 04	37.4	153.2	-1.4		-15.7	-18	19106	No stop
10 10 50	---	05 27 24	37.6	153.9	-1.4		-15.3	122	19143	10 08 31
10 10 50	J0653+0403	05 27 24	37.7	151.9	-1.5		-16.4	-17	19143	No stop
10 12 00	---	05 28 35	37.8	152.3	-1.4		-16.3	53	19161	10 10 51
10 12 00	J0641+0420	05 28 35	38.9	155.9	-1.2		-14.2	-22	19161	No stop
10 13 50	---	05 30 25	39.0	156.5	-1.2		-13.9	88	19189	10 12 01
10 14 30	J0653+0403	05 31 05	38.0	153.1	-1.4		-15.8	18	19189	10 14 30
10 15 30	---	05 32 05	38.1	153.4	-1.4		-15.7	60	19204	10 14 31
10 15 30	P0648	05 32 05	37.9	155.3	-1.3		-14.5	-18	19204	No stop
10 17 50	---	05 34 26	38.0	156.1	-1.2		-14.1	122	19240	10 15 31
10 17 50	J0653+0403	05 34 26	38.2	154.1	-1.3		-15.3	-17	19240	No stop
10 19 00	---	05 35 36	38.3	154.4	-1.3		-15.1	53	19259	10 17 51
10 19 00	P0648	05 35 36	38.1	156.4	-1.2		-13.9	-18	19259	No stop
10 21 20	---	05 37 56	38.2	157.1	-1.2		-13.5	122	19295	10 19 01
10 22 00	J0653+0403	05 38 36	38.5	155.4	-1.3		-14.5	23	19295	10 22 00
10 23 00	---	05 39 36	38.5	155.7	-1.3		-14.4	60	19310	10 22 01
10 23 00	P0648	05 39 36	38.3	157.7	-1.2		-13.2	-18	19310	No stop
10 25 20	---	05 41 57	38.4	158.4	-1.1		-12.8	122	19346	10 23 01
10 25 20	J0653+0403	05 41 57	38.7	156.4	-1.2		-13.9	-17	19346	No stop
10 26 30	---	05 43 07	38.8	156.8	-1.2		-13.7	53	19364	10 25 21
10 26 30	J0641+0420	05 43 07	39.7	160.4	-1.0		-11.6	-22	19364	No stop
10 28 20	---	05 44 57	39.8	161.0	-1.0		-11.3	88	19392	10 26 31
10 29 00	J0653+0403	05 45 37	38.9	157.5	-1.2		-13.3	18	19392	10 29 00
10 30 00	---	05 46 38	39.0	157.9	-1.1		-13.1	60	19408	10 29 01
10 30 00	P0648	05 46 38	38.7	159.8	-1.0		-12.0	-18	19408	No stop
10 32 20	---	05 48 58	38.8	160.6	-1.0		-11.5	122	19444	10 30 01
10 32 20	J0653+0403	05 48 58	39.1	158.6	-1.1		-12.7	-17	19444	No stop
10 33 30	---	05 50 08	39.2	159.0	-1.1		-12.5	53	19462	10 32 21
10 33 30	P0648	05 50 08	38.9	160.9	-1.0		-11.3	-18	19462	No stop
10 35 50	---	05 52 29	39.0	161.7	-0.9		-10.9	122	19498	10 33 31

```
Schedule for TORUN     (Code Tr )                                  Page  35
               e-EVN: RM017B, EN011B, EA065H
  UP:  D => Below limits;  H => Below horizon mask;  W => still slewing at end;  blank => Up.
  Early: Seconds between end of slew and start.   Dwell: On source seconds.
  Disk: GBytes recorded to this point.
  TPStart:  Recording start time.  Frequencies are LO sum (band edge).
  SYNC: Time correlator is expected to sync up.
-------------------------------------------------------------------------------------------
Start UT  Source               Start / Stop                 Early    Disk   TPStart
Stop UT                  LST      EL    AZ   HA  UP   ParA  Dwell   GBytes    SYNC
-------------------------------------------------------------------------------------------

 --- Wed  22 Jun 2022   Day 173 ---

10 36 30  J0653+0403   05 53 09  39.3 159.9 -1.0     -11.9    23    19498   10 36 30
10 37 30  ---          05 54 09  39.4 160.2 -1.0     -11.8    60    19514   10 36 31

10 37 30  P0648        05 54 09  39.1 162.2 -0.9     -10.6   -18    19514   No stop
10 39 50  ---          05 56 29  39.2 162.9 -0.9     -10.2   122    19550   10 37 31

10 39 50  J0653+0403   05 56 29  39.5 161.0 -1.0     -11.3   -17    19550   No stop
10 41 00  ---          05 57 39  39.5 161.3 -1.0     -11.1    53    19568   10 39 51

10 41 00  J0641+0420   05 57 39  40.3 165.1 -0.8      -8.9   -23    19568   No stop
10 42 50  ---          05 59 30  40.4 165.7 -0.7      -8.6    87    19596   10 41 01

10 43 30  J0653+0403   06 00 10  39.7 162.1 -0.9     -10.6    18    19596   10 43 30
10 44 30  ---          06 01 10  39.7 162.4 -0.9     -10.5    60    19611   10 43 31

10 44 30  P0648        06 01 10  39.4 164.4 -0.8      -9.3   -18    19611   No stop
10 46 50  ---          06 03 30  39.4 165.2 -0.8      -8.9   122    19648   10 44 31

10 46 50  J0653+0403   06 03 30  39.8 163.2 -0.9     -10.0   -17    19648   No stop
10 48 00  ---          06 04 41  39.9 163.6 -0.8      -9.8    53    19666   10 46 51

10 48 00  P0648        06 04 41  39.5 165.5 -0.7      -8.6   -18    19666   No stop
10 50 20  ---          06 07 01  39.6 166.3 -0.7      -8.2   122    19702   10 48 01

10 50 20  J0653+0403   06 07 01  40.0 164.3 -0.8      -9.4   -17    19702   No stop
10 51 30  ---          06 08 11  40.0 164.7 -0.8      -9.1    53    19720   10 50 21

10 55 00  J0927+3902   06 11 42  53.9  92.8 -3.3     -50.5    51    19720   10 55 00
11 00 00  =4C39.25     06 16 43  54.6  93.9 -3.2     -50.4   300    19797   10 55 01



SETUP FILE INFORMATION:
   NOTE: If DOPPLER, FREQ, or BW were used, see the individual scans for the final BBC settings.


 ======== Setup file: sess222.C2048e

   Setup group:    8         Station: TORUN            Total bit rate:  2048
   Format: VDIF              Bits per sample: 2        Sample rate: 64.000
   Number of channels: 16    DBE type: DBBC_DDC        Speedup factor:   1.00

   Disk used to record data.
```

```
  1st LO=   4200.00   4200.00   4200.00   4200.00   4200.00   4200.00   4200.00   4200.00
            4200.00   4200.00   4200.00   4200.00   4200.00   4200.00   4200.00   4200.00
  Net SB=         L         L         U         U         L         L         U         U
                  L         L         U         U         L         L         U         U
  IF SB =         U         U         U         U         U         U         U         U
                  U         U         U         U         U         U         U         U
  Pol.  =       RCP       LCP       RCP       LCP       RCP       LCP       RCP       LCP
                RCP       LCP       RCP       LCP       RCP       LCP       RCP       LCP
  BBC   =         1         9         1         9         2        10         2        10
                  3        11         3        11         4        12         4        12
  BBC SB=         L         L         U         U         L         L         U         U
                  L         L         U         U         L         L         U         U
  IF    =        A1        B1        A1        B1        A1        B1        A1        B1
                 A1        B1        A1        B1        A1        B1        A1        B1

 The following frequency sets based on these setups were used.

  Frequency Set:   8  Setup file default.  Used with PCAL = off
  LO sum=   4830.49  4830.49  4830.49  4830.49  4894.49  4894.49  4894.49  4894.49
            4958.49  4958.49  4958.49  4958.49  5022.49  5022.49  5022.49  5022.49
  BBC fr=    630.49   630.49   630.49   630.49   694.49   694.49   694.49   694.49
             758.49   758.49   758.49   758.49   822.49   822.49   822.49   822.49
  Bandwd=     32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00
              32.00    32.00    32.00    32.00    32.00    32.00    32.00    32.00
   Matching frequency sets:   8

  Track assignments are:
   track1=   1,  2,  3,  4,  5,  6,  7,  8,  9, 10, 11, 12, 13, 14, 15, 16
   barrel=roll_off



POSITIONS OF SOURCES USED IN RECORDING SCANS

  Source                          Source position (RA/Dec)                        Error
                       (B1950)             (J2000)             (Date)             (mas)

* AT2022CMC          13 32 26.891732   * 13 34 43.207000     13 35 44.553105       0.00
                     33 28 20.07025    * 33 13 00.54000      33 06 21.07470        0.00

  1327+321           13 27 34.876207   * 13 29 52.864912     13 30 54.905808       0.12
* J1329+3154         32 09 38.80936    * 31 54 11.05446      31 47 27.72881        0.11
                     rfc_2021d petrov and kovalev, in preparation  1287 observations

  1340+353           13 40 18.244517   * 13 42 31.801569     13 43 32.001205       0.37
* J1342+3507         35 22 15.69515    * 35 07 10.30660      35 00 37.36376        0.61
                     rfc_2021d petrov and kovalev, in preparation  36 observations

* TXS1749            17 49 51.185827   * 17 52 36.974100     17 53 51.973587       0.00
                    -10 11 06.42667    *-10 11 44.73100     -10 12 03.41855        0.00

* TXS1742            17 42 44.099295   * 17 45 27.105000     17 46 40.861052       0.00
                    -07 51 54.46592    *-07 53 03.94800     -07 53 36.61838        0.00

* J1801-0834         17 58 30.076073   * 18 01 13.936521     18 02 28.069984       0.00
                    -08 34 25.29830    *-08 34 25.86271     -08 34 27.70734        0.00

* P0648              06 45 23.811557   * 06 48 01.533000     06 49 10.267264       0.00
                     03 30 30.17913    * 03 27 07.37000      03 25 39.16558        0.00

* J0653+0403         06 51 11.423934   * 06 53 49.824100     06 54 58.864881       0.00
```

```
                  04 07 34.58380    * 04 03 47.01000      04 02 07.86102        0.00

* J0641+0420      06 39 11.680185   * 06 41 50.437700     06 42 59.626146       0.00
                  04 23 06.25646    * 04 20 10.03900      04 18 53.65922        0.00

  0017+200        00 17 02.119554   * 00 19 37.854497     00 20 46.856491       0.01
* J0019+2021      20 05 06.80760    * 20 21 45.64456      20 29 02.49488        0.00
  J0019+20        /home/guest/rmc/SCHED/sched11.6/catalogs/sources.gsfc
                  GSFC 2016a X/S astro solution,  23452 observations.

  0642+449        06 42 53.021446   * 06 46 32.025993     06 48 07.435809       0.00
* J0646+4451      44 54 30.82738    * 44 51 16.59012      44 49 53.60309        0.00
  J0646+44        /home/guest/rmc/SCHED/sched11.6/catalogs/sources.gsfc
                  GSFC 2016a X/S astro solution, 155842 observations.

  0742+103        07 42 48.464622   * 07 45 33.059522     07 46 44.929650       0.01
* J0745+1011      10 18 32.65792    * 10 11 12.69227      10 08 00.19527        0.02
  J0745+10        /home/guest/rmc/SCHED/sched11.6/catalogs/sources.gsfc
                  GSFC 2016a X/S astro solution,  10335 observations.

  4C39.25         09 23 55.319216   * 09 27 03.013937     09 28 25.301381       0.31
* J0927+3902      39 15 23.56644    * 39 02 20.85185      38 56 43.71186        0.16
  0923+392        /home/guest/rmc/SCHED/sched11.6/catalogs/sources.gsfc
  J0927+39        GSFC 2016a X/S astro solution, 250526 observations.

  1417+385        14 17 43.055733   * 14 19 46.613761     14 20 42.670334       0.00
* J1419+3821      38 35 32.28541    * 38 21 48.47508      38 15 51.10694        0.00
                  /home/guest/rmc/SCHED/sched11.6/catalogs/sources.gsfc
                  GSFC 2016a X/S astro solution,  28352 observations.

  1737-081        17 37 18.223492   * 17 40 01.566189     17 41 15.473024       0.05
* J1740-0811      -08 09 41.64037   *-08 11 14.78181     -08 11 58.02467        0.11
                  /home/guest/rmc/SCHED/sched11.6/catalogs/sources.gsfc
                  GSFC 2016a X/S astro solution,    362 observations.
```

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