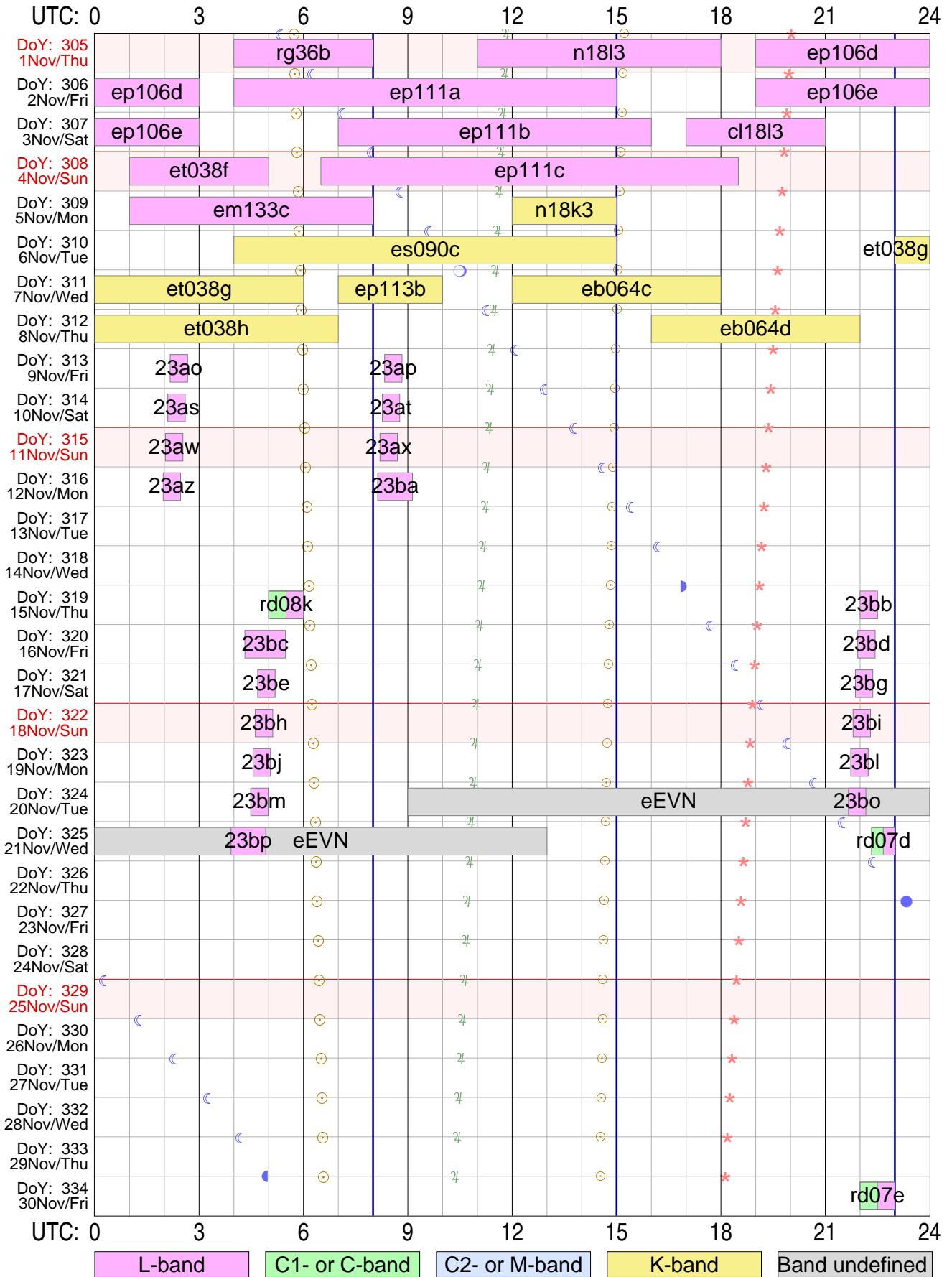


Tr VLBI plan for Nov 2018



Version: 2018.11.08

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: 159.3 hours in 41 experiments scheduled

Initial characters 'rk' are omitted from RA experiment names!

Strona zostawiona celowo pusta

RadioAstron & EVN Experiments

Nov 2018

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

305	1	11	Czw	11 00	18 00	n1813	"L"	14	EVN	7	1.61
305	1	11	Czw	19 00	24 00	ep106d	"L"				
306	2	11	Pia	0 00	3 00	ep106d	"L"	15	EVN	2	3.69
306	2	11	Pia	4 00	15 00	ep111a	"L"	16	EVN	2	5.07
306	2	11	Pia	19 00	24 00	ep106e	"L"				
307	3	11	Sob	0 00	3 00	ep106e	"L"	17	EVN	2	3.69
307	3	11	Sob	7 00	16 00	ep111b	"L"	18	EVN	7	4.15
307	3	11	Sob	17 00	21 00	cl1813	"L"	19	---	0	0.00
308	4	11	Nie	1 00	5 00	et038f	"L"	20	EVN	2	1.84
308	4	11	Nie	6 30	18 30	ep111c	"L"	21	EVN	0	5.53
309	5	11	Pon	1 00	8 00	em133c	"L"	22	EVN	3	3.23
309	5	11	Pon	12 00	15 00	n18k3	"K"	23	EVN	8	1.38
310	6	11	Wto	4 00	15 00	es090c	"K"	25	EVN	7	5.07
310	6	11	Wto	23 00	24 00	et038g	"K"				
311	7	11	Sro	0 00	6 00	et038g	"K"	26	EVN	7	3.23
311	7	11	Sro	7 00	10 00	ep113b	"K"	27	EVN	0	1.38
311	7	11	Sro	12 00	18 00	eb064c	"K"	28	EVN	7	2.76
312	8	11	Czw	0 00	7 00	et038h	"K"	29	EVN	9	3.23
312	8	11	Czw	16 00	22 00	eb064d	"K"	30	EVN	1	2.76
273	20	11	Wto	9 00	113 00	eEVN	"				
305	1	11	Czw	4 00	8 00	rg36b	"L"				
313	9	11	Pia	2 10	2 40	rk23ao	"L"				
313	9	11	Pia	8 20	8 50	rk23ap	"L"				
314	10	11	Sob	2 06	2 36	rk23as	"L"				
314	10	11	Sob	8 16	8 46	rk23at	"L"				
315	11	11	Nie	2 02	2 32	rk23aw	"L"				
315	11	11	Nie	8 12	8 42	rk23ax	"L"				
316	12	11	Pon	1 58	2 28	rk23az	"L"				
316	12	11	Pon	8 08	9 08	rk23ba	"L"				
319	15	11	Czw	5 00	6 00	rd08k	"C>L"				
319	15	11	Czw	22 00	22 30	rk23bb	"L"				
320	16	11	Pia	4 19	5 29	rk23bc	"L"				
320	16	11	Pia	21 56	22 26	rk23bd	"L"				
321	17	11	Sob	4 41	5 11	rk23be	"L"				
321	17	11	Sob	21 52	22 22	rk23bg	"L"				
322	18	11	Nie	4 37	5 07	rk23bh	"L"				
322	18	11	Nie	21 48	22 18	rk23bi	"L"				
323	19	11	Pon	4 33	5 03	rk23bj	"L"				
323	19	11	Pon	21 44	22 14	rk23bl	"L"				
324	20	11	Wto	4 29	4 59	rk23bm	"L"				
324	20	11	Wto	21 40	22 10	rk23bo	"L"				

325	21	11	Sro	3	55	4	55	rk23bp	"L	"
325	21	11	Sro	22	20	23	00	rd07d	"C>L	"
334	30	11	Pia	22	00	23	00	rd07e	"C>L	"

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

<http://paulo.astro.uni.torun.pl/~pw/VLBI/schedules/nov18.pdf>

rg36btr

RADIOASTRON PULSAR OBSERVATIONS

PI: Robert Main, Alexey Rudnitskiy

Address: ASC Lebedev Profsoyuznaya 84/32 117997 Moscow, Russia

Observing mode: L/P-band, dual-pol

Schedule for TORUN (Code Tr)

Page 2

RadioAstron Pulsar 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 L0 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 1 Nov 2018 Day 305 ---

----- This is a 1min calibration scan with auto-level (AGC) ON -----

Next scan frequencies: 1668.00 1668.00 1668.00 1668.00

Next BBC frequencies: 732.00 732.00 732.00 732.00

Next scan bandwidths: 16.00 16.00 16.00 16.00

04 00 00	CRAB	07 55 51	49.1	234.4	2.3	31.8	0	0	Stopped
04 01 00	---	07 56 52	49.0	234.7	2.4	31.9	60	0	

----- Please make sure Pcal, noise diode (Tsys) and auto-level (AGC) are OFF now -----

04 02 00	CRAB	07 57 52	48.8	235.0	2.4	32.0	54	0	04 02 00
04 24 30	---	08 20 25	46.0	241.4	2.7	34.7	1350	43	04 02 01
04 25 00	CRAB	08 20 56	45.9	241.6	2.8	34.7	24	43	04 25 00
04 47 30	---	08 43 29	42.8	247.5	3.1	36.8	1350	86	04 25 01
04 48 00	CRAB	08 43 59	42.8	247.6	3.1	36.8	24	86	04 48 00
05 10 30	---	09 06 33	39.6	253.1	3.5	38.3	1350	130	04 48 01
05 11 00	CRAB	09 07 03	39.5	253.2	3.5	38.3	24	130	05 11 00
05 35 00	---	09 31 07	36.0	258.7	3.9	39.4	1440	176	05 11 01
05 35 30	CRAB	09 31 37	35.9	258.8	3.9	39.5	24	176	05 35 30
05 59 00	---	09 55 11	32.4	263.9	4.3	40.1	1410	221	05 35 31

----- This is a 1min calibration scan with auto-level (AGC) ON -----

06 00 00	CRAB	09 56 11	32.3	264.1	4.3	40.1	54	221	Stopped
06 01 00	---	09 57 11	32.1	264.3	4.4	40.1	60	221	

----- Please make sure Pcal, noise diode (Tsys) and auto-level (AGC) are OFF now -----

06 02 00	CRAB	09 58 11	32.0	264.5	4.4	40.2	54	221	06 02 00
06 09 30	---	10 05 43	30.8	266.1	4.5	40.3	450	235	06 02 01
06 10 00	CRAB	10 06 13	30.8	266.2	4.5	40.3	24	235	06 10 00
06 29 30	---	10 25 46	27.8	270.2	4.8	40.4	1170	273	06 10 01
06 30 00	CRAB	10 26 16	27.8	270.3	4.8	40.4	24	273	06 30 00
06 49 30	---	10 45 49	24.8	274.1	5.2	40.2	1170	310	06 30 01
06 50 00	CRAB	10 46 19	24.8	274.2	5.2	40.2	24	310	06 50 00
07 09 30	---	11 05 53	21.8	278.0	5.5	39.9	1170	348	06 50 01

Schedule for TORUN (Code Tr)

Page 3

RadioAstron Pulsar 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 L0 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 1 Nov 2018 Day 305 ---

```
07 10 00 CRAB          11 06 23 21.8 278.1 5.5      39.9   24    348  07 10 00
07 29 30 ---          11 25 56 18.9 281.8 5.8      39.3 1170    385  07 10 01

07 30 00 CRAB          11 26 26 18.8 281.9 5.8      39.3   24    385  07 30 00
07 50 00 ---          11 46 29 15.9 285.7 6.2      38.6 1200    423  07 30 01

07 50 30 CRAB          11 46 59 15.8 285.8 6.2      38.6   24    423  07 50 30
08 00 00 ---          11 56 31 14.4 287.6 6.3      38.1   570    442  07 50 31
```

SETUP FILE INFORMATION:

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

==== Setup file: ra18cm2_autolevel.set

```
Setup group:    2          Station: TORUN          Total bit rate:  256
Format: MKIV1:4          Bits per sample: 2          Sample rate: 32.000
Number of channels: 4    DBE type:
```

Disk used to record data.

Setup not used for recording data.

1st LO=	2400.00	2400.00	2400.00	2400.00
Net SB=	L	L	U	U
IF SB =	L	L	L	L
Pol. =	RCP	LCP	RCP	LCP
BBC =	1	2	1	2
BBC SB=	U	U	L	L
IF =	C	A	C	A

The following frequency sets based on these setups were used.

Frequency Set: 2 Setup file default. Used with PCAL = off

LO sum=	1668.00	1668.00	1668.00	1668.00
BBC fr=	732.00	732.00	732.00	732.00
Bandwd=	16.00	16.00	16.00	16.00

Matching frequency sets: 2

==== Setup file: ra18cm2.set

Setup group:	4	Station: TORUN	Total bit rate:	256
Format:	MKIV1:4	Bits per sample: 2	Sample rate:	32.000
Number of channels:	4	DBE type:	Speedup factor:	1.00

Disk used to record data.

```

1st LO= 2400.00 2400.00 2400.00 2400.00
Net SB=      L      L      U      U
IF SB =      L      L      L      L
Pol.  =      RCP     LCP     RCP     LCP
BBC   =      1      2      1      2
BBC SB=      U      U      L      L
IF    =      C      A      C      A

```

The following frequency sets based on these setups were used.

```

Frequency Set: 5 Setup file default. Used with PCAL = off
LO sum= 1668.00 1668.00 1668.00 1668.00
BBC fr= 732.00 732.00 732.00 732.00
Bandwd= 16.00 16.00 16.00 16.00
Matching frequency sets: 5

```

Track assignments are:

```

track1= 2, 18, 3, 19
barrel=roll_off

```

POSITIONS OF SOURCES USED IN RECORDING SCANS

Source	Source position (RA/Dec) (B1950)	(J2000)	(Date)	Error (mas)
* FAKERA	11 57 21.769299	* 12 00 00.000000	12 00 41.941028	0.00
	85 16 41.77889	* 85 00 00.000000	84 53 36.56618	0.00
	fake circumpolar target for a TS to look at			
* CRAB	05 31 31.427725	* 05 34 31.973000	05 35 39.898147	0.00
J0534+2200	21 58 54.40670	* 22 00 52.06000	22 01 28.69692	0.00
B0531+21	./rg36b_sources.radioastron			
	PSR GP DM=56.791, RA-A02-05, RA-A06-03			

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)
CRAB       134.4

```

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 $60 \text{ deg } F^{-0.6}$ 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

```


n18l3tr

NETWORK MONITORING EXPERIMENT

PI: Benito Marcote

Address: JIVE

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 1 Nov 2018 Day 305 ---										
----- N18L3 -----										
Next scan frequencies: 1634.49 1634.49 1634.49 1634.49 1650.49 1650.49 1650.49 1650.49										
1666.49 1666.49 1666.49 1666.49 1682.49 1682.49 1682.49 1682.49										
Next BBC frequencies: 665.51 665.51 665.51 665.51 649.51 649.51 649.51 649.51										
633.51 633.51 633.51 633.51 617.51 617.51 617.51 617.51										
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										
11 00 00	J1848+3219	14 57 00	44.2	92.9	-3.9		-45.2	0	0	11 00 00
11 10 00	=1846+322	15 07 02	45.7	95.0	-3.7		-45.1	600	38	11 00 01
11 13 00	J1848+3219	15 10 03	46.1	95.7	-3.7		-45.0	173	38	11 13 00
11 25 00	=1846+322	15 22 05	47.9	98.3	-3.4		-44.7	720	85	11 13 01
11 28 00	J1848+3219	15 25 05	48.3	99.0	-3.4		-44.6	173	85	11 28 00
11 40 00	=1846+322	15 37 07	50.1	101.8	-3.2		-44.1	720	131	11 28 01
11 43 00	J1848+3219	15 40 08	50.6	102.5	-3.1		-43.9	173	131	11 43 00
11 55 00	=1846+322	15 52 09	52.3	105.5	-2.9		-43.2	720	177	11 43 01
11 58 00	J1848+3219	15 55 10	52.7	106.2	-2.9		-43.0	173	177	11 58 00
12 10 00	=1846+322	16 07 12	54.5	109.4	-2.7		-42.1	720	223	11 58 01
12 13 00	J1848+3219	16 10 12	54.9	110.2	-2.6		-41.8	173	223	12 13 00
12 25 00	=1846+322	16 22 14	56.6	113.6	-2.4		-40.6	720	269	12 13 01
12 28 00	J1848+3219	16 25 15	57.0	114.5	-2.4		-40.3	173	269	12 28 00
12 40 00	=1846+322	16 37 17	58.6	118.1	-2.2		-38.8	720	315	12 28 01
12 43 00	J1848+3219	16 40 17	59.0	119.1	-2.1		-38.4	173	315	12 43 00
12 55 00	=1846+322	16 52 19	60.5	123.1	-1.9		-36.5	720	362	12 43 01
12 58 00	J1848+3219	16 55 20	60.9	124.2	-1.9		-36.0	173	362	12 58 00
13 10 00	=1846+322	17 07 22	62.4	128.5	-1.7		-33.8	720	408	12 58 01
13 13 00	J1848+3219	17 10 22	62.7	129.7	-1.6		-33.2	173	408	13 13 00
13 25 00	=1846+322	17 22 24	64.1	134.5	-1.4		-30.5	720	454	13 13 01
13 28 00	J1848+3219	17 25 25	64.4	135.8	-1.4		-29.7	173	454	13 28 00
13 40 00	=1846+322	17 37 27	65.6	141.1	-1.2		-26.5	720	500	13 28 01
13 43 00	J1848+3219	17 40 27	65.9	142.5	-1.1		-25.7	172	500	13 43 00
13 55 00	=1846+322	17 52 29	66.9	148.3	-0.9		-21.9	720	546	13 43 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 L0 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 1 Nov 2018 Day 305 ---										
----- P.Beam Test -----										
14 06 00	J2139+1423	18 03 31	32.7	111.2	-3.6		-35.3	513	546	14 06 00
14 10 20	=2136+141	18 07 52	33.3	112.2	-3.5		-35.0	260	563	14 06 01
14 10 20	PB+1+1	18 07 52	33.4	112.1	-3.5		-35.1	-8	563	No stop
14 12 40	---	18 10 12	33.7	112.6	-3.5		-34.9	132	572	14 10 21
14 12 40	PB+2+2	18 10 12	33.7	112.5	-3.5		-35.0	-8	572	No stop
14 15 00	---	18 12 32	34.0	113.0	-3.5		-34.8	132	581	14 12 41
14 15 00	PB+3+3	18 12 32	34.1	112.9	-3.5		-34.9	-8	581	No stop
14 17 20	---	18 14 53	34.4	113.5	-3.4		-34.7	132	590	14 15 01
14 17 20	PB+4+4	18 14 53	34.4	113.3	-3.4		-34.8	-8	590	No stop
14 19 40	---	18 17 13	34.7	113.9	-3.4		-34.6	132	599	14 17 21
14 20 20	J2139+1423	18 17 53	34.7	114.6	-3.4		-34.3	28	599	14 20 20
14 21 40	=2136+141	18 19 14	34.9	114.9	-3.3		-34.2	80	604	14 20 21
14 21 40	PB-1-1	18 19 14	34.9	115.1	-3.3		-34.2	-9	604	No stop
14 24 00	---	18 21 34	35.2	115.7	-3.3		-34.0	131	613	14 21 41
14 24 00	PB-2-2	18 21 34	35.2	115.8	-3.3		-33.9	-9	613	No stop
14 26 20	---	18 23 54	35.5	116.4	-3.3		-33.7	131	622	14 24 01
14 26 20	PB-3-3	18 23 54	35.5	116.5	-3.2		-33.7	-9	622	No stop
14 28 40	---	18 26 15	35.8	117.1	-3.2		-33.5	131	631	14 26 21
14 28 40	PB-4-4	18 26 15	35.8	117.2	-3.2		-33.4	-9	631	No stop
14 31 00	---	18 28 35	36.1	117.8	-3.2		-33.2	131	640	14 28 41
14 31 40	J2139+1423	18 29 15	36.3	117.4	-3.2		-33.4	28	640	14 31 40
14 33 00	=2136+141	18 30 35	36.4	117.8	-3.2		-33.3	80	645	14 31 41
14 33 00	PB+1-1	18 30 35	36.3	117.7	-3.2		-33.3	-9	645	No stop
14 35 20	---	18 32 56	36.6	118.3	-3.1		-33.1	131	654	14 33 01
14 35 20	PB+2-2	18 32 56	36.5	118.3	-3.1		-33.1	-9	654	No stop
14 37 40	---	18 35 16	36.8	118.9	-3.1		-32.9	131	663	14 35 21
14 37 40	PB+3-3	18 35 16	36.7	118.8	-3.1		-32.9	-9	663	No stop
14 40 00	---	18 37 37	37.0	119.4	-3.1		-32.7	131	672	14 37 41

```
-----
```

Schedule for TORUN (Code Tr)

Page 4

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 L0 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	1 Nov 2018	Day 305		---					
14 40 00	PB+4-4	18 37 37	36.9	119.4	-3.1		-32.6	-9	672	No stop
14 42 20	---	18 39 57	37.2	120.0	-3.0		-32.4	131	681	14 40 01
14 43 00	J2139+1423	18 40 37	37.8	120.3	-3.0		-32.4	27	681	14 43 00
14 44 20	=2136+141	18 41 57	37.9	120.7	-3.0		-32.2	80	686	14 43 01
14 44 20	PB-1+1	18 41 57	38.0	120.7	-3.0		-32.2	-9	686	No stop
14 46 40	---	18 44 18	38.3	121.3	-2.9		-32.0	131	695	14 44 21
14 46 40	PB-2+2	18 44 18	38.5	121.3	-2.9		-32.0	-9	695	No stop
14 49 00	---	18 46 38	38.8	121.9	-2.9		-31.8	131	704	14 46 41
14 49 00	PB-3+3	18 46 38	38.9	122.0	-2.9		-31.8	-9	704	No stop
14 51 20	---	18 48 58	39.2	122.6	-2.8		-31.5	131	713	14 49 01
14 51 20	PB-4+4	18 48 58	39.3	122.6	-2.8		-31.5	-9	713	No stop
14 53 40	---	18 51 19	39.6	123.3	-2.8		-31.3	131	722	14 51 21
14 54 20	J2139+1423	18 51 59	39.2	123.3	-2.8		-31.2	27	722	14 54 20
14 55 40	=2136+141	18 53 19	39.4	123.7	-2.8		-31.1	80	727	14 54 21
14 55 40	PB+0+1	18 53 19	39.4	123.6	-2.8		-31.1	-8	727	No stop
14 58 00	---	18 55 40	39.7	124.2	-2.7		-30.9	132	736	14 55 41
14 58 00	PB+0+2	18 55 40	39.8	124.2	-2.7		-30.9	-8	736	No stop
15 00 20	---	18 58 00	40.1	124.8	-2.7		-30.6	132	745	14 58 01
15 00 20	PB+0+3	18 58 00	40.2	124.8	-2.7		-30.7	-8	745	No stop
15 02 40	---	19 00 20	40.5	125.4	-2.7		-30.4	132	754	15 00 21
15 02 40	PB+0+4	19 00 20	40.5	125.3	-2.7		-30.4	-8	754	No stop
15 05 00	---	19 02 41	40.8	126.0	-2.6		-30.2	132	763	15 02 41
15 05 40	J2139+1423	19 03 21	40.6	126.4	-2.6		-30.0	29	763	15 05 40
15 07 00	=2136+141	19 04 41	40.8	126.8	-2.6		-29.8	80	768	15 05 41
15 07 00	PB+0-1	19 04 41	40.7	126.8	-2.6		-29.8	-8	768	No stop
15 09 20	---	19 07 01	41.0	127.5	-2.5		-29.5	132	777	15 07 01
15 09 20	PB+0-2	19 07 01	40.9	127.5	-2.5		-29.4	-8	777	No stop
15 11 40	---	19 09 22	41.2	128.2	-2.5		-29.2	132	786	15 09 21
15 11 40	PB+0-3	19 09 22	41.1	128.2	-2.5		-29.1	-8	786	No stop
15 14 00	---	19 11 42	41.4	128.9	-2.5		-28.8	132	795	15 11 41

Schedule for TORUN (Code Tr)

Page 5

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 L0 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 1 Nov 2018 Day 305 ---										
15 14 00	PB+0-4	19 11 42	41.3	128.9	-2.5		-28.8	-8	795	No stop
15 16 20	---	19 14 03	41.6	129.6	-2.4		-28.5	132	804	15 14 01
15 17 00	J2139+1423	19 14 43	42.0	129.6	-2.4		-28.6	29	804	15 17 00
15 18 20	=2136+141	19 16 03	42.1	130.0	-2.4		-28.4	80	809	15 17 01
15 18 20	PB+1+0	19 16 03	42.1	129.9	-2.4		-28.4	-8	809	No stop
15 20 40	---	19 18 23	42.3	130.5	-2.4		-28.1	132	818	15 18 21
15 20 40	PB+2+0	19 18 23	42.3	130.4	-2.4		-28.2	-8	818	No stop
15 23 00	---	19 20 44	42.6	131.1	-2.3		-27.9	132	827	15 20 41
15 23 00	PB+3+0	19 20 44	42.5	131.0	-2.3		-27.9	-8	827	No stop
15 25 20	---	19 23 04	42.8	131.7	-2.3		-27.6	132	836	15 23 01
15 25 20	PB+4+0	19 23 04	42.7	131.6	-2.3		-27.6	-8	836	No stop
15 27 40	---	19 25 24	43.0	132.3	-2.3		-27.3	132	845	15 25 21
15 28 20	J2139+1423	19 26 05	43.2	132.9	-2.2		-27.0	29	845	15 28 20
15 29 40	=2136+141	19 27 25	43.4	133.3	-2.2		-26.8	80	850	15 28 21
15 29 40	PB-1+0	19 27 25	43.4	133.4	-2.2		-26.8	-8	850	No stop
15 32 00	---	19 29 45	43.7	134.1	-2.2		-26.5	132	859	15 29 41
15 32 00	PB-2+0	19 29 45	43.7	134.2	-2.2		-26.4	-8	859	No stop
15 34 20	---	19 32 06	44.0	134.9	-2.1		-26.1	132	868	15 32 01
15 34 20	PB-3+0	19 32 06	44.0	135.0	-2.1		-26.0	-8	868	No stop
15 36 40	---	19 34 26	44.2	135.7	-2.1		-25.7	132	877	15 34 21
15 36 40	PB-4+0	19 34 26	44.3	135.8	-2.1		-25.6	-8	877	No stop
15 39 00	---	19 36 46	44.5	136.5	-2.0		-25.3	132	886	15 36 41
15 39 40	J2139+1423	19 37 26	44.5	136.3	-2.0		-25.4	29	886	15 39 40
15 41 00	=2136+141	19 38 47	44.6	136.7	-2.0		-25.2	80	891	15 39 41
15 41 00	PB+1+2	19 38 47	44.7	136.5	-2.0		-25.3	-9	891	No stop
15 43 20	---	19 41 07	44.9	137.2	-2.0		-24.9	131	900	15 41 01
15 43 20	PB+2+1	19 41 07	44.8	137.2	-2.0		-24.9	-9	900	No stop
15 45 40	---	19 43 27	45.1	137.9	-2.0		-24.6	131	909	15 43 21
15 45 40	PB+2-1	19 43 27	44.9	138.0	-2.0		-24.5	-9	909	No stop
15 48 00	---	19 45 48	45.2	138.7	-1.9		-24.1	131	918	15 45 41

Schedule for TORUN (Code Tr)

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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 L0 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 1 Nov 2018 Day 305 ---										
15 48 00	PB+1-2	19 45 48	45.1	138.9	-1.9		-24.0	-9	918	No stop
15 50 20	---	19 48 08	45.3	139.6	-1.9		-23.7	131	927	15 48 01
15 51 00	J2139+1423	19 48 48	45.6	139.8	-1.9		-23.6	30	927	15 51 00
15 52 20	=2136+141	19 50 08	45.7	140.3	-1.8		-23.4	80	932	15 51 01
15 52 20	PB-1-2	19 50 08	45.6	140.5	-1.8		-23.2	-9	932	No stop
15 54 40	---	19 52 29	45.8	141.2	-1.8		-22.8	131	941	15 52 21
15 54 40	PB-2-1	19 52 29	45.9	141.3	-1.8		-22.8	-9	941	No stop
15 57 00	---	19 54 49	46.1	142.0	-1.7		-22.4	131	950	15 54 41
15 57 00	PB-2+1	19 54 49	46.3	141.9	-1.7		-22.5	-10	950	No stop
15 59 20	---	19 57 10	46.5	142.7	-1.7		-22.1	130	959	15 57 01
15 59 20	PB-1+2	19 57 10	46.6	142.5	-1.7		-22.2	-8	959	No stop
16 01 40	---	19 59 30	46.8	143.3	-1.7		-21.8	132	968	15 59 21
16 02 20	J2139+1423	20 00 10	46.6	143.5	-1.7		-21.6	30	968	16 02 20
16 03 40	=2136+141	20 01 30	46.8	143.9	-1.6		-21.4	80	973	16 02 21
16 03 40	PB+1+3	20 01 30	47.0	143.7	-1.6		-21.6	-10	973	No stop
16 06 00	---	20 03 51	47.2	144.5	-1.6		-21.1	130	982	16 03 41
16 06 00	PB+2+3	20 03 51	47.1	144.4	-1.6		-21.2	-8	982	No stop
16 08 20	---	20 06 11	47.3	145.1	-1.6		-20.8	132	991	16 06 01
16 08 20	PB+3+2	20 06 11	47.2	145.1	-1.6		-20.8	-9	991	No stop
16 10 40	---	20 08 31	47.4	145.9	-1.5		-20.4	131	1000	16 08 21
16 10 40	PB+3+1	20 08 31	47.4	145.9	-1.5		-20.4	-8	1000	No stop
16 13 00	---	20 10 52	47.6	146.7	-1.5		-19.9	132	1009	16 10 41
16 13 40	J2139+1423	20 11 32	47.6	147.3	-1.5		-19.6	29	1009	16 13 40
16 15 00	=2136+141	20 12 52	47.7	147.7	-1.5		-19.3	80	1014	16 13 41
16 15 00	PB+3-1	20 12 52	47.6	147.4	-1.5		-19.5	-10	1014	No stop
16 17 20	---	20 15 13	47.8	148.2	-1.4		-19.0	130	1023	16 15 01
16 17 20	PB+3-2	20 15 13	47.7	148.3	-1.4		-19.0	-8	1023	No stop
16 19 40	---	20 17 33	47.9	149.1	-1.4		-18.6	132	1032	16 17 21
16 19 40	PB+2-3	20 17 33	47.8	149.2	-1.4		-18.5	-9	1032	No stop
16 22 00	---	20 19 53	48.0	150.0	-1.3		-18.0	131	1041	16 19 41

Schedule for TORUN (Code Tr)

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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 L0 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	1 Nov 2018	Day 305	---						
16 22 00	PB+1-3	20 19 53	48.0	150.2	-1.3		-18.0	-8	1041	No stop
16 24 20	---	20 22 14	48.2	151.0	-1.3		-17.5	132	1050	16 22 01
16 25 00	J2139+1423	20 22 54	48.5	151.2	-1.3		-17.4	29	1050	16 25 00
16 26 20	=2136+141	20 24 14	48.6	151.7	-1.3		-17.1	80	1055	16 25 01
16 26 20	PB-1-3	20 24 14	48.4	151.9	-1.3		-17.0	-10	1055	No stop
16 28 40	---	20 26 34	48.5	152.7	-1.2		-16.5	130	1064	16 26 21
16 28 40	PB-2-3	20 26 34	48.6	152.8	-1.2		-16.4	-8	1064	No stop
16 31 00	---	20 28 55	48.7	153.7	-1.2		-16.0	132	1073	16 28 41
16 31 00	PB-3-2	20 28 55	48.8	153.7	-1.2		-15.9	-9	1073	No stop
16 33 20	---	20 31 15	49.0	154.6	-1.1		-15.4	131	1082	16 31 01
16 33 20	PB-3-1	20 31 15	49.1	154.5	-1.1		-15.5	-8	1082	No stop
16 35 40	---	20 33 36	49.2	155.4	-1.1		-15.0	132	1091	16 33 21
16 36 20	J2139+1423	20 34 16	49.3	155.2	-1.1		-15.1	29	1091	16 36 20
16 37 40	=2136+141	20 35 36	49.3	155.7	-1.1		-14.8	80	1096	16 36 21
16 37 40	PB-3+1	20 35 36	49.5	156.0	-1.1		-14.6	-10	1096	No stop
16 40 00	---	20 37 56	49.6	156.9	-1.0		-14.1	130	1105	16 37 41
16 40 00	PB-3+2	20 37 56	49.7	156.8	-1.0		-14.1	-8	1105	No stop
16 42 20	---	20 40 17	49.8	157.7	-1.0		-13.6	132	1114	16 40 01
16 42 20	PB-2+3	20 40 17	49.9	157.5	-1.0		-13.7	-8	1114	No stop
16 44 40	---	20 42 37	50.0	158.4	-0.9		-13.2	132	1123	16 42 21
16 44 40	PB-1+3	20 42 37	50.0	158.3	-0.9		-13.3	-8	1123	No stop
16 47 00	---	20 44 57	50.1	159.1	-0.9		-12.8	132	1132	16 44 41
16 47 40	J2139+1423	20 45 38	49.9	159.3	-0.9		-12.6	29	1132	16 47 40
16 49 00	=2136+141	20 46 58	50.0	159.8	-0.9		-12.3	80	1137	16 47 41
16 49 00	PB+1+4	20 46 58	50.3	159.6	-0.9		-12.5	-11	1137	No stop
16 51 20	---	20 49 18	50.4	160.5	-0.8		-12.0	129	1146	16 49 01
16 51 20	PB+2+4	20 49 18	50.4	160.3	-0.9		-12.1	-8	1146	No stop
16 53 40	---	20 51 39	50.5	161.2	-0.8		-11.5	132	1155	16 51 21
16 53 40	PB+3+4	20 51 39	50.5	161.1	-0.8		-11.6	-8	1155	No stop
16 56 00	---	20 53 59	50.6	161.9	-0.8		-11.1	132	1164	16 53 41

Schedule for TORUN (Code Tr)

Page 8

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 L0 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	1 Nov 2018	Day 305	---						
16 56 00	PB+4+3	20 53 59	50.5	161.8	-0.8		-11.2	-9	1164	No stop
16 58 20	---	20 56 19	50.6	162.7	-0.7		-10.6	131	1173	16 56 01
16 59 00	J2139+1423	20 56 59	50.5	163.5	-0.7		-10.1	28	1173	16 59 00
17 00 20	=2136+141	20 58 20	50.5	164.0	-0.7		-9.8	80	1178	16 59 01
17 00 20	PB+4+2	20 58 20	50.6	163.5	-0.7		-10.2	-11	1178	No stop
17 02 40	---	21 00 40	50.7	164.4	-0.7		-9.6	129	1187	17 00 21
17 02 40	PB+4+1	21 00 40	50.6	164.4	-0.7		-9.6	-8	1187	No stop
17 05 00	---	21 03 00	50.7	165.3	-0.6		-9.1	132	1196	17 02 41
17 05 00	PB+4-1	21 03 00	50.6	165.3	-0.6		-9.0	-10	1196	No stop
17 07 20	---	21 05 21	50.7	166.2	-0.6		-8.5	130	1205	17 05 01
17 07 20	PB+4-2	21 05 21	50.6	166.2	-0.6		-8.5	-8	1205	No stop
17 09 40	---	21 07 41	50.7	167.1	-0.6		-8.0	132	1214	17 07 21
17 10 20	J2139+1423	21 08 21	50.9	167.8	-0.5		-7.5	28	1214	17 10 20
17 11 40	=2136+141	21 09 42	50.9	168.3	-0.5		-7.2	80	1219	17 10 21
17 11 40	PB+4-3	21 09 42	50.6	167.9	-0.5		-7.5	-11	1219	No stop
17 14 00	---	21 12 02	50.7	168.8	-0.5		-6.9	129	1228	17 11 41
17 14 00	PB+3-4	21 12 02	50.6	168.9	-0.5		-6.8	-9	1228	No stop
17 16 20	---	21 14 22	50.7	169.8	-0.4		-6.3	131	1237	17 14 01
17 16 20	PB+2-4	21 14 22	50.7	169.9	-0.4		-6.2	-8	1237	No stop
17 18 40	---	21 16 43	50.8	170.8	-0.4		-5.7	132	1246	17 16 21
17 18 40	PB+1-4	21 16 43	50.8	171.0	-0.4		-5.6	-8	1246	No stop
17 21 00	---	21 19 03	50.8	171.8	-0.4		-5.0	132	1255	17 18 41
17 21 40	J2139+1423	21 19 43	51.2	172.2	-0.3		-4.8	28	1255	17 21 40
17 23 00	=2136+141	21 21 03	51.2	172.7	-0.3		-4.5	80	1260	17 21 41
17 23 00	PB-1-4	21 21 03	50.9	172.9	-0.3		-4.4	-12	1260	No stop
17 25 20	---	21 23 24	50.9	173.8	-0.3		-3.9	128	1269	17 23 01
17 25 20	PB-2-4	21 23 24	50.9	173.9	-0.3		-3.8	-8	1269	No stop
17 27 40	---	21 25 44	51.0	174.8	-0.2		-3.2	132	1278	17 25 21
17 27 40	PB-3-4	21 25 44	51.0	174.9	-0.2		-3.1	-9	1278	No stop
17 30 00	---	21 28 05	51.0	175.8	-0.2		-2.6	131	1287	17 27 41

Schedule for TORUN (Code Tr)

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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 L0 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	1 Nov 2018	Day 305	---						
17 30 00	PB-4-3	21 28 05	51.1	176.0	-0.2		-2.5	-8	1287	No stop
17 32 20	---	21 30 25	51.1	176.9	-0.1		-1.9	132	1296	17 30 01
17 33 00	J2139+1423	21 31 05	51.3	176.6	-0.1		-2.1	29	1296	17 33 00
17 34 20	=2136+141	21 32 25	51.4	177.1	-0.1		-1.8	80	1301	17 33 01
17 34 20	PB-4-2	21 32 25	51.2	177.6	-0.1		-1.5	-12	1301	No stop
17 36 40	---	21 34 46	51.2	178.5	-0.1		-0.9	128	1310	17 34 21
17 36 40	PB-4-1	21 34 46	51.3	178.5	-0.1		-0.9	-8	1310	No stop
17 39 00	---	21 37 06	51.3	179.4	-0.0		-0.3	132	1319	17 36 41
17 39 00	PB-4+1	21 37 06	51.5	179.4	-0.0		-0.3	-10	1319	No stop
17 41 20	---	21 39 26	51.5	180.4	0.0		0.2	130	1328	17 39 01
17 41 20	PB-4+2	21 39 26	51.6	180.4	0.0		0.2	-8	1328	No stop
17 43 40	---	21 41 47	51.5	181.3	0.1		0.8	132	1337	17 41 21
17 44 20	J2139+1423	21 42 27	51.4	181.0	0.0		0.6	29	1337	17 44 20
17 45 40	=2136+141	21 43 47	51.4	181.5	0.1		0.9	80	1342	17 44 21
17 45 40	PB-4+3	21 43 47	51.6	182.0	0.1		1.3	-12	1342	No stop
17 48 00	---	21 46 07	51.6	183.0	0.1		1.8	128	1351	17 45 41
17 48 00	PB-3+4	21 46 07	51.7	182.8	0.1		1.8	-8	1351	No stop
17 50 20	---	21 48 28	51.7	183.7	0.2		2.3	132	1360	17 48 01
17 50 20	PB-2+4	21 48 28	51.7	183.6	0.2		2.2	-8	1360	No stop
17 52 40	---	21 50 48	51.7	184.5	0.2		2.8	132	1369	17 50 21
17 52 40	PB-1+4	21 50 48	51.7	184.4	0.2		2.7	-8	1369	No stop
17 55 00	---	21 53 09	51.6	185.3	0.2		3.3	132	1378	17 52 41
17 55 40	J2139+1423	21 53 49	51.3	185.4	0.2		3.3	28	1378	17 55 40
18 00 00	=2136+141	21 58 09	51.2	187.1	0.3		4.4	260	1395	17 55 41

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```

SETUP FILE INFORMATION:

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

==== Setup file: sess318.L512

```

Setup group: 10          Station: TORUN          Total bit rate: 512
Format: MARK5B         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=	2300.00	2300.00	2300.00	2300.00	2300.00	2300.00	2300.00	2300.00	2300.00
	2300.00	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	
	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	L	L
Pol. =	RCP	LCP	RCP	LCP	RCP	LCP	RCP	LCP	
	RCP	LCP	RCP	LCP	RCP	LCP	RCP	LCP	
BBC =	1	5	1	5	2	6	2	6	
	3	7	3	7	4	8	4	8	
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=	1634.49	1634.49	1634.49	1634.49	1650.49	1650.49	1650.49	1650.49
	1666.49	1666.49	1666.49	1666.49	1682.49	1682.49	1682.49	1682.49
BBC fr=	665.51	665.51	665.51	665.51	649.51	649.51	649.51	649.51
	633.51	633.51	633.51	633.51	617.51	617.51	617.51	617.51
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= 2, 10, 18, 26, 4, 12, 20, 28, 6, 14, 22, 30, 8, 16, 24, 32
barrel=roll_off

POSITIONS OF SOURCES USED IN RECORDING SCANS

Source	Source position (RA/Dec)		(Date)	Error (mas)
	(B1950)	(J2000)		
* PB-4-4	21 35 14.660812	* 21 37 38.716900	21 38 32.383096	0.00
	13 50 04.13631	* 14 03 35.99200	14 08 51.56368	0.00
* PB-3-4	21 35 35.288662	* 21 37 59.365000	21 38 53.040838	0.00
	13 50 03.25563	* 14 03 35.99200	14 08 51.87959	0.00
* PB-2-4	21 35 55.916491	* 21 38 20.013100	21 39 13.698587	0.00
	13 50 02.37678	* 14 03 35.99200	14 08 52.19480	0.00
* PB-1-4	21 36 16.544298	* 21 38 40.661200	21 39 34.356344	0.00
	13 50 01.49977	* 14 03 35.99200	14 08 52.50932	0.00
* PB+0-4	21 36 37.172085	* 21 39 01.309300	21 39 55.014108	0.00
	13 50 00.62458	* 14 03 35.99200	14 08 52.82313	0.00
* PB+1-4	21 36 57.799850	* 21 39 21.957400	21 40 15.671879	0.00
	13 49 59.75124	* 14 03 35.99200	14 08 53.13624	0.00
* PB+2-4	21 37 18.427594	* 21 39 42.605500	21 40 36.329658	0.00
	13 49 58.87974	* 14 03 35.99200	14 08 53.44865	0.00
* PB+3-4	21 37 39.055317	* 21 40 03.253600	21 40 56.987444	0.00

	13 49 58.01007	* 14 03 35.99200	14 08 53.76036	0.00
* PB+4-4	21 37 59.683019	* 21 40 23.901700	21 41 17.645238	0.00
	13 49 57.14225	* 14 03 35.99200	14 08 54.07137	0.00
* PB-4-3	21 35 14.721274	* 21 37 38.716900	21 38 32.361376	0.00
	13 55 04.13535	* 14 08 35.99200	14 13 51.58835	0.00
* PB-3-3	21 35 35.348998	* 21 37 59.365000	21 38 53.019166	0.00
	13 55 03.25468	* 14 08 35.99200	14 13 51.90426	0.00
* PB-2-3	21 35 55.976701	* 21 38 20.013100	21 39 13.676964	0.00
	13 55 02.37584	* 14 08 35.99200	14 13 52.21946	0.00
* PB-1-3	21 36 16.604383	* 21 38 40.661200	21 39 34.334769	0.00
	13 55 01.49883	* 14 08 35.99200	14 13 52.53397	0.00
* PB+0-3	21 36 37.232043	* 21 39 01.309300	21 39 54.992581	0.00
	13 55 00.62365	* 14 08 35.99200	14 13 52.84777	0.00
* PB+1-3	21 36 57.859682	* 21 39 21.957400	21 40 15.650400	0.00
	13 54 59.75031	* 14 08 35.99200	14 13 53.16088	0.00
* PB+2-3	21 37 18.487300	* 21 39 42.605500	21 40 36.308227	0.00
	13 54 58.87882	* 14 08 35.99200	14 13 53.47328	0.00
* PB+3-3	21 37 39.114896	* 21 40 03.253600	21 40 56.966062	0.00
	13 54 58.00916	* 14 08 35.99200	14 13 53.78498	0.00
* PB+4-3	21 37 59.742472	* 21 40 23.901700	21 41 17.623903	0.00
	13 54 57.14134	* 14 08 35.99200	14 13 54.09598	0.00
* PB-4-2	21 35 14.781779	* 21 37 38.716900	21 38 32.339642	0.00
	14 00 04.13440	* 14 13 35.99200	14 18 51.61301	0.00
* PB-3-2	21 35 35.409377	* 21 37 59.365000	21 38 52.997480	0.00
	14 00 03.25373	* 14 13 35.99200	14 18 51.92890	0.00
* PB-2-2	21 35 56.036954	* 21 38 20.013100	21 39 13.655325	0.00
	14 00 02.37489	* 14 13 35.99200	14 18 52.24410	0.00
* PB-1-2	21 36 16.664510	* 21 38 40.661200	21 39 34.313178	0.00
	14 00 01.49789	* 14 13 35.99200	14 18 52.55859	0.00
* PB+0-2	21 36 37.292044	* 21 39 01.309300	21 39 54.971038	0.00
	14 00 00.62272	* 14 13 35.99200	14 18 52.87239	0.00
* PB+1-2	21 36 57.919557	* 21 39 21.957400	21 40 15.628906	0.00
	13 59 59.74939	* 14 13 35.99200	14 18 53.18549	0.00
* PB+2-2	21 37 18.547049	* 21 39 42.605500	21 40 36.286781	0.00
	13 59 58.87789	* 14 13 35.99200	14 18 53.49788	0.00
* PB+3-2	21 37 39.174519	* 21 40 03.253600	21 40 56.944664	0.00
	13 59 58.00824	* 14 13 35.99200	14 18 53.80957	0.00
* PB+4-2	21 37 59.801968	* 21 40 23.901700	21 41 17.602554	0.00
	13 59 57.14043	* 14 13 35.99200	14 18 54.12056	0.00
* PB-4-1	21 35 14.842327	* 21 37 38.716900	21 38 32.317892	0.00
	14 05 04.13344	* 14 18 35.99200	14 23 51.63764	0.00
* PB-3-1	21 35 35.469800	* 21 37 59.365000	21 38 52.975778	0.00
	14 05 03.25278	* 14 18 35.99200	14 23 51.95352	0.00

* PB-2-1	21 35 56.097252 14 05 02.37395	* 21 38 20.013100 * 14 18 35.99200	21 39 13.633671 14 23 52.26871	0.00 0.00
* PB-1-1	21 36 16.724681 14 05 01.49695	* 21 38 40.661200 * 14 18 35.99200	21 39 34.291572 14 23 52.58320	0.00 0.00
* PB+0-1	21 36 37.352089 14 05 00.62179	* 21 39 01.309300 * 14 18 35.99200	21 39 54.949481 14 23 52.89699	0.00 0.00
* PB+1-1	21 36 57.979476 14 04 59.74846	* 21 39 21.957400 * 14 18 35.99200	21 40 15.607397 14 23 53.21007	0.00 0.00
* PB+2-1	21 37 18.606841 14 04 58.87697	* 21 39 42.605500 * 14 18 35.99200	21 40 36.265320 14 23 53.52246	0.00 0.00
* PB+3-1	21 37 39.234185 14 04 58.00733	* 21 40 03.253600 * 14 18 35.99200	21 40 56.923251 14 23 53.83414	0.00 0.00
* PB+4-1	21 37 59.861507 14 04 57.13952	* 21 40 23.901700 * 14 18 35.99200	21 41 17.581189 14 23 54.14512	0.00 0.00
* PB-4+0	21 35 14.902920 14 10 04.13248	* 21 37 38.716900 * 14 23 35.99200	21 38 32.296126 14 28 51.66224	0.00 0.00
* PB-3+0	21 35 35.530267 14 10 03.25183	* 21 37 59.365000 * 14 23 35.99200	21 38 52.954060 14 28 51.97812	0.00 0.00
* PB-2+0	21 35 56.157593 14 10 02.37300	* 21 38 20.013100 * 14 23 35.99200	21 39 13.612001 14 28 52.29330	0.00 0.00
* PB-1+0	21 36 16.784896 14 10 01.49601	* 21 38 40.661200 * 14 23 35.99200	21 39 34.269951 14 28 52.60778	0.00 0.00
* PB+1+0	21 36 58.039438 14 09 59.74753	* 21 39 21.957400 * 14 23 35.99200	21 40 15.585872 14 28 53.23464	0.00 0.00
* PB+2+0	21 37 18.666677 14 09 58.87605	* 21 39 42.605500 * 14 23 35.99200	21 40 36.243844 14 28 53.54702	0.00 0.00
* PB+3+0	21 37 39.293894 14 09 58.00641	* 21 40 03.253600 * 14 23 35.99200	21 40 56.901823 14 28 53.85869	0.00 0.00
* PB+4+0	21 37 59.921089 14 09 57.13861	* 21 40 23.901700 * 14 23 35.99200	21 41 17.559810 14 28 54.16966	0.00 0.00
* PB-4+1	21 35 14.963558 14 15 04.13152	* 21 37 38.716900 * 14 28 35.99200	21 38 32.274344 14 33 51.68682	0.00 0.00
* PB-3+1	21 35 35.590779 14 15 03.25087	* 21 37 59.365000 * 14 28 35.99200	21 38 52.932326 14 33 52.00270	0.00 0.00
* PB-2+1	21 35 56.217978 14 15 02.37205	* 21 38 20.013100 * 14 28 35.99200	21 39 13.590316 14 33 52.31787	0.00 0.00
* PB-1+1	21 36 16.845155 14 15 01.49507	* 21 38 40.661200 * 14 28 35.99200	21 39 34.248314 14 33 52.63234	0.00 0.00
* PB+0+1	21 36 37.472311 14 15 00.61991	* 21 39 01.309300 * 14 28 35.99200	21 39 54.906319 14 33 52.94611	0.00 0.00
* PB+1+1	21 36 58.099445 14 14 59.74660	* 21 39 21.957400 * 14 28 35.99200	21 40 15.564331 14 33 53.25918	0.00 0.00

* PB+2+1	21 37 18.726556 14 14 58.87513	* 21 39 42.605500 * 14 28 35.99200	21 40 36.222351 14 33 53.57155	0.00 0.00
* PB+3+1	21 37 39.353647 14 14 58.00549	* 21 40 03.253600 * 14 28 35.99200	21 40 56.880379 14 33 53.88321	0.00 0.00
* PB+4+1	21 37 59.980715 14 14 57.13770	* 21 40 23.901700 * 14 28 35.99200	21 41 17.538414 14 33 54.19418	0.00 0.00
* PB-4+2	21 35 15.024240 14 20 04.13056	* 21 37 38.716900 * 14 33 35.99200	21 38 32.252547 14 38 51.71138	0.00 0.00
* PB-3+2	21 35 35.651335 14 20 03.24992	* 21 37 59.365000 * 14 33 35.99200	21 38 52.910577 14 38 52.02725	0.00 0.00
* PB-2+2	21 35 56.278408 14 20 02.37110	* 21 38 20.013100 * 14 33 35.99200	21 39 13.568615 14 38 52.34241	0.00 0.00
* PB-1+2	21 36 16.905459 14 20 01.49412	* 21 38 40.661200 * 14 33 35.99200	21 39 34.226661 14 38 52.65687	0.00 0.00
* PB+0+2	21 36 37.532488 14 20 00.61898	* 21 39 01.309300 * 14 33 35.99200	21 39 54.884714 14 38 52.97064	0.00 0.00
* PB+1+2	21 36 58.159495 14 19 59.74567	* 21 39 21.957400 * 14 33 35.99200	21 40 15.542775 14 38 53.28370	0.00 0.00
* PB+2+2	21 37 18.786480 14 19 58.87420	* 21 39 42.605500 * 14 33 35.99200	21 40 36.200844 14 38 53.59606	0.00 0.00
* PB+3+2	21 37 39.413444 14 19 58.00457	* 21 40 03.253600 * 14 33 35.99200	21 40 56.858920 14 38 53.90771	0.00 0.00
* PB+4+2	21 38 00.040385 14 19 57.13679	* 21 40 23.901700 * 14 33 35.99200	21 41 17.517003 14 38 54.21867	0.00 0.00
* PB-4+3	21 35 15.084967 14 25 04.12960	* 21 37 38.716900 * 14 38 35.99200	21 38 32.230733 14 43 51.73592	0.00 0.00
* PB-3+3	21 35 35.711936 14 25 03.24896	* 21 37 59.365000 * 14 38 35.99200	21 38 52.888812 14 43 52.05177	0.00 0.00
* PB-2+3	21 35 56.338883 14 25 02.37015	* 21 38 20.013100 * 14 38 35.99200	21 39 13.546898 14 43 52.36693	0.00 0.00
* PB-1+3	21 36 16.965808 14 25 01.49318	* 21 38 40.661200 * 14 38 35.99200	21 39 34.204992 14 43 52.68138	0.00 0.00
* PB+0+3	21 36 37.592710 14 25 00.61804	* 21 39 01.309300 * 14 38 35.99200	21 39 54.863094 14 43 52.99514	0.00 0.00
* PB+1+3	21 36 58.219591 14 24 59.74474	* 21 39 21.957400 * 14 38 35.99200	21 40 15.521203 14 43 53.30819	0.00 0.00
* PB+2+3	21 37 18.846449 14 24 58.87327	* 21 39 42.605500 * 14 38 35.99200	21 40 36.179320 14 43 53.62054	0.00 0.00
* PB+3+3	21 37 39.473285 14 24 58.00365	* 21 40 03.253600 * 14 38 35.99200	21 40 56.837445 14 43 53.93219	0.00 0.00
* PB+4+3	21 38 00.100100 14 24 57.13587	* 21 40 23.901700 * 14 38 35.99200	21 41 17.495577 14 43 54.24314	0.00 0.00
* PB-4+4	21 35 15.145740	* 21 37 38.716900	21 38 32.208904	0.00

	14 30 04.12864	* 14 43 35.99200	14 48 51.76043	0.00
* PB-3+4	21 35 35.772583	* 21 37 59.365000	21 38 52.867031	0.00
	14 30 03.24800	* 14 43 35.99200	14 48 52.07628	0.00
* PB-2+4	21 35 56.399403	* 21 38 20.013100	21 39 13.525165	0.00
	14 30 02.36920	* 14 43 35.99200	14 48 52.39143	0.00
* PB-1+4	21 36 17.026201	* 21 38 40.661200	21 39 34.183308	0.00
	14 30 01.49223	* 14 43 35.99200	14 48 52.70587	0.00
* PB+0+4	21 36 37.652977	* 21 39 01.309300	21 39 54.841458	0.00
	14 30 00.61710	* 14 43 35.99200	14 48 53.01962	0.00
* PB+1+4	21 36 58.279731	* 21 39 21.957400	21 40 15.499615	0.00
	14 29 59.74380	* 14 43 35.99200	14 48 53.33266	0.00
* PB+2+4	21 37 18.906462	* 21 39 42.605500	21 40 36.157781	0.00
	14 29 58.87235	* 14 43 35.99200	14 48 53.64501	0.00
* PB+3+4	21 37 39.533172	* 21 40 03.253600	21 40 56.815954	0.00
	14 29 58.00273	* 14 43 35.99200	14 48 53.95665	0.00
* PB+4+4	21 38 00.159859	* 21 40 23.901700	21 41 17.474135	0.00
	14 29 57.13496	* 14 43 35.99200	14 48 54.26758	0.00
1846+322	18 46 29.612030	* 18 48 22.088573	18 49 02.973468	0.00
* J1848+3219	32 15 36.66044	* 32 19 02.60384	32 20 39.77592	0.00
	/home/guest/rmc/SCHED/sched11.5/catalogs/sources.gsfc			
	GSFC 2016a X/S astro solution, 38727 observations.			
2136+141	21 36 37.412147	* 21 39 01.309269	21 39 54.927876	0.00
* J2139+1423	14 10 00.62101	* 14 23 35.99216	14 28 52.92172	0.00
J2139+14	/home/guest/rmc/SCHED/sched11.5/catalogs/sources.gsfc			
	GSFC 2016a X/S astro solution, 53632 observations.			

ep106dtr

MRK1018 AT 1 GB/s - L BAND

PI: Miguel A. Perez-Torres

Address: IAA - CSIC

Observing mode: 1024 Mbps

Schedule for TORUN (Code Tr)

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Mrk1018 at 1 Gb/s - L band

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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 1 Nov 2018	Day 305					---				
Next scan frequencies:		1610.49	1610.49	1610.49	1610.49	1610.49	1642.49	1642.49	1642.49	1642.49	
		1674.49	1674.49	1674.49	1674.49	1674.49	1706.49	1706.49	1706.49	1706.49	
Next BBC frequencies:		689.51	689.51	689.51	689.51	689.51	657.51	657.51	657.51	657.51	
		625.51	625.51	625.51	625.51	625.51	593.51	593.51	593.51	593.51	
Next scan bandwidths:		16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	
		16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	

19 00 00	0149+218	22 58 19	44.7	115.7	-2.9		-35.8	0	0	19 00 00	
19 03 30	---	23 01 50	45.2	116.6	-2.9		-35.4	210	27	19 00 01	
19 03 30	0205-010	23 01 50	23.6	127.2	-3.1		-28.6	-94	27	No stop	
19 07 10	---	23 05 30	24.0	128.1	-3.1		-28.2	126	55	19 03 31	
19 07 10	MRK1018	23 05 30	24.7	128.3	-3.0		-28.1	-15	55	No stop	
19 11 00	---	23 09 21	25.2	129.3	-3.0		-27.7	215	85	19 07 11	
19 11 30	0205-010	23 09 51	24.6	129.1	-3.0		-27.8	15	85	19 11 30	
19 12 40	---	23 11 01	24.7	129.4	-3.0		-27.6	70	94	19 11 31	
19 12 40	MRK1018	23 11 01	25.4	129.7	-2.9		-27.5	-15	94	No stop	
19 16 30	---	23 14 52	25.8	130.6	-2.9		-27.1	215	123	19 12 41	
19 16 30	0205-010	23 14 52	25.1	130.3	-2.9		-27.2	-15	123	No stop	
19 17 40	---	23 16 02	25.3	130.6	-2.9		-27.1	55	132	19 16 31	
19 17 40	MRK1018	23 16 02	26.0	130.9	-2.9		-27.0	-15	132	No stop	
19 21 30	---	23 19 53	26.4	131.9	-2.8		-26.6	215	162	19 17 41	
19 22 00	0205-010	23 20 23	25.8	131.7	-2.8		-26.6	15	162	19 22 00	
19 23 10	---	23 21 33	25.9	132.0	-2.8		-26.5	70	171	19 22 01	
19 23 10	MRK1018	23 21 33	26.6	132.3	-2.8		-26.4	-15	171	No stop	
19 27 00	---	23 25 24	27.0	133.3	-2.7		-25.9	215	200	19 23 11	
19 27 00	0205-010	23 25 24	26.3	133.0	-2.7		-26.1	-14	200	No stop	
19 28 10	---	23 26 34	26.4	133.2	-2.7		-25.9	56	209	19 27 01	
19 28 10	MRK1018	23 26 34	27.1	133.6	-2.7		-25.8	-15	209	No stop	
19 32 00	---	23 30 25	27.5	134.5	-2.6		-25.3	215	238	19 28 11	
19 32 30	0205-010	23 30 55	26.9	134.3	-2.6		-25.4	16	238	19 32 30	
19 33 40	---	23 32 05	27.0	134.6	-2.6		-25.3	70	247	19 32 31	

Schedule for TORUN (Code Tr)

Page 3

Mrk1018 at 1 Gb/s - L band

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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 1 Nov 2018	Day 305					---				
19 33 40	MRK1018	23 32 05	27.7	135.0	-2.6		-25.1	-15	247	No stop	
19 37 30	---	23 35 55	28.1	135.9	-2.5		-24.7	215	277	19 33 41	
19 37 30	0205-010	23 35 55	27.4	135.6	-2.6		-24.8	-14	277	No stop	
19 38 40	---	23 37 06	27.6	135.9	-2.5		-24.7	56	286	19 37 31	
19 38 40	MRK1018	23 37 06	28.3	136.2	-2.5		-24.5	-15	286	No stop	
19 42 30	---	23 40 56	28.6	137.2	-2.4		-24.1	215	315	19 38 41	
19 43 00	0205-010	23 41 26	28.0	137.0	-2.5		-24.2	16	315	19 43 00	
19 44 10	---	23 42 37	28.1	137.3	-2.4		-24.0	70	324	19 43 01	
19 44 10	MRK1018	23 42 37	28.8	137.7	-2.4		-23.9	-15	324	No stop	
19 48 00	---	23 46 27	29.2	138.7	-2.3		-23.4	215	354	19 44 11	
19 48 00	0205-010	23 46 27	28.5	138.3	-2.4		-23.5	-14	354	No stop	
19 49 10	---	23 47 37	28.6	138.6	-2.4		-23.4	56	363	19 48 01	
19 49 10	MRK1018	23 47 37	29.3	139.0	-2.3		-23.2	-15	363	No stop	
19 53 00	---	23 51 28	29.7	140.0	-2.3		-22.7	215	392	19 49 11	
19 53 30	0205-010	23 51 58	29.1	139.8	-2.3		-22.8	16	392	19 53 30	
19 54 40	---	23 53 08	29.2	140.1	-2.3		-22.7	70	401	19 53 31	
19 54 40	MRK1018	23 53 08	29.9	140.4	-2.2		-22.5	-15	401	No stop	
19 58 30	---	23 56 59	30.2	141.5	-2.2		-22.0	215	431	19 54 41	
19 58 30	0205-010	23 56 59	29.5	141.1	-2.2		-22.1	-14	431	No stop	
19 59 40	---	23 58 09	29.7	141.4	-2.2		-22.0	56	440	19 58 31	
19 59 40	MRK1018	23 58 09	30.3	141.8	-2.2		-21.8	-15	440	No stop	
20 03 30	---	00 02 00	30.7	142.8	-2.1		-21.3	215	469	19 59 41	
20 04 00	0205-010	00 02 30	30.1	142.6	-2.1		-21.4	16	469	20 04 00	
20 05 10	---	00 03 40	30.2	142.9	-2.1		-21.2	70	478	20 04 01	
20 05 10	MRK1018	00 03 40	30.8	143.3	-2.1		-21.0	-15	478	No stop	
20 09 00	---	00 07 31	31.2	144.3	-2.0		-20.5	215	508	20 05 11	
20 09 00	0205-010	00 07 31	30.5	143.9	-2.0		-20.7	-14	508	No stop	
20 10 10	---	00 08 41	30.6	144.3	-2.0		-20.5	56	517	20 09 01	
20 10 10	MRK1018	00 08 41	31.3	144.6	-2.0		-20.3	-14	517	No stop	
20 14 00	---	00 12 31	31.6	145.7	-1.9		-19.8	216	546	20 10 11	
20 14 30	0205-010	00 13 02	31.0	145.4	-1.9		-19.9	16	546	20 14 30	
20 15 40	---	00 14 12	31.1	145.8	-1.9		-19.7	70	555	20 14 31	

Schedule for TORUN (Code Tr)

Page 4

Mrk1018 at 1 Gb/s - L band

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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	1 Nov 2018	Day 305		---					
20 15 40	MRK1018	00 14 12	31.7	146.2	-1.9		-19.5	-14	555	No stop
20 19 30	---	00 18 02	32.1	147.2	-1.8		-19.0	216	585	20 15 41
20 19 30	0205-010	00 18 02	31.4	146.8	-1.9		-19.2	-14	585	No stop
20 20 40	---	00 19 13	31.5	147.2	-1.8		-19.0	56	594	20 19 31
20 20 40	MRK1018	00 19 13	32.2	147.6	-1.8		-18.8	-14	594	No stop
20 24 30	---	00 23 03	32.5	148.6	-1.7		-18.2	216	623	20 20 41
20 25 00	0205-010	00 23 33	31.8	148.4	-1.8		-18.4	16	623	20 25 00
20 26 10	---	00 24 43	31.9	148.7	-1.7		-18.2	70	632	20 25 01
20 26 10	MRK1018	00 24 43	32.6	149.1	-1.7		-18.0	-14	632	No stop
20 30 00	---	00 28 34	32.9	150.2	-1.6		-17.4	216	662	20 26 11
20 30 00	0205-010	00 28 34	32.2	149.8	-1.7		-17.6	-14	662	No stop
20 31 10	---	00 29 44	32.3	150.1	-1.7		-17.4	56	671	20 30 01
20 31 10	MRK1018	00 29 44	33.0	150.5	-1.6		-17.2	-14	671	No stop
20 35 00	---	00 33 35	33.2	151.6	-1.6		-16.6	216	700	20 31 11
20 35 30	0205-010	00 34 05	32.6	151.3	-1.6		-16.7	16	700	20 35 30
20 36 40	---	00 35 15	32.7	151.7	-1.6		-16.6	70	709	20 35 31
20 36 40	MRK1018	00 35 15	33.4	152.1	-1.5		-16.3	-14	709	No stop
20 40 30	---	00 39 06	33.6	153.2	-1.5		-15.7	216	738	20 36 41
20 40 30	0205-010	00 39 06	33.0	152.8	-1.5		-16.0	-14	738	No stop
20 41 40	---	00 40 16	33.1	153.1	-1.5		-15.8	56	747	20 40 31
20 41 40	MRK1018	00 40 16	33.7	153.6	-1.4		-15.5	-14	747	No stop
20 45 30	---	00 44 07	34.0	154.7	-1.4		-14.9	216	777	20 41 41
20 46 00	0205-010	00 44 37	33.4	154.3	-1.4		-15.1	16	777	20 46 00
20 47 10	---	00 45 47	33.4	154.7	-1.4		-14.9	70	786	20 46 01
20 47 10	MRK1018	00 45 47	34.1	155.2	-1.4		-14.6	-14	786	No stop
20 51 00	---	00 49 38	34.3	156.3	-1.3		-14.0	216	815	20 47 11
20 51 00	0205-010	00 49 38	33.7	155.8	-1.3		-14.3	-14	815	No stop
20 52 10	---	00 50 48	33.8	156.1	-1.3		-14.1	56	824	20 51 01
20 52 10	MRK1018	00 50 48	34.4	156.6	-1.3		-13.8	-14	824	No stop
20 56 00	---	00 54 38	34.6	157.8	-1.2		-13.1	216	854	20 52 11

Schedule for TORUN (Code Tr)

Page 5

Mrk1018 at 1 Gb/s - L band

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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	1 Nov 2018	Day 305			---					
20 56 30	0205-010	00 55 08	34.0	157.4	-1.2		-13.3	16	854	20 56 30	
20 57 40	---	00 56 19	34.1	157.8	-1.2		-13.1	70	863	20 56 31	
20 57 40	MRK1018	00 56 19	34.7	158.3	-1.2		-12.9	-14	863	No stop	
21 01 30	---	01 00 09	34.9	159.4	-1.1		-12.2	216	892	20 57 41	
21 01 30	0205-010	01 00 09	34.3	158.9	-1.2		-12.5	-14	892	No stop	
21 02 40	---	01 01 19	34.4	159.2	-1.1		-12.3	56	901	21 01 31	
21 02 40	MRK1018	01 01 19	35.0	159.8	-1.1		-12.0	-14	901	No stop	
21 06 30	---	01 05 10	35.2	160.9	-1.0		-11.3	216	931	21 02 41	
21 07 00	0205-010	01 05 40	34.6	160.5	-1.1		-11.5	16	931	21 07 00	
21 08 10	---	01 06 50	34.6	160.9	-1.0		-11.3	70	940	21 07 01	
21 08 10	MRK1018	01 06 50	35.2	161.4	-1.0		-11.0	-14	940	No stop	
21 12 00	---	01 10 41	35.4	162.6	-0.9		-10.4	216	969	21 08 11	
21 12 00	0205-010	01 10 41	34.8	162.0	-1.0		-10.7	-14	969	No stop	
21 13 10	---	01 11 51	34.9	162.4	-1.0		-10.5	56	978	21 12 01	
21 13 10	MRK1018	01 11 51	35.5	162.9	-0.9		-10.2	-14	978	No stop	
21 17 00	---	01 15 42	35.6	164.1	-0.9		-9.5	216	1008	21 13 11	
21 17 30	0205-010	01 16 12	35.1	163.7	-0.9		-9.7	16	1008	21 17 30	
21 18 40	---	01 17 22	35.1	164.0	-0.9		-9.5	70	1017	21 17 31	
21 18 40	MRK1018	01 17 22	35.7	164.6	-0.8		-9.2	-14	1017	No stop	
21 22 30	---	01 21 13	35.8	165.8	-0.8		-8.5	216	1046	21 18 41	
21 22 30	0205-010	01 21 13	35.3	165.2	-0.8		-8.8	-14	1046	No stop	
21 23 40	---	01 22 23	35.3	165.5	-0.8		-8.6	56	1055	21 22 31	
21 23 40	MRK1018	01 22 23	35.9	166.1	-0.7		-8.3	-14	1055	No stop	
21 27 30	---	01 26 14	36.0	167.3	-0.7		-7.6	216	1085	21 23 41	
21 28 00	0205-010	01 26 44	35.5	166.9	-0.7		-7.8	16	1085	21 28 00	
21 29 10	---	01 27 54	35.5	167.2	-0.7		-7.6	70	1094	21 28 01	
21 29 10	MRK1018	01 27 54	36.1	167.8	-0.7		-7.3	-14	1094	No stop	
21 33 00	---	01 31 44	36.2	169.0	-0.6		-6.6	216	1123	21 29 11	
21 33 00	0205-010	01 31 44	35.6	168.4	-0.6		-6.9	-14	1123	No stop	
21 34 10	---	01 32 55	35.7	168.7	-0.6		-6.7	56	1132	21 33 01	

Schedule for TORUN (Code Tr)

Page 6

Mrk1018 at 1 Gb/s - L band

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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	1 Nov 2018	Day 305			---					
21 34 10	MRK1018	01 32 55	36.2	169.3	-0.6		-6.4	-14	1132	No stop	
21 38 00	---	01 36 45	36.3	170.5	-0.5		-5.7	216	1162	21 34 11	
21 38 30	0205-010	01 37 15	35.8	170.1	-0.5		-5.9	16	1162	21 38 30	
21 39 40	---	01 38 26	35.8	170.4	-0.5		-5.7	70	1171	21 38 31	
21 39 40	MRK1018	01 38 26	36.4	171.0	-0.5		-5.4	-14	1171	No stop	
21 43 30	---	01 42 16	36.4	172.2	-0.4		-4.7	216	1200	21 39 41	
21 43 30	0205-010	01 42 16	35.9	171.6	-0.5		-5.0	-14	1200	No stop	
21 44 40	---	01 43 26	35.9	172.0	-0.4		-4.8	56	1209	21 43 31	
21 44 40	0154-000	01 43 26	37.1	175.4	-0.2		-2.8	-22	1209	No stop	
21 46 40	---	01 45 27	37.1	176.0	-0.2		-2.4	98	1224	21 44 41	
21 46 40	MRK1018	01 45 27	36.5	173.2	-0.4		-4.1	-20	1224	No stop	
21 50 30	---	01 49 17	36.6	174.4	-0.3		-3.4	210	1254	21 46 41	
21 51 00	0205-010	01 49 47	36.0	173.9	-0.3		-3.6	17	1254	21 51 00	
21 52 10	---	01 50 58	36.1	174.3	-0.3		-3.4	70	1263	21 51 01	
21 52 10	MRK1018	01 50 58	36.6	174.9	-0.3		-3.0	-13	1263	No stop	
21 56 00	---	01 54 48	36.6	176.1	-0.2		-2.3	217	1292	21 52 11	
21 56 00	0205-010	01 54 48	36.1	175.5	-0.2		-2.7	-13	1292	No stop	
21 57 10	---	01 55 58	36.1	175.8	-0.2		-2.5	57	1301	21 56 01	
21 57 10	MRK1018	01 55 58	36.6	176.5	-0.2		-2.1	-13	1301	No stop	
22 01 00	---	01 59 49	36.7	177.7	-0.1		-1.4	217	1331	21 57 11	
22 01 30	0205-010	02 00 19	36.2	177.2	-0.2		-1.7	17	1331	22 01 30	
22 02 40	---	02 01 29	36.2	177.5	-0.1		-1.5	70	1340	22 01 31	
22 02 40	MRK1018	02 01 29	36.7	178.2	-0.1		-1.1	-13	1340	No stop	
22 06 30	---	02 05 20	36.7	179.4	-0.0		-0.4	217	1369	22 02 41	
22 06 30	0205-010	02 05 20	36.2	178.7	-0.1		-0.8	-13	1369	No stop	
22 07 40	---	02 06 30	36.2	179.1	-0.0		-0.5	57	1378	22 06 31	
22 07 40	MRK1018	02 06 30	36.7	179.8	-0.0		-0.1	-13	1378	No stop	
22 11 30	---	02 10 21	36.7	181.0	0.1		0.6	217	1408	22 07 41	
22 12 00	0205-010	02 10 51	36.2	180.4	0.0		0.3	17	1408	22 12 00	
22 13 10	---	02 12 01	36.2	180.8	0.0		0.5	70	1417	22 12 01	

Schedule for TORUN (Code Tr)

Page 7

Mrk1018 at 1 Gb/s - L band

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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	1 Nov 2018	Day 305		---					
22 13 10	MRK1018	02 12 01	36.7	181.5	0.1		0.9	-13	1417	No stop
22 17 00	---	02 15 52	36.7	182.7	0.1		1.6	217	1446	22 13 11
22 17 00	0205-010	02 15 52	36.2	182.0	0.1		1.2	-13	1446	No stop
22 18 10	---	02 17 02	36.2	182.4	0.1		1.4	57	1455	22 17 01
22 18 10	MRK1018	02 17 02	36.7	183.1	0.2		1.8	-13	1455	No stop
22 22 00	---	02 20 52	36.6	184.2	0.2		2.6	217	1485	22 18 11
22 22 30	0205-010	02 21 23	36.1	183.7	0.2		2.2	17	1485	22 22 30
22 23 40	---	02 22 33	36.1	184.1	0.2		2.4	70	1494	22 22 31
22 23 40	MRK1018	02 22 33	36.6	184.8	0.3		2.9	-13	1494	No stop
22 27 30	---	02 26 23	36.6	186.0	0.3		3.6	217	1523	22 23 41
22 27 30	0205-010	02 26 23	36.1	185.3	0.3		3.2	-13	1523	No stop
22 28 40	---	02 27 34	36.1	185.6	0.3		3.4	57	1532	22 27 31
22 28 40	MRK1018	02 27 34	36.5	186.3	0.3		3.8	-13	1532	No stop
22 32 30	---	02 31 24	36.5	187.5	0.4		4.5	217	1562	22 28 41
22 33 00	0205-010	02 31 54	36.0	187.0	0.4		4.2	17	1562	22 33 00
22 34 10	---	02 33 04	36.0	187.3	0.4		4.4	70	1571	22 33 01
22 34 10	MRK1018	02 33 04	36.4	188.0	0.4		4.8	-13	1571	No stop
22 38 00	---	02 36 55	36.3	189.2	0.5		5.5	217	1600	22 34 11
22 38 00	0205-010	02 36 55	35.9	188.5	0.5		5.1	-13	1600	No stop
22 39 10	---	02 38 05	35.9	188.9	0.5		5.3	57	1609	22 38 01
22 39 10	MRK1018	02 38 05	36.3	189.6	0.5		5.7	-13	1609	No stop
22 43 00	---	02 41 56	36.2	190.8	0.6		6.4	217	1638	22 39 11
22 43 30	0205-010	02 42 26	35.8	190.2	0.6		6.1	17	1638	22 43 30
22 44 40	---	02 43 36	35.7	190.6	0.6		6.3	70	1647	22 43 31
22 44 40	MRK1018	02 43 36	36.2	191.3	0.6		6.7	-13	1647	No stop
22 48 30	---	02 47 27	36.0	192.5	0.7		7.4	217	1677	22 44 41
22 48 30	0205-010	02 47 27	35.6	191.7	0.6		7.0	-13	1677	No stop
22 49 40	---	02 48 37	35.6	192.1	0.7		7.2	57	1686	22 48 31
22 49 40	MRK1018	02 48 37	36.0	192.8	0.7		7.7	-13	1686	No stop
22 53 30	---	02 52 28	35.9	194.0	0.8		8.4	217	1715	22 49 41

Schedule for TORUN (Code Tr)

Page 8

Mrk1018 at 1 Gb/s - L band

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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	1 Nov 2018	Day 305		---					
22 54 00	0205-010	02 52 58	35.4	193.4	0.7		8.0	17	1715	22 54 00
22 55 10	---	02 54 08	35.4	193.8	0.7		8.2	70	1724	22 54 01
22 55 10	MRK1018	02 54 08	35.8	194.5	0.8		8.7	-13	1724	No stop
22 59 00	---	02 57 59	35.7	195.7	0.8		9.3	217	1754	22 55 11
22 59 00	0205-010	02 57 59	35.2	194.9	0.8		8.9	-13	1754	No stop
23 00 10	---	02 59 09	35.2	195.3	0.8		9.1	57	1763	22 59 01
23 00 10	MRK1018	02 59 09	35.6	196.0	0.9		9.5	-13	1763	No stop
23 04 00	---	03 02 59	35.4	197.2	0.9		10.2	217	1792	23 00 11
23 04 30	0205-010	03 03 29	35.0	196.6	0.9		9.9	17	1792	23 04 30
23 05 40	---	03 04 40	35.0	196.9	0.9		10.1	70	1801	23 04 31
23 05 40	MRK1018	03 04 40	35.4	197.7	1.0		10.5	-13	1801	No stop
23 09 30	---	03 08 30	35.2	198.9	1.0		11.2	217	1831	23 05 41
23 09 30	0205-010	03 08 30	34.8	198.1	1.0		10.7	-13	1831	No stop
23 10 40	---	03 09 40	34.7	198.4	1.0		11.0	57	1840	23 09 31
23 10 40	MRK1018	03 09 40	35.1	199.2	1.0		11.4	-13	1840	No stop
23 14 30	---	03 13 31	34.9	200.4	1.1		12.1	217	1869	23 10 41
23 15 00	0205-010	03 14 01	34.5	199.7	1.1		11.7	17	1869	23 15 00
23 16 10	---	03 15 11	34.5	200.1	1.1		11.9	70	1878	23 15 01
23 16 10	MRK1018	03 15 11	34.9	200.9	1.1		12.3	-13	1878	No stop
23 20 00	---	03 19 02	34.6	202.0	1.2		13.0	217	1908	23 16 11
23 20 00	0205-010	03 19 02	34.3	201.2	1.2		12.6	-13	1908	No stop
23 21 10	---	03 20 12	34.2	201.6	1.2		12.8	57	1917	23 20 01
23 21 10	MRK1018	03 20 12	34.6	202.3	1.2		13.2	-13	1917	No stop
23 25 00	---	03 24 03	34.3	203.5	1.3		13.8	217	1946	23 21 11
23 25 30	0205-010	03 24 33	34.0	202.8	1.3		13.5	17	1946	23 25 30
23 26 40	---	03 25 43	33.9	203.2	1.3		13.7	70	1955	23 25 31
23 26 40	MRK1018	03 25 43	34.2	204.0	1.3		14.1	-13	1955	No stop
23 30 30	---	03 29 34	34.0	205.1	1.4		14.8	217	1985	23 26 41
23 30 30	0205-010	03 29 34	33.7	204.3	1.3		14.3	-13	1985	No stop
23 31 40	---	03 30 44	33.6	204.6	1.4		14.5	57	1994	23 30 31

Schedule for TORUN (Code Tr)

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Mrk1018 at 1 Gb/s - L band

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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 1 Nov 2018 Day 305 ---										
23 31 40	MRK1018	03 30 44	33.9	205.4	1.4		14.9	-13	1994	No stop
23 35 30	---	03 34 35	33.7	206.5	1.5		15.6	217	2023	23 31 41
23 36 00	0205-010	03 35 05	33.3	205.9	1.4		15.2	17	2023	23 36 00
23 37 10	---	03 36 15	33.2	206.2	1.4		15.4	70	2032	23 36 01
23 37 10	MRK1018	03 36 15	33.6	207.0	1.5		15.8	-13	2032	No stop
23 41 00	---	03 40 05	33.3	208.1	1.5		16.5	217	2062	23 37 11
23 41 00	0205-010	03 40 05	33.0	207.3	1.5		16.0	-13	2062	No stop
23 42 10	---	03 41 16	32.9	207.7	1.5		16.2	57	2071	23 41 01
23 42 10	MRK1018	03 41 16	33.2	208.5	1.6		16.6	-13	2071	No stop
23 46 00	---	03 45 06	32.9	209.6	1.6		17.2	217	2100	23 42 11
23 46 30	0205-010	03 45 36	32.6	208.9	1.6		16.9	17	2100	23 46 30
23 47 40	---	03 46 47	32.5	209.3	1.6		17.1	70	2109	23 46 31
23 47 40	MRK1018	03 46 47	32.8	210.0	1.7		17.5	-13	2109	No stop
23 51 30	---	03 50 37	32.5	211.1	1.7		18.1	217	2138	23 47 41
23 51 30	0205-010	03 50 37	32.2	210.3	1.7		17.7	-13	2138	No stop
23 52 40	---	03 51 47	32.1	210.7	1.7		17.8	57	2147	23 51 31
23 52 40	MRK1018	03 51 47	32.4	211.5	1.7		18.3	-13	2147	No stop
23 56 30	---	03 55 38	32.1	212.5	1.8		18.8	217	2177	23 52 41
23 57 00	0205-010	03 56 08	31.8	211.9	1.8		18.5	17	2177	23 57 00
23 58 10	---	03 57 18	31.7	212.2	1.8		18.7	70	2186	23 57 01
--- Start: Thu 1 Nov 2018 Day 305 -- Stop: Fri 2 Nov 2018 Day 306 ---										
23 58 10	MRK1018	03 57 18	32.0	213.0	1.8		19.1	-13	2186	No stop
00 02 00	---	04 01 09	31.7	214.1	1.9		19.7	217	2215	23 58 11
00 02 00	0205-010	04 01 09	31.4	213.3	1.9		19.2	-13	2215	No stop
00 03 10	---	04 02 19	31.3	213.6	1.9		19.4	57	2224	00 02 01
00 03 10	MRK1018	04 02 19	31.6	214.4	1.9		19.8	-13	2224	No stop
00 07 00	---	04 06 10	31.2	215.5	2.0		20.4	217	2254	00 03 11
00 07 30	0205-010	04 06 40	30.9	214.8	2.0		20.0	17	2254	00 07 30
00 08 40	---	04 07 50	30.8	215.1	2.0		20.2	70	2263	00 07 31

Schedule for TORUN (Code Tr)

Page 10

Mrk1018 at 1 Gb/s - L band

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
 Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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 2 Nov 2018 Day 306 ---										
00 08 40	MRK1018	04 07 50	31.1	215.9	2.0		20.6	-13	2263	No stop
00 12 30	---	04 11 41	30.7	217.0	2.1		21.2	217	2292	00 08 41
00 12 30	0205-010	04 11 41	30.5	216.2	2.0		20.8	-13	2292	No stop
00 13 40	---	04 12 51	30.4	216.5	2.1		20.9	57	2301	00 12 31
00 13 40	MRK1018	04 12 51	30.6	217.3	2.1		21.3	-13	2301	No stop
00 17 30	---	04 16 41	30.3	218.3	2.2		21.9	217	2331	00 13 41
00 18 00	0205-010	04 17 12	30.0	217.6	2.1		21.5	17	2331	00 18 00
00 19 10	---	04 18 22	29.9	218.0	2.1		21.7	70	2340	00 18 01
00 19 10	MRK1018	04 18 22	30.1	218.8	2.2		22.1	-13	2340	No stop
00 23 00	---	04 22 12	29.8	219.8	2.2		22.6	217	2369	00 19 11
00 23 00	0205-010	04 22 12	29.5	219.0	2.2		22.2	-13	2369	No stop
00 24 10	---	04 23 23	29.4	219.3	2.2		22.4	57	2378	00 23 01
00 24 10	0154-000	04 23 23	29.2	222.7	2.4		24.0	-22	2378	No stop
00 26 10	---	04 25 23	29.0	223.2	2.5		24.3	98	2394	00 24 11
00 26 10	MRK1018	04 25 23	29.5	220.6	2.3		23.0	-19	2394	No stop
00 30 00	---	04 29 14	29.1	221.6	2.4		23.5	211	2423	00 26 11
00 30 30	0205-010	04 29 44	28.8	221.0	2.3		23.2	17	2423	00 30 30
00 31 40	---	04 30 54	28.7	221.3	2.4		23.3	70	2432	00 30 31
00 31 40	MRK1018	04 30 54	28.9	222.1	2.4		23.7	-13	2432	No stop
00 35 30	---	04 34 44	28.5	223.1	2.5		24.2	217	2462	00 31 41
00 35 30	0205-010	04 34 44	28.3	222.3	2.4		23.8	-13	2462	No stop
00 36 40	---	04 35 55	28.2	222.6	2.4		24.0	57	2471	00 35 31
00 36 40	MRK1018	04 35 55	28.4	223.4	2.5		24.4	-13	2471	No stop
00 40 30	---	04 39 45	28.0	224.4	2.5		24.8	217	2500	00 36 41
00 41 00	0205-010	04 40 15	27.7	223.7	2.5		24.5	17	2500	00 41 00
00 42 10	---	04 41 26	27.6	224.0	2.5		24.7	70	2509	00 41 01
00 42 10	MRK1018	04 41 26	27.8	224.8	2.6		25.0	-13	2509	No stop
00 46 00	---	04 45 16	27.4	225.8	2.6		25.5	217	2538	00 42 11
00 46 00	0205-010	04 45 16	27.2	225.0	2.6		25.1	-13	2538	No stop
00 47 10	---	04 46 26	27.1	225.3	2.6		25.3	57	2547	00 46 01

Schedule for TORUN (Code Tr)

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Mrk1018 at 1 Gb/s - L band

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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 2 Nov 2018 Day 306 ---										
00 47 10	MRK1018	04 46 26	27.3	226.1	2.7		25.6	-13	2547	No stop
00 51 00	---	04 50 17	26.9	227.0	2.7		26.1	217	2577	00 47 11
00 51 30	0205-010	04 50 47	26.6	226.4	2.7		25.8	17	2577	00 51 30
00 52 40	---	04 51 57	26.5	226.7	2.7		25.9	70	2586	00 51 31
00 52 40	MRK1018	04 51 57	26.7	227.5	2.7		26.3	-13	2586	No stop
00 56 30	---	04 55 48	26.3	228.4	2.8		26.7	217	2615	00 52 41
00 56 30	0205-010	04 55 48	26.0	227.6	2.8		26.3	-13	2615	No stop
00 57 40	---	04 56 58	25.9	227.9	2.8		26.5	57	2624	00 56 31
00 57 40	MRK1018	04 56 58	26.1	228.7	2.8		26.8	-13	2624	No stop
01 01 30	---	05 00 49	25.7	229.7	2.9		27.2	217	2654	00 57 41
01 02 00	0205-010	05 01 19	25.4	229.0	2.9		27.0	17	2654	01 02 00
01 03 10	---	05 02 29	25.3	229.3	2.9		27.1	70	2663	01 02 01
01 03 10	MRK1018	05 02 29	25.5	230.1	2.9		27.4	-13	2663	No stop
01 07 00	---	05 06 20	25.1	231.0	3.0		27.8	217	2692	01 03 11
01 07 00	0205-010	05 06 20	24.9	230.2	2.9		27.5	-13	2692	No stop
01 08 10	---	05 07 30	24.7	230.5	3.0		27.6	57	2701	01 07 01
01 08 10	MRK1018	05 07 30	24.9	231.3	3.0		28.0	-13	2701	No stop
01 12 00	---	05 11 20	24.5	232.2	3.1		28.3	217	2731	01 08 11
01 12 30	0205-010	05 11 50	24.2	231.6	3.0		28.1	17	2731	01 12 30
01 13 40	---	05 13 01	24.1	231.9	3.1		28.2	70	2740	01 12 31
01 13 40	MRK1018	05 13 01	24.3	232.6	3.1		28.5	-13	2740	No stop
01 17 30	---	05 16 51	23.8	233.6	3.2		28.9	217	2769	01 13 41
01 17 30	0205-010	05 16 51	23.6	232.8	3.1		28.6	-13	2769	No stop
01 18 40	---	05 18 02	23.5	233.1	3.1		28.7	57	2778	01 17 31
01 18 40	MRK1018	05 18 02	23.7	233.8	3.2		29.0	-13	2778	No stop
01 22 30	---	05 21 52	23.2	234.8	3.2		29.4	217	2808	01 18 41
01 23 00	0205-010	05 22 22	23.0	234.1	3.2		29.1	17	2808	01 23 00
01 24 10	---	05 23 32	22.8	234.4	3.2		29.2	70	2817	01 23 01
01 24 10	MRK1018	05 23 32	23.0	235.2	3.3		29.5	-13	2817	No stop
01 28 00	---	05 27 23	22.5	236.1	3.3		29.9	217	2846	01 24 11

Schedule for TORUN (Code Tr)

Page 12

Mrk1018 at 1 Gb/s - L band

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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 2 Nov 2018 Day 306 ---										
01 28 00	0205-010	05 27 23	22.3	235.3	3.3		29.6	-13	2846	No stop
01 29 10	---	05 28 33	22.2	235.6	3.3		29.7	57	2855	01 28 01
01 29 10	MRK1018	05 28 33	22.4	236.3	3.4		30.0	-13	2855	No stop
01 33 00	---	05 32 24	21.9	237.2	3.4		30.3	217	2885	01 29 11
01 33 30	0205-010	05 32 54	21.7	236.6	3.4		30.1	17	2885	01 33 30
01 34 40	---	05 34 04	21.5	236.8	3.4		30.2	70	2894	01 33 31
01 34 40	MRK1018	05 34 04	21.7	237.6	3.4		30.5	-13	2894	No stop
01 38 30	---	05 37 55	21.2	238.5	3.5		30.8	217	2923	01 34 41
01 38 30	0205-010	05 37 55	21.0	237.7	3.5		30.5	-13	2923	No stop
01 39 40	---	05 39 05	20.9	238.0	3.5		30.6	57	2932	01 38 31
01 39 40	MRK1018	05 39 05	21.0	238.8	3.5		30.9	-13	2932	No stop
01 43 30	---	05 42 56	20.5	239.7	3.6		31.2	217	2962	01 39 41
01 44 00	0205-010	05 43 26	20.3	239.0	3.6		31.0	17	2962	01 44 00
01 45 10	---	05 44 36	20.2	239.3	3.6		31.1	70	2971	01 44 01
01 45 10	MRK1018	05 44 36	20.3	240.0	3.6		31.3	-13	2971	No stop
01 49 00	---	05 48 26	19.8	240.9	3.7		31.7	217	3000	01 45 11
01 49 00	0205-010	05 48 26	19.7	240.1	3.7		31.4	-13	3000	No stop
01 50 10	---	05 49 37	19.5	240.4	3.7		31.5	57	3009	01 49 01
01 50 10	MRK1018	05 49 37	19.7	241.2	3.7		31.7	-13	3009	No stop
01 54 00	---	05 53 27	19.2	242.0	3.8		32.0	217	3038	01 50 11
01 54 30	0205-010	05 53 57	18.9	241.4	3.7		31.8	17	3038	01 54 30
01 55 40	---	05 55 08	18.8	241.6	3.8		31.9	70	3047	01 54 31
01 55 40	MRK1018	05 55 08	18.9	242.4	3.8		32.2	-13	3047	No stop
01 59 30	---	05 58 58	18.4	243.3	3.9		32.4	217	3077	01 55 41
01 59 30	0205-010	05 58 58	18.3	242.5	3.8		32.2	-13	3077	No stop
02 00 40	---	06 00 08	18.1	242.8	3.8		32.3	57	3086	01 59 31
02 00 40	MRK1018	06 00 08	18.3	243.5	3.9		32.5	-13	3086	No stop
02 04 30	---	06 03 59	17.7	244.4	3.9		32.8	217	3115	02 00 41
02 05 00	0205-010	06 04 29	17.5	243.7	3.9		32.6	17	3115	02 05 00
02 06 10	---	06 05 39	17.4	244.0	3.9		32.7	70	3124	02 05 01

Schedule for TORUN (Code Tr)

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Mrk1018 at 1 Gb/s - L band

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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 2 Nov 2018 Day 306 ---										
02 06 10	MRK1018	06 05 39	17.5	244.8	4.0		32.9	-13	3124	No stop
02 10 00	---	06 09 30	17.0	245.6	4.0		33.2	217	3154	02 06 11
02 10 00	0205-010	06 09 30	16.9	244.8	4.0		32.9	-13	3154	No stop
02 11 10	---	06 10 40	16.7	245.1	4.0		33.0	57	3163	02 10 01
02 11 10	MRK1018	06 10 40	16.8	245.9	4.1		33.2	-13	3163	No stop
02 15 00	---	06 14 31	16.3	246.7	4.1		33.5	217	3192	02 11 11
02 15 30	0205-010	06 15 01	16.1	246.0	4.1		33.3	17	3192	02 15 30
02 16 40	---	06 16 11	16.0	246.3	4.1		33.4	70	3201	02 15 31
02 16 40	MRK1018	06 16 11	16.1	247.1	4.1		33.6	-13	3201	No stop
02 20 30	---	06 20 02	15.5	247.9	4.2		33.8	217	3231	02 16 41
02 20 30	0205-010	06 20 02	15.4	247.1	4.2		33.6	-13	3231	No stop
02 21 40	---	06 21 12	15.3	247.4	4.2		33.7	57	3240	02 20 31
02 21 40	MRK1018	06 21 12	15.4	248.1	4.2		33.9	-13	3240	No stop
02 25 30	---	06 25 02	14.8	249.0	4.3		34.1	217	3269	02 21 41
02 26 00	0205-010	06 25 33	14.7	248.3	4.3		33.9	17	3269	02 26 00
02 27 10	---	06 26 43	14.5	248.6	4.3		34.0	70	3278	02 26 01
02 27 10	MRK1018	06 26 43	14.6	249.3	4.3		34.2	-13	3278	No stop
02 31 00	---	06 30 33	14.1	250.1	4.4		34.4	217	3308	02 27 11
02 31 00	0205-010	06 30 33	14.0	249.4	4.4		34.2	-13	3308	No stop
02 32 10	---	06 31 44	13.8	249.6	4.4		34.3	57	3317	02 31 01
02 32 10	MRK1018	06 31 44	13.9	250.4	4.4		34.4	-13	3317	No stop
02 36 00	---	06 35 34	13.4	251.2	4.5		34.6	217	3346	02 32 11
02 36 30	0205-010	06 36 04	13.2	250.6	4.4		34.5	17	3346	02 36 30
02 37 40	---	06 37 14	13.0	250.8	4.5		34.6	70	3355	02 36 31
02 37 40	MRK1018	06 37 14	13.1	251.6	4.5		34.7	-13	3355	No stop
02 41 30	---	06 41 05	12.6	252.4	4.6		34.9	217	3385	02 37 41
02 41 30	0205-010	06 41 05	12.5	251.6	4.5		34.7	-13	3385	No stop
02 42 40	---	06 42 15	12.3	251.9	4.5		34.8	57	3394	02 41 31
02 42 40	MRK1018	06 42 15	12.4	252.6	4.6		35.0	-13	3394	No stop
02 46 30	---	06 46 06	11.8	253.4	4.6		35.1	217	3423	02 42 41

Schedule for TORUN (Code Tr)

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Mrk1018 at 1 Gb/s - L band

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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 2 Nov 2018 Day 306 ---

02 47 00	0205-010	06 46 36	11.7	252.8	4.6	35.0	17	3423	02 47 00
02 48 10	---	06 47 46	11.5	253.0	4.6	35.1	70	3432	02 47 01
02 48 10	MRK1018	06 47 46	11.6	253.8	4.7	35.2	-13	3432	No stop
02 52 00	---	06 51 37	11.1	254.6	4.7	35.4	217	3462	02 48 11
02 52 00	0205-010	06 51 37	11.0	253.8	4.7	35.2	-13	3462	No stop
02 53 10	---	06 52 47	10.8	254.1	4.7	35.3	57	3471	02 52 01
02 53 10	MRK1018	06 52 47	10.9	254.8	4.8	35.4	-13	3471	No stop
02 56 10	---	06 55 48	10.4	255.4	4.8	35.5	167	3494	02 53 11
02 56 40	0205-010	06 56 18	10.3	254.8	4.8	35.4	17	3494	02 56 40
03 00 10	---	06 59 48	9.8	255.5	4.8	35.6	210	3521	02 56 41

SETUP FILE INFORMATION:

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

==== Setup file: sess318.L1024

Setup group: 10	Station: TORUN	Total bit rate: 1024
Format: MARK5B	Bits per sample: 2	Sample rate: 32.000
Number of channels: 16	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	2300.00
	2300.00	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	U
	L	L	U	U	L	L	U	U	U
IF SB =	L	L	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	LCP
	RCP	LCP	RCP	LCP	RCP	LCP	RCP	LCP	LCP
BBC =	1	5	1	5	2	6	2	6	6
	3	7	3	7	4	8	4	8	8
BBC SB=	U	U	L	L	U	U	L	L	L
	U	U	L	L	U	U	L	L	L
IF =	A1	B1	A1	B1	A1	B1	A1	B1	B1
	A1	B1	A1	B1	A1	B1	A1	B1	B1

The following frequency sets based on these setups were used.

Frequency Set: 8 Setup file default. Used with PCAL = off

LO sum=	1610.49	1610.49	1610.49	1610.49	1642.49	1642.49	1642.49	1642.49
	1674.49	1674.49	1674.49	1674.49	1706.49	1706.49	1706.49	1706.49
BBC fr=	689.51	689.51	689.51	689.51	657.51	657.51	657.51	657.51
	625.51	625.51	625.51	625.51	593.51	593.51	593.51	593.51
Bandwd=	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00
	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00

Matching frequency sets: 8

Track assignments are:

track1= 2, 10, 18, 26, 4, 12, 20, 28, 6, 14, 22, 30, 8, 16, 24, 32

barrel=roll_off

POSITIONS OF SOURCES USED IN RECORDING SCANS

Source	Source position (RA/Dec) (B1950)	(Date)	Error (mas)	
* MRK1018	02 03 42.480768	* 02 06 15.990000	02 07 14.144276	0.00
	-00 31 46.69524	*-00 17 29.90000	-00 12 10.32366	0.00
* 0149+218	01 49 31.744135	* 01 52 18.059046	01 53 21.226093	0.01
J0152+2207	21 52 20.74786	* 22 07 07.69973	22 12 40.14481	0.02
J0152+22	/home/guest/rmc/SCHED/sched11.5/catalogs/sources.gsfc GSFC 2016a X/S astro solution, 2491 observations.			
* 0154-000	01 54 36.737815	* 01 57 10.534897	01 58 08.786651	0.09
J0157+0011	-00 03 12.25378	* 00 11 24.48436	00 16 51.72973	0.20
	/home/guest/rmc/SCHED/sched11.5/catalogs/sources.gsfc GSFC 2016a X/S astro solution, 161 observations.			
* 0205-010	02 05 53.149978	* 02 08 26.345914	02 09 24.383337	0.09
J0208-0047	-01 01 56.12008	*-00 47 44.29431	-00 42 26.64579	0.16
	/home/guest/rmc/SCHED/sched11.5/catalogs/sources.gsfc GSFC 2016a X/S astro solution, 142 observations.			

ep111atr

EP111A

PI: *Antonis Polatidis*

Address: ASTRON

Phone during observation: +31-521-595795

Observing mode: evn

Schedule for TORUN (Code Tr)

Page 2

EP111A

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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 2 Nov 2018	Day 306					---				
Next scan frequencies:		1498.45	1498.45	1498.45	1498.45	1498.45	1498.45	1530.45	1530.45	1530.45	
		1562.45	1562.45	1562.45	1562.45	1562.45	1562.45	1594.45	1594.45	1594.45	
Next BBC frequencies:		801.55	801.55	801.55	801.55	801.55	801.55	769.55	769.55	769.55	
		737.55	737.55	737.55	737.55	737.55	737.55	705.55	705.55	705.55	
Next scan bandwidths:		16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	
		16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	

04 00 00	J1222+0413	07 59 48	17.6	107.3	-4.4		-35.1	0	0	04 00 00	
04 03 00	=1219+044	08 02 48	18.0	107.9	-4.3		-35.0	180	23	04 00 01	
04 03 00	IRAS12112	08 02 48	18.1	110.6	-4.2		-34.2	-20	23	No stop	
04 06 30	---	08 06 19	18.6	111.4	-4.1		-34.0	190	50	04 03 01	
04 06 30	J1222+0413	08 06 19	18.5	108.7	-4.3		-34.8	-20	50	No stop	
04 08 00	=1219+044	08 07 49	18.7	109.0	-4.3		-34.7	70	62	04 06 31	
04 08 00	IRAS12112	08 07 49	18.8	111.7	-4.1		-34.0	-20	62	No stop	
04 11 30	---	08 11 20	19.3	112.5	-4.1		-33.7	190	88	04 08 01	
04 12 10	J1222+0413	08 12 00	19.3	109.9	-4.2		-34.5	20	88	04 12 10	
04 13 40	=1219+044	08 13 30	19.5	110.2	-4.2		-34.4	90	100	04 12 11	
04 13 40	IRAS12112	08 13 30	19.6	112.9	-4.0		-33.6	-20	100	No stop	
04 17 10	---	08 17 01	20.1	113.7	-4.0		-33.4	190	127	04 13 41	
04 17 10	J1222+0413	08 17 01	20.0	111.0	-4.1		-34.2	-20	127	No stop	
04 18 40	=1219+044	08 18 31	20.2	111.3	-4.1		-34.1	70	138	04 17 11	
04 18 40	IRAS12112	08 18 31	20.3	114.1	-3.9		-33.3	-20	138	No stop	
04 22 10	---	08 22 02	20.7	114.8	-3.9		-33.1	190	165	04 18 41	
04 22 50	J1222+0413	08 22 42	20.8	112.2	-4.0		-33.9	20	165	04 22 50	
04 24 20	=1219+044	08 24 12	21.0	112.6	-4.0		-33.8	90	177	04 22 51	
04 24 20	IRAS12112	08 24 12	21.0	115.3	-3.8		-32.9	-20	177	No stop	
04 27 50	---	08 27 43	21.5	116.1	-3.8		-32.7	190	204	04 24 21	
04 27 50	J1222+0413	08 27 43	21.5	113.4	-3.9		-33.6	-20	204	No stop	
04 29 20	=1219+044	08 29 13	21.7	113.7	-3.9		-33.5	70	215	04 27 51	
04 29 20	IRAS12112	08 29 13	21.7	116.5	-3.8		-32.6	-20	215	No stop	
04 32 50	---	08 32 43	22.2	117.3	-3.7		-32.3	190	242	04 29 21	

Schedule for TORUN (Code Tr)

Page 3

EP111A

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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 2 Nov 2018	Day 306					---				
04 33 30	J1222+0413	08 33 24	22.3	114.6	-3.8		-33.2	20	242	04 33 30	
04 35 00	=1219+044	08 34 54	22.5	115.0	-3.8		-33.1	90	254	04 33 31	
04 35 00	IRAS12112	08 34 54	22.5	117.8	-3.7		-32.1	-20	254	No stop	
04 38 30	---	08 38 24	22.9	118.6	-3.6		-31.9	190	281	04 35 01	
04 38 30	J1222+0413	08 38 24	23.0	115.8	-3.7		-32.8	-20	281	No stop	
04 40 00	=1219+044	08 39 55	23.2	116.1	-3.7		-32.7	70	292	04 38 31	
04 40 00	IRAS12112	08 39 55	23.1	118.9	-3.6		-31.8	-20	292	No stop	
04 43 30	---	08 43 25	23.6	119.7	-3.5		-31.5	190	319	04 40 01	
04 44 10	J1222+0413	08 44 05	23.7	117.1	-3.7		-32.4	20	319	04 44 10	
04 45 40	=1219+044	08 45 36	23.9	117.4	-3.6		-32.3	90	331	04 44 11	
04 45 40	IRAS12112	08 45 36	23.9	120.2	-3.5		-31.3	-20	331	No stop	
04 50 25	---	08 50 21	24.5	121.3	-3.4		-30.9	265	367	04 45 41	
04 50 25	J1222+0413	08 50 21	24.6	118.5	-3.5		-31.9	-20	367	No stop	
04 51 55	=1219+044	08 51 52	24.8	118.9	-3.5		-31.8	70	379	04 50 26	
04 51 55	IRAS12112	08 51 52	24.7	121.7	-3.4		-30.8	-20	379	No stop	
04 56 40	---	08 56 37	25.3	122.8	-3.3		-30.3	265	415	04 51 56	
04 57 20	J1222+0413	08 57 17	25.5	120.1	-3.4		-31.4	20	415	04 57 20	
04 58 50	=1219+044	08 58 48	25.7	120.5	-3.4		-31.2	90	427	04 57 21	
05 00 15	J1152-0841	09 00 13	18.1	134.6	-2.9		-25.6	42	427	05 00 15	
05 04 15	=1149-084	09 04 14	18.5	135.5	-2.8		-25.2	240	458	05 00 16	
05 05 35	J1222+0413	09 05 34	26.5	122.1	-3.3		-30.7	36	458	05 05 35	
05 07 35	=1219+044	09 07 34	26.8	122.6	-3.3		-30.5	120	473	05 05 36	
05 07 35	IRAS12112	09 07 34	26.6	125.5	-3.1		-29.3	-20	473	No stop	
05 11 05	---	09 11 05	27.1	126.3	-3.1		-29.0	190	500	05 07 36	
05 11 05	J1222+0413	09 11 05	27.2	123.4	-3.2		-30.2	-20	500	No stop	
05 12 35	=1219+044	09 12 35	27.4	123.8	-3.2		-30.0	70	512	05 11 06	
05 12 35	IRAS12112	09 12 35	27.3	126.7	-3.0		-28.8	-20	512	No stop	
05 16 05	---	09 16 06	27.7	127.6	-3.0		-28.5	190	538	05 12 36	
05 16 45	J1222+0413	09 16 46	27.9	124.8	-3.1		-29.6	20	538	05 16 45	
05 18 15	=1219+044	09 18 16	28.1	125.2	-3.1		-29.5	90	550	05 16 46	
05 18 15	IRAS12112	09 18 16	27.9	128.1	-2.9		-28.2	-20	550	No stop	
05 21 45	---	09 21 46	28.3	129.0	-2.9		-27.9	190	577	05 18 16	

Schedule for TORUN (Code Tr)

Page 4

EP111A

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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 2 Nov 2018 Day 306 ---										
05 21 45	J1222+0413	09 21 46	28.6	126.1	-3.0		-29.1	-20	577	No stop
05 23 15	=1219+044	09 23 17	28.7	126.4	-3.0		-29.0	70	588	05 21 46
05 23 15	IRAS12112	09 23 17	28.5	129.4	-2.9		-27.7	-20	588	No stop
05 26 45	---	09 26 47	28.9	130.2	-2.8		-27.3	190	615	05 23 16
05 27 25	J1222+0413	09 27 27	29.2	127.5	-2.9		-28.5	20	615	05 27 25
05 28 55	=1219+044	09 28 58	29.4	127.9	-2.9		-28.4	90	627	05 27 26
05 28 55	IRAS12112	09 28 58	29.2	130.8	-2.8		-27.1	-20	627	No stop
05 32 25	---	09 32 28	29.6	131.7	-2.7		-26.7	190	654	05 28 56
05 32 25	J1222+0413	09 32 28	29.8	128.7	-2.8		-28.0	-20	654	No stop
05 33 55	=1219+044	09 33 58	30.0	129.1	-2.8		-27.8	70	665	05 32 26
05 33 55	IRAS12112	09 33 58	29.7	132.1	-2.7		-26.5	-21	665	No stop
05 37 25	---	09 37 29	30.1	133.0	-2.6		-26.1	189	692	05 33 56
05 38 05	J1222+0413	09 38 09	30.5	130.2	-2.8		-27.4	20	692	05 38 05
05 39 35	=1219+044	09 39 39	30.7	130.6	-2.7		-27.2	90	704	05 38 06
05 39 35	IRAS12112	09 39 39	30.4	133.5	-2.6		-25.8	-21	704	No stop
05 43 05	---	09 43 10	30.7	134.5	-2.5		-25.4	189	731	05 39 36
05 43 05	J1222+0413	09 43 10	31.1	131.5	-2.7		-26.8	-20	731	No stop
05 44 35	=1219+044	09 44 40	31.2	131.9	-2.6		-26.6	70	742	05 43 06
05 44 35	IRAS12112	09 44 40	30.9	134.9	-2.5		-25.2	-21	742	No stop
05 48 05	---	09 48 11	31.3	135.8	-2.4		-24.8	189	769	05 44 36
05 48 45	J1222+0413	09 48 51	31.7	133.0	-2.6		-26.1	20	769	05 48 45
05 50 15	=1219+044	09 50 21	31.9	133.4	-2.5		-26.0	90	781	05 48 46
05 50 15	IRAS12112	09 50 21	31.5	136.4	-2.4		-24.5	-21	781	No stop
05 53 45	---	09 53 52	31.9	137.3	-2.3		-24.1	189	808	05 50 16
05 53 45	J1222+0413	09 53 52	32.2	134.3	-2.5		-25.5	-20	808	No stop
05 55 15	=1219+044	09 55 22	32.4	134.7	-2.5		-25.3	70	819	05 53 46
05 55 15	IRAS12112	09 55 22	32.0	137.7	-2.3		-23.9	-21	819	No stop
05 58 45	---	09 58 53	32.4	138.7	-2.3		-23.4	189	846	05 55 16
05 59 25	J1222+0413	09 59 33	32.8	135.8	-2.4		-24.8	20	846	05 59 25
06 00 55	=1219+044	10 01 03	33.0	136.2	-2.4		-24.6	90	858	05 59 26

Schedule for TORUN (Code Tr)
EP111A

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UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are L0 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 2 Nov 2018 Day 306 ---										
06 02 20	J1152-0841	10 02 28	23.8	149.9	-1.8		-17.8	36	858	06 02 20
06 06 20	=1149-084	10 06 29	24.1	150.9	-1.8		-17.2	240	888	06 02 21
06 07 40	J1222+0413	10 07 49	33.7	138.1	-2.3		-23.7	30	888	06 07 40
06 09 40	=1219+044	10 09 49	33.9	138.6	-2.2		-23.4	120	904	06 07 41
06 09 40	IRAS12112	10 09 49	33.4	141.7	-2.1		-21.9	-21	904	No stop
06 13 10	---	10 13 20	33.7	142.6	-2.0		-21.4	189	931	06 09 41
06 13 10	J1222+0413	10 13 20	34.2	139.6	-2.2		-23.0	-20	931	No stop
06 14 40	=1219+044	10 14 50	34.4	140.0	-2.1		-22.8	70	942	06 13 11
06 14 40	IRAS12112	10 14 50	33.9	143.1	-2.0		-21.2	-21	942	No stop
06 18 10	---	10 18 21	34.2	144.1	-1.9		-20.7	189	969	06 14 41
06 18 50	J1222+0413	10 19 01	34.8	141.2	-2.1		-22.2	20	969	06 18 50
06 20 20	=1219+044	10 20 31	34.9	141.6	-2.0		-22.0	90	981	06 18 51
06 20 20	IRAS12112	10 20 31	34.4	144.7	-1.9		-20.3	-21	981	No stop
06 23 50	---	10 24 02	34.7	145.7	-1.8		-19.8	189	1008	06 20 21
06 23 50	J1222+0413	10 24 02	35.2	142.6	-2.0		-21.4	-20	1008	No stop
06 25 20	=1219+044	10 25 32	35.4	143.0	-2.0		-21.2	70	1019	06 23 51
06 25 20	IRAS12112	10 25 32	34.8	146.1	-1.8		-19.6	-21	1019	No stop
06 28 50	---	10 29 02	35.1	147.1	-1.8		-19.1	189	1046	06 25 21
06 29 30	J1222+0413	10 29 43	35.8	144.2	-1.9		-20.6	20	1046	06 29 30
06 31 00	=1219+044	10 31 13	35.9	144.7	-1.9		-20.4	90	1058	06 29 31
06 31 00	IRAS12112	10 31 13	35.3	147.7	-1.7		-18.7	-21	1058	No stop
06 34 30	---	10 34 43	35.6	148.8	-1.7		-18.2	189	1085	06 31 01
06 34 30	J1222+0413	10 34 43	36.2	145.7	-1.8		-19.8	-20	1085	No stop
06 36 00	=1219+044	10 36 14	36.3	146.1	-1.8		-19.6	70	1096	06 34 31
06 36 00	IRAS12112	10 36 14	35.7	149.2	-1.6		-17.9	-21	1096	No stop
06 39 30	---	10 39 44	35.9	150.2	-1.6		-17.4	189	1123	06 36 01
06 40 10	J1222+0413	10 40 24	36.7	147.3	-1.7		-19.0	20	1123	06 40 10
06 41 40	=1219+044	10 41 55	36.8	147.8	-1.7		-18.7	90	1135	06 40 11
06 41 40	IRAS12112	10 41 55	36.1	150.9	-1.5		-17.0	-21	1135	No stop
06 45 10	---	10 45 25	36.3	151.9	-1.5		-16.4	189	1162	06 41 41

Schedule for TORUN (Code Tr)

Page 6

EP111A

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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 2 Nov 2018 Day 306 ---										
06 45 10	J1222+0413	10 45 25	37.1	148.8	-1.6		-18.2	-21	1162	No stop
06 46 40	=1219+044	10 46 55	37.2	149.3	-1.6		-17.9	69	1173	06 45 11
06 46 40	IRAS12112	10 46 55	36.5	152.4	-1.5		-16.2	-21	1173	No stop
06 50 10	---	10 50 26	36.7	153.4	-1.4		-15.6	189	1200	06 46 41
06 50 50	J1222+0413	10 51 06	37.5	150.5	-1.5		-17.2	19	1200	06 50 50
06 52 20	=1219+044	10 52 36	37.6	151.0	-1.5		-17.0	90	1212	06 50 51
06 52 20	IRAS12112	10 52 36	36.8	154.1	-1.4		-15.3	-21	1212	No stop
06 55 50	---	10 56 07	37.1	155.1	-1.3		-14.7	189	1238	06 52 21
06 55 50	J1222+0413	10 56 07	37.8	152.0	-1.5		-16.4	-21	1238	No stop
06 57 20	=1219+044	10 57 37	38.0	152.5	-1.4		-16.1	69	1250	06 55 51
06 57 20	IRAS12112	10 57 37	37.2	155.6	-1.3		-14.4	-21	1250	No stop
07 00 50	---	11 01 08	37.4	156.6	-1.2		-13.8	189	1277	06 57 21
07 01 30	J1222+0413	11 01 48	38.2	153.8	-1.4		-15.4	19	1277	07 01 30
07 03 00	=1219+044	11 03 18	38.3	154.2	-1.3		-15.2	90	1288	07 01 31
07 03 00	IRAS12112	11 03 18	37.5	157.3	-1.2		-13.4	-21	1288	No stop
07 06 30	---	11 06 49	37.7	158.4	-1.1		-12.8	189	1315	07 03 01
07 06 30	J1222+0413	11 06 49	38.6	155.3	-1.3		-14.6	-20	1315	No stop
07 08 00	=1219+044	11 08 19	38.7	155.8	-1.2		-14.3	70	1327	07 06 31
07 08 00	IRAS12112	11 08 19	37.8	158.8	-1.1		-12.5	-21	1327	No stop
07 11 30	---	11 11 49	38.0	159.9	-1.0		-11.9	189	1354	07 08 01
07 12 10	J1222+0413	11 12 30	38.9	157.1	-1.2		-13.6	20	1354	07 12 10
07 13 40	=1219+044	11 14 00	39.0	157.5	-1.2		-13.3	90	1365	07 12 11
07 13 40	IRAS12112	11 14 00	38.1	160.6	-1.0		-11.5	-21	1365	No stop
07 17 10	---	11 17 30	38.2	161.7	-1.0		-10.9	189	1392	07 13 41
07 17 10	J1222+0413	11 17 30	39.2	158.6	-1.1		-12.7	-20	1392	No stop
07 18 40	=1219+044	11 19 01	39.3	159.1	-1.1		-12.4	70	1404	07 17 11
07 18 40	IRAS12112	11 19 01	38.3	162.2	-0.9		-10.6	-21	1404	No stop
07 22 10	---	11 22 31	38.5	163.3	-0.9		-10.0	189	1431	07 18 41
07 22 50	J1222+0413	11 23 11	39.5	160.4	-1.0		-11.6	20	1431	07 22 50
07 24 20	=1219+044	11 24 42	39.6	160.9	-1.0		-11.4	90	1442	07 22 51

Schedule for TORUN (Code Tr)

Page 7

EP111A

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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 2 Nov 2018 Day 306 ---										
07 24 20	IRAS12112	11 24 42	38.6	163.9	-0.8		-9.6	-21	1442	No stop
07 27 50	---	11 28 12	38.7	165.1	-0.8		-8.9	189	1469	07 24 21
07 27 50	J1222+0413	11 28 12	39.7	162.0	-0.9		-10.7	-20	1469	No stop
07 29 20	=1219+044	11 29 42	39.8	162.5	-0.9		-10.4	70	1481	07 27 51
07 29 20	IRAS12112	11 29 42	38.8	165.5	-0.7		-8.6	-21	1481	No stop
07 32 50	---	11 33 13	38.9	166.6	-0.7		-8.0	189	1508	07 29 21
07 33 30	J1222+0413	11 33 53	40.0	163.8	-0.8		-9.7	20	1508	07 33 30
07 35 00	=1219+044	11 35 23	40.0	164.3	-0.8		-9.4	90	1519	07 33 31
07 35 00	IRAS12112	11 35 23	39.0	167.3	-0.7		-7.6	-21	1519	No stop
07 38 30	---	11 38 54	39.1	168.5	-0.6		-6.9	189	1546	07 35 01
07 38 30	J1222+0413	11 38 54	40.2	165.4	-0.7		-8.7	-20	1546	No stop
07 40 00	=1219+044	11 40 24	40.2	165.9	-0.7		-8.4	70	1558	07 38 31
07 40 00	IRAS12112	11 40 24	39.1	168.9	-0.6		-6.6	-21	1558	No stop
07 43 30	---	11 43 55	39.2	170.1	-0.5		-6.0	189	1585	07 40 01
07 44 10	J1222+0413	11 44 35	40.4	167.3	-0.6		-7.6	20	1585	07 44 10
07 45 40	=1219+044	11 46 05	40.4	167.8	-0.6		-7.3	90	1596	07 44 11
07 45 40	IRAS12112	11 46 05	39.3	170.8	-0.5		-5.5	-21	1596	No stop
07 49 10	---	11 49 36	39.3	171.9	-0.4		-4.9	189	1623	07 45 41
07 49 10	J1222+0413	11 49 36	40.5	168.9	-0.6		-6.6	-20	1623	No stop
07 50 40	=1219+044	11 51 06	40.6	169.4	-0.5		-6.4	70	1635	07 49 11
07 50 40	IRAS12112	11 51 06	39.4	172.4	-0.4		-4.6	-21	1635	No stop
07 54 10	---	11 54 36	39.4	173.5	-0.3		-3.9	189	1662	07 50 41
07 54 50	J1222+0413	11 55 17	40.7	170.8	-0.5		-5.5	20	1662	07 54 50
07 56 20	=1219+044	11 56 47	40.7	171.3	-0.4		-5.2	90	1673	07 54 51
07 58 00	J1152-0841	11 58 27	28.1	181.5	0.1		0.9	39	1673	07 58 00
08 01 50	=1149-084	12 02 18	28.1	182.5	0.2		1.5	230	1703	07 58 01
08 03 35	J1222+0413	12 04 03	40.9	173.6	-0.3		-3.8	43	1703	08 03 35
08 05 35	=1219+044	12 06 03	40.9	174.3	-0.3		-3.4	120	1718	08 03 36
08 05 35	IRAS12112	12 06 03	39.6	177.2	-0.1		-1.7	-20	1718	No stop
08 09 05	---	12 09 34	39.6	178.3	-0.1		-1.0	190	1745	08 05 36

Schedule for TORUN (Code Tr)

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EP111A

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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 2 Nov 2018 Day 306 ---										
08 09 05	J1222+0413	12 09 34	40.9	175.5	-0.2		-2.7	-20	1745	No stop
08 10 35	=1219+044	12 11 04	41.0	176.0	-0.2		-2.4	70	1756	08 09 06
08 10 35	IRAS12112	12 11 04	39.6	178.8	-0.1		-0.7	-20	1756	No stop
08 14 05	---	12 14 35	39.6	180.0	-0.0		-0.0	190	1783	08 10 36
08 14 45	J1222+0413	12 15 15	41.0	177.3	-0.1		-1.6	20	1783	08 14 45
08 16 15	=1219+044	12 16 45	41.0	177.8	-0.1		-1.3	90	1795	08 14 46
08 16 15	IRAS12112	12 16 45	39.6	180.7	0.0		0.4	-20	1795	No stop
08 19 45	---	12 20 16	39.6	181.8	0.1		1.1	190	1822	08 16 16
08 19 45	J1222+0413	12 20 16	41.0	179.0	-0.1		-0.6	-20	1822	No stop
08 21 15	=1219+044	12 21 46	41.0	179.5	-0.0		-0.3	70	1833	08 19 46
08 21 15	IRAS12112	12 21 46	39.6	182.3	0.1		1.4	-20	1833	No stop
08 24 45	---	12 25 16	39.6	183.4	0.2		2.1	190	1860	08 21 16
08 25 25	J1222+0413	12 25 57	41.0	180.9	0.0		0.5	20	1860	08 25 25
08 26 55	=1219+044	12 27 27	41.0	181.4	0.1		0.8	90	1872	08 25 26
08 26 55	IRAS12112	12 27 27	39.5	184.1	0.2		2.5	-20	1872	No stop
08 30 25	---	12 30 57	39.5	185.3	0.3		3.2	190	1899	08 26 56
08 30 25	J1222+0413	12 30 57	41.0	182.5	0.1		1.5	-20	1899	No stop
08 31 55	=1219+044	12 32 28	41.0	183.0	0.2		1.8	70	1910	08 30 26
08 31 55	IRAS12112	12 32 28	39.5	185.8	0.3		3.5	-20	1910	No stop
08 35 25	---	12 35 58	39.4	186.9	0.4		4.1	190	1937	08 31 56
08 36 05	J1222+0413	12 36 38	40.9	184.4	0.2		2.6	21	1937	08 36 05
08 37 35	=1219+044	12 38 09	40.9	184.9	0.2		2.9	90	1949	08 36 06
08 37 35	IRAS12112	12 38 09	39.4	187.6	0.4		4.6	-20	1949	No stop
08 41 05	---	12 41 39	39.3	188.7	0.4		5.2	190	1976	08 37 36
08 41 05	J1222+0413	12 41 39	40.9	186.1	0.3		3.6	-19	1976	No stop
08 42 35	=1219+044	12 43 09	40.9	186.6	0.3		3.9	71	1987	08 41 06
08 42 35	IRAS12112	12 43 09	39.3	189.2	0.5		5.5	-20	1987	No stop
08 46 05	---	12 46 40	39.2	190.3	0.5		6.2	190	2014	08 42 36
08 46 45	J1222+0413	12 47 20	40.8	187.9	0.4		4.8	20	2014	08 46 45
08 48 15	=1219+044	12 48 50	40.7	188.4	0.4		5.1	90	2026	08 46 46

Schedule for TORUN (Code Tr)

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EP111A

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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 2 Nov 2018 Day 306 ---										
08 48 15	IRAS12112	12 48 50	39.1	191.0	0.6		6.6	-20	2026	No stop
08 51 45	---	12 52 21	39.0	192.1	0.6		7.3	190	2053	08 48 16
08 51 45	J1222+0413	12 52 21	40.7	189.6	0.5		5.7	-20	2053	No stop
08 53 15	=1219+044	12 53 51	40.6	190.1	0.5		6.0	70	2064	08 51 46
08 53 15	IRAS12112	12 53 51	39.0	192.6	0.7		7.5	-20	2064	No stop
08 56 45	---	12 57 22	38.8	193.7	0.7		8.2	190	2091	08 53 16
08 57 25	J1222+0413	12 58 02	40.5	191.4	0.6		6.8	20	2091	08 57 25
08 58 55	=1219+044	12 59 32	40.5	191.9	0.6		7.1	90	2103	08 57 26
08 58 55	IRAS12112	12 59 32	38.8	194.4	0.7		8.6	-20	2103	No stop
09 02 25	---	13 03 03	38.6	195.5	0.8		9.3	190	2129	08 58 56
09 02 25	J1222+0413	13 03 03	40.3	193.0	0.7		7.8	-20	2129	No stop
09 03 55	=1219+044	13 04 33	40.3	193.5	0.7		8.1	70	2141	09 02 26
09 03 55	IRAS12112	13 04 33	38.6	196.0	0.8		9.5	-20	2141	No stop
09 07 25	---	13 08 04	38.4	197.1	0.9		10.2	190	2168	09 03 56
09 08 05	J1222+0413	13 08 44	40.1	194.9	0.8		8.9	20	2168	09 08 05
09 09 35	=1219+044	13 10 14	40.1	195.4	0.8		9.2	90	2179	09 08 06
09 09 35	IRAS12112	13 10 14	38.3	197.8	0.9		10.6	-20	2179	No stop
09 13 05	---	13 13 44	38.2	198.9	1.0		11.2	190	2206	09 09 36
09 13 05	J1222+0413	13 13 44	39.9	196.5	0.8		9.8	-20	2206	No stop
09 14 35	=1219+044	13 15 15	39.9	197.0	0.9		10.1	70	2218	09 13 06
09 14 35	IRAS12112	13 15 15	38.1	199.4	1.0		11.5	-20	2218	No stop
09 18 05	---	13 18 45	37.9	200.4	1.1		12.1	190	2245	09 14 36
09 18 45	J1222+0413	13 19 25	39.7	198.3	0.9		10.9	20	2245	09 18 45
09 20 15	=1219+044	13 20 56	39.6	198.8	1.0		11.2	90	2256	09 18 46
09 20 15	IRAS12112	13 20 56	37.8	201.1	1.1		12.5	-21	2256	No stop
09 23 45	---	13 24 26	37.6	202.2	1.2		13.1	189	2283	09 20 16
09 23 45	J1222+0413	13 24 26	39.4	199.9	1.0		11.8	-21	2283	No stop
09 25 15	=1219+044	13 25 56	39.4	200.4	1.0		12.1	69	2295	09 23 46
09 25 15	IRAS12112	13 25 56	37.5	202.7	1.2		13.4	-21	2295	No stop
09 28 45	---	13 29 27	37.3	203.7	1.2		14.0	189	2322	09 25 16

Schedule for TORUN (Code Tr)

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EP111A

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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 2 Nov 2018 Day 306 ---										
09 29 25	J1222+0413	13 30 07	39.1	201.7	1.1		12.9	19	2322	09 29 25
09 30 55	=1219+044	13 31 37	39.0	202.2	1.1		13.1	90	2333	09 29 26
09 30 55	IRAS12112	13 31 37	37.2	204.4	1.3		14.4	-21	2333	No stop
09 34 25	---	13 35 08	36.9	205.4	1.3		15.0	189	2360	09 30 56
09 34 25	J1222+0413	13 35 08	38.8	203.3	1.2		13.8	-21	2360	No stop
09 35 55	=1219+044	13 36 38	38.8	203.7	1.2		14.0	69	2372	09 34 26
09 35 55	IRAS12112	13 36 38	36.8	205.9	1.4		15.2	-21	2372	No stop
09 39 25	---	13 40 09	36.6	207.0	1.4		15.8	189	2399	09 35 56
09 40 05	J1222+0413	13 40 49	38.5	205.0	1.3		14.7	19	2399	09 40 05
09 41 35	=1219+044	13 42 19	38.4	205.5	1.3		15.0	90	2410	09 40 06
09 41 35	IRAS12112	13 42 19	36.5	207.6	1.5		16.2	-21	2410	No stop
09 45 05	---	13 45 50	36.2	208.6	1.5		16.8	189	2437	09 41 36
09 45 05	J1222+0413	13 45 50	38.2	206.6	1.4		15.6	-21	2437	No stop
09 46 35	=1219+044	13 47 20	38.1	207.0	1.4		15.9	69	2449	09 45 06
09 46 35	IRAS12112	13 47 20	36.1	209.1	1.5		17.0	-21	2449	No stop
09 50 05	---	13 50 51	35.8	210.1	1.6		17.6	189	2476	09 46 36
09 50 45	J1222+0413	13 51 31	37.8	208.3	1.5		16.6	19	2476	09 50 45
09 52 15	=1219+044	13 53 01	37.7	208.7	1.5		16.8	90	2487	09 50 46
09 52 15	IRAS12112	13 53 01	35.7	210.8	1.6		17.9	-21	2487	No stop
09 55 45	---	13 56 31	35.4	211.8	1.7		18.5	189	2514	09 52 16
09 55 45	J1222+0413	13 56 31	37.4	209.8	1.6		17.4	-21	2514	No stop
09 57 15	=1219+044	13 58 02	37.3	210.2	1.6		17.6	69	2526	09 55 46
09 57 15	IRAS12112	13 58 02	35.3	212.2	1.7		18.7	-21	2526	No stop
10 00 45	---	14 01 32	35.0	213.2	1.8		19.2	189	2553	09 57 16
10 01 25	J1222+0413	14 02 12	37.0	211.5	1.6		18.3	19	2553	10 01 25
10 02 55	=1219+044	14 03 43	36.9	211.9	1.7		18.6	90	2564	10 01 26
10 02 55	IRAS12112	14 03 43	34.8	213.9	1.8		19.6	-22	2564	No stop
10 06 25	---	14 07 13	34.5	214.9	1.9		20.1	188	2591	10 02 56
10 06 25	J1222+0413	14 07 13	36.6	213.0	1.7		19.1	-21	2591	No stop
10 07 55	=1219+044	14 08 43	36.5	213.4	1.8		19.4	69	2603	10 06 26

Schedule for TORUN (Code Tr)

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EP111A

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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	2 Nov 2018	Day 306		---					
10 07 55	IRAS12112	14 08 43	34.4	215.3	1.9		20.3	-22	2603	No stop
10 11 25	---	14 12 14	34.1	216.3	2.0		20.8	188	2629	10 07 56
10 12 05	J1222+0413	14 12 54	36.1	214.6	1.8		20.0	18	2629	10 12 05
10 13 35	=1219+044	14 14 24	36.0	215.1	1.9		20.2	90	2641	10 12 06
10 13 35	IRAS12112	14 14 24	33.9	216.9	2.0		21.2	-22	2641	No stop
10 17 05	---	14 17 55	33.6	217.9	2.1		21.7	188	2668	10 13 36
10 17 05	J1222+0413	14 17 55	35.7	216.1	1.9		20.8	-22	2668	No stop
10 18 35	=1219+044	14 19 25	35.5	216.5	1.9		21.0	68	2679	10 17 06
10 18 35	IRAS12112	14 19 25	33.4	218.3	2.1		21.9	-22	2679	No stop
10 22 05	---	14 22 56	33.1	219.3	2.1		22.4	188	2706	10 18 36
10 22 45	J1222+0413	14 23 36	35.2	217.7	2.0		21.6	18	2706	10 22 45
10 24 15	=1219+044	14 25 06	35.0	218.1	2.0		21.8	90	2718	10 22 46
10 26 25	J1152-0841	14 27 16	20.0	220.9	2.6		23.5	60	2718	10 26 25
10 29 55	=1149-084	14 30 47	19.7	221.8	2.6		23.9	210	2745	10 26 26
10 32 05	J1222+0413	14 32 57	34.3	220.3	2.2		22.9	61	2745	10 32 05
10 34 05	=1219+044	14 34 58	34.1	220.9	2.2		23.2	120	2760	10 32 06
10 34 05	IRAS12112	14 34 58	31.9	222.5	2.3		24.0	-22	2760	No stop
10 37 35	---	14 38 28	31.6	223.5	2.4		24.4	188	2787	10 34 06
10 37 35	J1222+0413	14 38 28	33.7	221.8	2.3		23.7	-22	2787	No stop
10 39 05	=1219+044	14 39 59	33.6	222.2	2.3		23.9	68	2799	10 37 36
10 39 05	IRAS12112	14 39 59	31.4	223.9	2.4		24.6	-22	2799	No stop
10 42 35	---	14 43 29	31.0	224.8	2.5		25.1	188	2826	10 39 06
10 43 15	J1222+0413	14 44 09	33.1	223.4	2.3		24.4	18	2826	10 43 15
10 44 45	=1219+044	14 45 39	33.0	223.8	2.4		24.6	90	2837	10 43 16
10 44 45	IRAS12112	14 45 39	30.8	225.4	2.5		25.3	-22	2837	No stop
10 48 15	---	14 49 10	30.4	226.3	2.6		25.8	188	2864	10 44 46
10 48 15	J1222+0413	14 49 10	32.6	224.7	2.4		25.1	-22	2864	No stop
10 49 45	=1219+044	14 50 40	32.5	225.1	2.5		25.3	68	2876	10 48 16
10 49 45	IRAS12112	14 50 40	30.3	226.7	2.6		25.9	-22	2876	No stop
10 53 15	---	14 54 11	29.9	227.6	2.7		26.4	188	2903	10 49 46

Schedule for TORUN (Code Tr)

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EP111A

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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 2 Nov 2018 Day 306 ---										
10 53 55	J1222+0413	14 54 51	32.0	226.3	2.5		25.8	18	2903	10 53 55
10 55 25	=1219+044	14 56 21	31.9	226.6	2.6		26.0	90	2914	10 53 56
10 55 25	IRAS12112	14 56 21	29.6	228.2	2.7		26.6	-22	2914	No stop
10 58 55	---	14 59 52	29.2	229.1	2.8		27.0	188	2941	10 55 26
10 58 55	J1222+0413	14 59 52	31.5	227.6	2.6		26.4	-22	2941	No stop
11 00 25	=1219+044	15 01 22	31.3	228.0	2.6		26.6	68	2953	10 58 56
11 00 25	IRAS12112	15 01 22	29.1	229.4	2.8		27.2	-22	2953	No stop
11 03 55	---	15 04 53	28.7	230.3	2.8		27.6	188	2979	11 00 26
11 04 35	J1222+0413	15 05 33	30.8	229.1	2.7		27.0	18	2979	11 04 35
11 06 05	=1219+044	15 07 03	30.7	229.4	2.7		27.2	90	2991	11 04 36
11 06 05	IRAS12112	15 07 03	28.4	230.9	2.9		27.8	-22	2991	No stop
11 09 35	---	15 10 34	28.0	231.8	2.9		28.2	188	3018	11 06 06
11 09 35	J1222+0413	15 10 34	30.3	230.3	2.8		27.6	-22	3018	No stop
11 11 05	=1219+044	15 12 04	30.1	230.7	2.8		27.8	68	3029	11 09 36
11 11 05	IRAS12112	15 12 04	27.8	232.1	3.0		28.3	-22	3029	No stop
11 14 35	---	15 15 34	27.4	233.0	3.0		28.7	188	3056	11 11 06
11 15 15	J1222+0413	15 16 15	29.6	231.8	2.9		28.2	18	3056	11 15 15
11 16 45	=1219+044	15 17 45	29.4	232.2	2.9		28.4	90	3068	11 15 16
11 16 45	IRAS12112	15 17 45	27.1	233.5	3.1		28.9	-23	3068	No stop
11 20 15	---	15 21 15	26.7	234.4	3.1		29.3	187	3095	11 16 46
11 20 15	J1222+0413	15 21 15	29.0	233.0	3.0		28.8	-22	3095	No stop
11 21 45	=1219+044	15 22 46	28.8	233.4	3.0		28.9	68	3106	11 20 16
11 21 45	IRAS12112	15 22 46	26.5	234.8	3.1		29.4	-23	3106	No stop
11 25 15	---	15 26 16	26.1	235.6	3.2		29.7	187	3133	11 21 46
11 25 55	J1222+0413	15 26 56	28.3	234.5	3.1		29.3	18	3133	11 25 55
11 27 25	=1219+044	15 28 27	28.1	234.8	3.1		29.5	90	3145	11 25 56
11 27 25	IRAS12112	15 28 27	25.8	236.1	3.2		29.9	-23	3145	No stop
11 30 55	---	15 31 57	25.4	237.0	3.3		30.3	187	3172	11 27 26
11 30 55	J1222+0413	15 31 57	27.7	235.7	3.1		29.8	-22	3172	No stop
11 32 25	=1219+044	15 33 27	27.5	236.1	3.2		30.0	68	3183	11 30 56

Schedule for TORUN (Code Tr)

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EP111A

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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	2 Nov 2018	Day 306		---					
11 32 25	IRAS12112	15 33 27	25.2	237.3	3.3		30.4	-23	3183	No stop
11 35 55	---	15 36 58	24.8	238.2	3.4		30.7	187	3210	11 32 26
11 36 35	J1222+0413	15 37 38	27.0	237.1	3.2		30.4	18	3210	11 36 35
11 38 05	=1219+044	15 39 08	26.8	237.4	3.3		30.5	90	3222	11 36 36
11 38 05	IRAS12112	15 39 08	24.5	238.7	3.4		30.9	-23	3222	No stop
11 41 35	---	15 42 39	24.0	239.5	3.5		31.2	187	3249	11 38 06
11 41 35	J1222+0413	15 42 39	26.3	238.3	3.3		30.8	-22	3249	No stop
11 43 05	=1219+044	15 44 09	26.2	238.6	3.3		30.9	68	3260	11 41 36
11 43 05	IRAS12112	15 44 09	23.8	239.9	3.5		31.3	-23	3260	No stop
11 46 35	---	15 47 40	23.4	240.7	3.5		31.6	187	3287	11 43 06
11 47 15	J1222+0413	15 48 20	25.6	239.6	3.4		31.3	18	3287	11 47 15
11 48 45	=1219+044	15 49 50	25.4	240.0	3.4		31.4	90	3299	11 47 16
11 48 45	IRAS12112	15 49 50	23.1	241.2	3.6		31.8	-23	3299	No stop
11 52 15	---	15 53 21	22.6	242.0	3.6		32.1	187	3326	11 48 46
11 52 15	J1222+0413	15 53 21	25.0	240.8	3.5		31.7	-22	3326	No stop
11 53 45	=1219+044	15 54 51	24.8	241.2	3.5		31.8	68	3337	11 52 16
11 53 45	IRAS12112	15 54 51	22.4	242.3	3.7		32.2	-23	3337	No stop
11 57 15	---	15 58 21	22.0	243.1	3.7		32.4	187	3364	11 53 46
11 57 55	J1222+0413	15 59 02	24.2	242.1	3.6		32.2	17	3364	11 57 55
11 59 25	=1219+044	16 00 32	24.0	242.5	3.6		32.3	90	3376	11 57 56
11 59 25	IRAS12112	16 00 32	21.7	243.6	3.8		32.6	-23	3376	No stop
12 02 55	---	16 04 02	21.2	244.4	3.8		32.8	187	3403	11 59 26
12 02 55	J1222+0413	16 04 02	23.5	243.3	3.7		32.5	-23	3403	No stop
12 04 25	=1219+044	16 05 33	23.3	243.6	3.7		32.6	67	3414	12 02 56
12 04 25	IRAS12112	16 05 33	21.0	244.7	3.8		32.9	-23	3414	No stop
12 07 55	---	16 09 03	20.5	245.5	3.9		33.2	187	3441	12 04 26
12 08 35	J1222+0413	16 09 43	22.8	244.6	3.8		32.9	17	3441	12 08 35
12 10 05	=1219+044	16 11 14	22.6	244.9	3.8		33.0	90	3453	12 08 36
12 10 05	IRAS12112	16 11 14	20.2	246.0	3.9		33.3	-23	3453	No stop
12 13 35	---	16 14 44	19.7	246.8	4.0		33.5	187	3479	12 10 06

Schedule for TORUN (Code Tr)

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EP111A

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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 2 Nov 2018 Day 306 ---										
12 13 35	J1222+0413	16 14 44	22.1	245.7	3.9		33.3	-23	3479	No stop
12 15 05	=1219+044	16 16 14	21.9	246.0	3.9		33.4	67	3491	12 13 36
12 15 05	IRAS12112	16 16 14	19.5	247.1	4.0		33.6	-23	3491	No stop
12 18 35	---	16 19 45	19.0	247.9	4.1		33.8	187	3518	12 15 06
12 19 15	J1222+0413	16 20 25	21.3	247.0	4.0		33.6	17	3518	12 19 15
12 20 45	=1219+044	16 21 55	21.1	247.3	4.0		33.7	90	3529	12 19 16
12 23 00	J1152-0841	16 24 11	5.9	246.8	4.5		34.0	65	3529	12 23 00
12 26 25	=1149-084	16 27 36	5.4	247.6	4.6		34.2	205	3556	12 23 01
12 28 40	J1222+0413	16 29 52	20.0	249.1	4.1		34.2	66	3556	12 28 40
12 30 40	=1219+044	16 31 52	19.7	249.5	4.1		34.3	120	3571	12 28 41
12 30 40	IRAS12112	16 31 52	17.3	250.5	4.3		34.5	-23	3571	No stop
12 34 10	---	16 35 22	16.8	251.3	4.3		34.7	187	3598	12 30 41
12 34 10	J1222+0413	16 35 22	19.2	250.3	4.2		34.5	-23	3598	No stop
12 35 40	=1219+044	16 36 53	19.0	250.6	4.2		34.6	67	3610	12 34 11
12 35 40	IRAS12112	16 36 53	16.6	251.6	4.4		34.8	-23	3610	No stop
12 39 10	---	16 40 23	16.1	252.4	4.4		35.0	187	3637	12 35 41
12 39 50	J1222+0413	16 41 03	18.4	251.5	4.3		34.8	17	3637	12 39 50
12 41 20	=1219+044	16 42 34	18.2	251.8	4.3		34.9	90	3648	12 39 51
12 41 20	IRAS12112	16 42 34	15.8	252.8	4.5		35.1	-23	3648	No stop
12 44 50	---	16 46 04	15.3	253.6	4.5		35.2	187	3675	12 41 21
12 44 50	J1222+0413	16 46 04	17.7	252.6	4.4		35.1	-23	3675	No stop
12 46 20	=1219+044	16 47 34	17.5	252.9	4.4		35.1	67	3687	12 44 51
12 46 20	IRAS12112	16 47 34	15.1	253.9	4.5		35.3	-23	3687	No stop
12 49 50	---	16 51 05	14.6	254.6	4.6		35.4	187	3713	12 46 21
12 50 30	J1222+0413	16 51 45	16.9	253.8	4.5		35.3	17	3713	12 50 30
12 52 00	=1219+044	16 53 15	16.7	254.1	4.5		35.4	90	3725	12 50 31
12 52 00	IRAS12112	16 53 15	14.3	255.1	4.6		35.5	-23	3725	No stop
12 55 30	---	16 56 46	13.8	255.8	4.7		35.6	187	3752	12 52 01
12 55 30	J1222+0413	16 56 46	16.2	254.9	4.6		35.5	-23	3752	No stop
12 57 00	=1219+044	16 58 16	15.9	255.2	4.6		35.6	67	3763	12 55 31

Schedule for TORUN (Code Tr)

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EP111A

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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 2 Nov 2018 Day 306 ---										
12 57 00	IRAS12112	16 58 16	13.5	256.1	4.7		35.7	-23	3763	No stop
13 00 30	---	17 01 47	13.0	256.9	4.8		35.8	187	3790	12 57 01
13 01 10	J1222+0413	17 02 27	15.3	256.1	4.7		35.8	17	3790	13 01 10
13 02 40	=1219+044	17 03 57	15.1	256.4	4.7		35.8	90	3802	13 01 11
13 02 40	IRAS12112	17 03 57	12.7	257.3	4.8		35.9	-23	3802	No stop
13 06 10	---	17 07 28	12.2	258.0	4.9		36.0	187	3829	13 02 41
13 06 10	J1222+0413	17 07 28	14.6	257.1	4.7		35.9	-23	3829	No stop
13 07 40	=1219+044	17 08 58	14.4	257.4	4.8		36.0	67	3840	13 06 11
13 07 40	IRAS12112	17 08 58	12.0	258.3	4.9		36.1	-23	3840	No stop
13 11 10	---	17 12 29	11.5	259.1	5.0		36.2	187	3867	13 07 41
13 11 50	J1222+0413	17 13 09	13.8	258.3	4.8		36.1	17	3867	13 11 50
13 13 20	=1219+044	17 14 39	13.5	258.6	4.9		36.2	90	3879	13 11 51
13 13 20	IRAS12112	17 14 39	11.1	259.5	5.0		36.2	-23	3879	No stop
13 16 50	---	17 18 09	10.6	260.2	5.1		36.3	187	3906	13 13 21
13 16 50	J1222+0413	17 18 09	13.0	259.3	4.9		36.3	-23	3906	No stop
13 18 20	=1219+044	17 19 40	12.8	259.6	4.9		36.3	67	3917	13 16 51
13 18 20	IRAS12112	17 19 40	10.4	260.5	5.1		36.4	-23	3917	No stop
13 21 50	---	17 23 10	9.9	261.3	5.1		36.5	187	3944	13 18 21
13 22 30	J1222+0413	17 23 50	12.2	260.5	5.0		36.4	17	3944	13 22 30
13 24 00	=1219+044	17 25 21	12.0	260.8	5.0		36.5	90	3956	13 22 31
13 24 00	IRAS12112	17 25 21	9.6	261.7	5.2		36.5	-23	3956	No stop
13 27 30	---	17 28 51	9.0	262.4	5.2		36.6	187	3983	13 24 01
13 27 30	J1222+0413	17 28 51	11.4	261.5	5.1		36.5	-23	3983	No stop
13 29 00	=1219+044	17 30 21	11.2	261.8	5.1		36.6	67	3994	13 27 31
13 29 00	IRAS12112	17 30 21	8.8	262.7	5.3		36.6	-23	3994	No stop
13 32 30	---	17 33 52	8.3	263.4	5.3		36.7	187	4021	13 29 01
13 33 10	J1222+0413	17 34 32	10.6	262.7	5.2		36.7	17	4021	13 33 10
13 34 40	=1219+044	17 36 02	10.4	263.0	5.2		36.7	90	4033	13 33 11
13 34 40	IRAS12112	17 36 02	8.0	263.9	5.4		36.7	-23	4033	No stop
13 38 10	---	17 39 33	7.4	264.6	5.4		36.8	187	4060	13 34 41

Schedule for TORUN (Code Tr)

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EP111A

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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 2 Nov 2018 Day 306 ---										
13 38 10	J1222+0413	17 39 33	9.9	263.7	5.3		36.8	-23	4060	No stop
13 39 40	=1219+044	17 41 03	9.6	264.0	5.3		36.8	67	4071	13 38 11
13 39 40	IRAS12112	17 41 03	7.2	264.9	5.4		36.8	-23	4071	No stop
13 43 10	---	17 44 34	6.7	265.6	5.5		36.8	187	4098	13 39 41
13 43 50	J1222+0413	17 45 14	9.0	264.8	5.4		36.8	17	4098	13 43 50
13 45 20	=1219+044	17 46 44	8.8	265.1	5.4		36.9	90	4110	13 43 51
13 45 20	IRAS12112	17 46 44	6.4	266.0	5.5		36.8	-23	4110	No stop
13 48 50	---	17 50 15	5.8	266.7	5.6		36.9	187	4137	13 45 21
13 48 50	J1222+0413	17 50 15	8.3	265.9	5.4		36.9	-23	4137	No stop
13 50 20	=1219+044	17 51 45	8.0	266.2	5.5		36.9	67	4148	13 48 51
13 50 20	IRAS12112	17 51 45	5.6	267.0	5.6		36.9	-23	4148	No stop
13 53 50	---	17 55 16	5.1	267.7	5.7		36.9	187	4175	13 50 21
13 54 30	J1222+0413	17 55 56	7.4	267.0	5.5		37.0	17	4175	13 54 30
13 56 00	=1219+044	17 57 26	7.2	267.3	5.6		37.0	90	4187	13 54 31
13 56 00	IRAS12112	17 57 26	4.8	268.2	5.7		36.9	-23	4187	No stop
13 59 30	---	18 00 56	4.2	268.9	5.8		36.9	187	4213	13 56 01
13 59 30	J1222+0413	18 00 56	6.6	268.0	5.6		37.0	-23	4213	No stop
14 01 00	=1219+044	18 02 27	6.4	268.3	5.7		37.0	67	4225	13 59 31
14 01 00	IRAS12112	18 02 27	4.0	269.2	5.8		36.9	-23	4225	No stop
14 04 30	---	18 05 57	3.5	269.9	5.9		37.0	187	4252	14 01 01
14 05 10	J1222+0413	18 06 37	5.8	269.1	5.7		37.0	17	4252	14 05 10
14 06 40	=1219+044	18 08 08	5.6	269.4	5.7		37.0	90	4263	14 05 11
14 06 40	IRAS12112	18 08 08	3.2	270.3	5.9		37.0	-23	4263	No stop
14 10 10	---	18 11 38	2.6	271.0	5.9	D	36.9	0	4290	14 06 41
14 10 10	J1222+0413	18 11 38	5.0	270.1	5.8		37.0	-21	4290	No stop
14 11 40	=1219+044	18 13 08	4.8	270.4	5.8		37.0	69	4302	14 10 11
14 15 50	J1222+0413	18 17 19	4.2	271.3	5.9		37.0	243	4302	14 15 50
14 17 20	=1219+044	18 18 49	4.0	271.6	5.9		37.0	90	4313	14 15 51
14 20 50	J1222+0413	18 22 20	3.4	272.3	6.0		37.0	203	4313	14 20 50
14 22 20	=1219+044	18 23 50	3.2	272.6	6.0		37.0	90	4325	14 20 51

SETUP FILE INFORMATION:

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

=====
Setup file: sess318.L1024_111a

Setup group: 6	Station: TORUN	Total bit rate: 1024
Format: MARK5B	Bits per sample: 2	Sample rate: 32.000
Number of channels: 16	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	2300.00
	2300.00	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	
	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	5	1	5	2	6	2	6	
	3	7	3	7	4	8	4	8	
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: 3 Setup file default. Used with PCAL = off

LO sum=	1498.45	1498.45	1498.45	1498.45	1530.45	1530.45	1530.45	1530.45
	1562.45	1562.45	1562.45	1562.45	1594.45	1594.45	1594.45	1594.45
BBC fr=	801.55	801.55	801.55	801.55	769.55	769.55	769.55	769.55
	737.55	737.55	737.55	737.55	705.55	705.55	705.55	705.55
Bandwd=	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00
	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00

Matching frequency sets: 3

Track assignments are:

track1= 2, 10, 18, 26, 4, 12, 20, 28, 6, 14, 22, 30, 8, 16, 24, 32

barrel=roll_off

POSITIONS OF SOURCES USED IN RECORDING SCANS

Source	Source position (RA/Dec)		(Date)	Error
	(B1950)	(J2000)		(mas)
* IRAS12112	12 11 12.425491	* 12 13 46.000000	12 14 41.818731	0.00
	03 05 18.59694	* 02 48 38.00000	02 42 33.63729	0.00
1149-084	11 49 43.843433	* 11 52 17.209513	11 53 13.115557	0.01
* J1152-0841	-08 24 21.93418	*-08 41 03.31392	-08 47 05.99824	0.01
	/home/guest/rmc/SCHED/sched11.5/catalogs/sources.gsfc			
	GSFC 2016a X/S astro solution, 10413 observations.			
1219+044	12 19 49.255033	* 12 22 22.549622	12 23 18.223408	0.00
* J1222+0413	04 29 53.60834	* 04 13 15.77613	04 07 12.43652	0.01
J1222+04	/home/guest/rmc/SCHED/sched11.5/catalogs/sources.gsfc			
	GSFC 2016a X/S astro solution, 34886 observations.			

ep106etr

MRK1018 AT 1 GB/S - L BAND

PI: *Miguel A. Perez-Torres*

Address: IAA - CSIC

Observing mode: 1024 Mbps

Schedule for TORUN (Code Tr)

Page 2

Mrk1018 at 1 Gb/s - L band

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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 2 Nov 2018 Day 306 ---											
Next scan frequencies:		1610.49	1610.49	1610.49	1610.49	1610.49	1610.49	1642.49	1642.49	1642.49	1642.49
		1674.49	1674.49	1674.49	1674.49	1674.49	1674.49	1706.49	1706.49	1706.49	1706.49
Next BBC frequencies:		689.51	689.51	689.51	689.51	689.51	689.51	657.51	657.51	657.51	657.51
		625.51	625.51	625.51	625.51	625.51	625.51	593.51	593.51	593.51	593.51
Next scan bandwidths:		16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00
		16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00
19 00 00	0149+218	23 02 16	45.3	116.7	-2.9		-35.4	0	0	19 00 00	
19 03 30	---	23 05 46	45.7	117.7	-2.8		-35.1	210	27	19 00 01	
19 03 30	0205-010	23 05 46	24.1	128.1	-3.1		-28.2	-94	27	No stop	
19 07 10	---	23 09 27	24.5	129.0	-3.0		-27.8	126	55	19 03 31	
19 07 10	MRK1018	23 09 27	25.2	129.3	-3.0		-27.7	-15	55	No stop	
19 11 00	---	23 13 18	25.6	130.2	-2.9		-27.3	215	85	19 07 11	
19 11 30	0205-010	23 13 48	25.0	130.1	-2.9		-27.4	15	85	19 11 30	
19 12 40	---	23 14 58	25.1	130.4	-2.9		-27.2	70	94	19 11 31	
19 12 40	MRK1018	23 14 58	25.8	130.6	-2.9		-27.1	-15	94	No stop	
19 16 30	---	23 18 49	26.3	131.6	-2.8		-26.7	215	123	19 12 41	
19 16 30	0205-010	23 18 49	25.6	131.3	-2.8		-26.8	-14	123	No stop	
19 17 40	---	23 19 59	25.7	131.6	-2.8		-26.7	56	132	19 16 31	
19 17 40	MRK1018	23 19 59	26.4	131.9	-2.8		-26.6	-15	132	No stop	
19 21 30	---	23 23 49	26.8	132.9	-2.7		-26.1	215	162	19 17 41	
19 22 00	0205-010	23 24 19	26.2	132.7	-2.8		-26.2	16	162	19 22 00	
19 23 10	---	23 25 30	26.3	133.0	-2.7		-26.1	70	171	19 22 01	
19 23 10	MRK1018	23 25 30	27.0	133.3	-2.7		-25.9	-15	171	No stop	
19 27 00	---	23 29 20	27.4	134.3	-2.6		-25.5	215	200	19 23 11	
19 27 00	0205-010	23 29 20	26.7	133.9	-2.7		-25.6	-14	200	No stop	
19 28 10	---	23 30 30	26.9	134.2	-2.6		-25.5	56	209	19 27 01	
19 28 10	MRK1018	23 30 30	27.6	134.6	-2.6		-25.3	-15	209	No stop	
19 32 00	---	23 34 21	28.0	135.5	-2.5		-24.9	215	238	19 28 11	
19 32 30	0205-010	23 34 51	27.3	135.3	-2.6		-25.0	16	238	19 32 30	
19 33 40	---	23 36 01	27.5	135.6	-2.6		-24.8	70	247	19 32 31	

Schedule for TORUN (Code Tr)

Page 3

Mrk1018 at 1 Gb/s - L band

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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 2 Nov 2018	Day 306					---				
19 33 40	MRK1018	23 36 01	28.1	136.0	-2.5		-24.7	-15	247	No stop	
19 37 30	---	23 39 52	28.5	137.0	-2.5		-24.2	215	277	19 33 41	
19 37 30	0205-010	23 39 52	27.9	136.6	-2.5		-24.4	-14	277	No stop	
19 38 40	---	23 41 02	28.0	136.9	-2.5		-24.2	56	286	19 37 31	
19 38 40	MRK1018	23 41 02	28.7	137.3	-2.4		-24.0	-15	286	No stop	
19 42 30	---	23 44 53	29.0	138.3	-2.4		-23.6	215	315	19 38 41	
19 43 00	0205-010	23 45 23	28.4	138.1	-2.4		-23.7	16	315	19 43 00	
19 44 10	---	23 46 33	28.5	138.4	-2.4		-23.5	70	324	19 43 01	
19 44 10	MRK1018	23 46 33	29.2	138.7	-2.3		-23.3	-15	324	No stop	
19 48 00	---	23 50 24	29.6	139.7	-2.3		-22.8	215	354	19 44 11	
19 48 00	0205-010	23 50 24	28.9	139.4	-2.3		-23.0	-14	354	No stop	
19 49 10	---	23 51 34	29.0	139.7	-2.3		-22.9	56	363	19 48 01	
19 49 10	MRK1018	23 51 34	29.7	140.0	-2.3		-22.7	-15	363	No stop	
19 53 00	---	23 55 25	30.1	141.1	-2.2		-22.2	215	392	19 49 11	
19 53 30	0205-010	23 55 55	29.4	140.8	-2.2		-22.3	16	392	19 53 30	
19 54 40	---	23 57 05	29.6	141.1	-2.2		-22.1	70	401	19 53 31	
19 54 40	MRK1018	23 57 05	30.2	141.5	-2.2		-21.9	-15	401	No stop	
19 58 30	---	00 00 55	30.6	142.5	-2.1		-21.4	215	431	19 54 41	
19 58 30	0205-010	00 00 55	29.9	142.2	-2.1		-21.6	-14	431	No stop	
19 59 40	---	00 02 06	30.0	142.5	-2.1		-21.5	56	440	19 58 31	
19 59 40	MRK1018	00 02 06	30.7	142.9	-2.1		-21.3	-15	440	No stop	
20 03 30	---	00 05 56	31.0	143.9	-2.0		-20.7	215	469	19 59 41	
20 04 00	0205-010	00 06 26	30.4	143.7	-2.0		-20.8	16	469	20 04 00	
20 05 10	---	00 07 37	30.5	144.0	-2.0		-20.7	70	478	20 04 01	
20 05 10	MRK1018	00 07 37	31.2	144.4	-2.0		-20.5	-14	478	No stop	
20 09 00	---	00 11 27	31.5	145.4	-1.9		-19.9	216	508	20 05 11	
20 09 00	0205-010	00 11 27	30.8	145.0	-2.0		-20.1	-14	508	No stop	
20 10 10	---	00 12 37	30.9	145.3	-1.9		-20.0	56	517	20 09 01	
20 10 10	MRK1018	00 12 37	31.6	145.7	-1.9		-19.8	-14	517	No stop	
20 14 00	---	00 16 28	31.9	146.8	-1.8		-19.2	216	546	20 10 11	
20 14 30	0205-010	00 16 58	31.3	146.5	-1.9		-19.3	16	546	20 14 30	
20 15 40	---	00 18 08	31.4	146.9	-1.9		-19.2	70	555	20 14 31	

Schedule for TORUN (Code Tr)

Page 4

Mrk1018 at 1 Gb/s - L band

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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 2 Nov 2018 Day 306 ---										
20 15 40	MRK1018	00 18 08	32.1	147.3	-1.8		-18.9	-14	555	No stop
20 19 30	---	00 21 59	32.4	148.3	-1.8		-18.4	216	585	20 15 41
20 19 30	0205-010	00 21 59	31.7	147.9	-1.8		-18.6	-14	585	No stop
20 20 40	---	00 23 09	31.8	148.2	-1.8		-18.4	56	594	20 19 31
20 20 40	MRK1018	00 23 09	32.5	148.7	-1.7		-18.2	-14	594	No stop
20 24 30	---	00 27 00	32.8	149.8	-1.7		-17.6	216	623	20 20 41
20 25 00	0205-010	00 27 30	32.2	149.5	-1.7		-17.8	16	623	20 25 00
20 26 10	---	00 28 40	32.2	149.8	-1.7		-17.6	70	632	20 25 01
20 26 10	MRK1018	00 28 40	32.9	150.2	-1.6		-17.3	-14	632	No stop
20 30 00	---	00 32 31	33.2	151.3	-1.6		-16.7	216	662	20 26 11
20 30 00	0205-010	00 32 31	32.5	150.9	-1.6		-17.0	-14	662	No stop
20 31 10	---	00 33 41	32.6	151.2	-1.6		-16.8	56	671	20 30 01
20 31 10	MRK1018	00 33 41	33.3	151.7	-1.6		-16.6	-14	671	No stop
20 35 00	---	00 37 31	33.5	152.8	-1.5		-15.9	216	700	20 31 11
20 35 30	0205-010	00 38 02	32.9	152.5	-1.5		-16.1	16	700	20 35 30
20 36 40	---	00 39 12	33.0	152.8	-1.5		-15.9	70	709	20 35 31
20 36 40	MRK1018	00 39 12	33.6	153.2	-1.5		-15.7	-14	709	No stop
20 40 30	---	00 43 02	33.9	154.4	-1.4		-15.1	216	738	20 36 41
20 40 30	0205-010	00 43 02	33.3	153.9	-1.4		-15.3	-14	738	No stop
20 41 40	---	00 44 13	33.3	154.2	-1.4		-15.1	56	747	20 40 31
20 41 40	MRK1018	00 44 13	34.0	154.7	-1.4		-14.9	-14	747	No stop
20 45 30	---	00 48 03	34.2	155.8	-1.3		-14.2	216	777	20 41 41
20 46 00	0205-010	00 48 33	33.6	155.5	-1.3		-14.4	16	777	20 46 00
20 47 10	---	00 49 43	33.7	155.8	-1.3		-14.2	70	786	20 46 01
20 47 10	MRK1018	00 49 43	34.3	156.3	-1.3		-14.0	-14	786	No stop
20 51 00	---	00 53 34	34.5	157.4	-1.2		-13.3	216	815	20 47 11
20 51 00	0205-010	00 53 34	33.9	157.0	-1.3		-13.6	-14	815	No stop
20 52 10	---	00 54 44	34.0	157.3	-1.2		-13.4	56	824	20 51 01
20 52 10	MRK1018	00 54 44	34.6	157.8	-1.2		-13.1	-14	824	No stop
20 56 00	---	00 58 35	34.8	158.9	-1.1		-12.5	216	854	20 52 11

Schedule for TORUN (Code Tr)

Page 5

Mrk1018 at 1 Gb/s - L band

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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	2 Nov 2018	Day 306			---					
20 56 30	0205-010	00 59 05	34.2	158.6	-1.2		-12.7	16	854	20 56 30	
20 57 40	---	01 00 15	34.3	158.9	-1.2		-12.5	70	863	20 56 31	
20 57 40	MRK1018	01 00 15	34.9	159.4	-1.1		-12.2	-14	863	No stop	
21 01 30	---	01 04 06	35.1	160.6	-1.1		-11.5	216	892	20 57 41	
21 01 30	0205-010	01 04 06	34.5	160.1	-1.1		-11.8	-14	892	No stop	
21 02 40	---	01 05 16	34.6	160.4	-1.1		-11.6	56	901	21 01 31	
21 02 40	MRK1018	01 05 16	35.2	160.9	-1.0		-11.3	-14	901	No stop	
21 06 30	---	01 09 07	35.3	162.1	-1.0		-10.6	216	931	21 02 41	
21 07 00	0205-010	01 09 37	34.8	161.7	-1.0		-10.9	16	931	21 07 00	
21 08 10	---	01 10 47	34.8	162.1	-1.0		-10.7	70	940	21 07 01	
21 08 10	MRK1018	01 10 47	35.4	162.6	-0.9		-10.4	-14	940	No stop	
21 12 00	---	01 14 38	35.6	163.8	-0.9		-9.7	216	969	21 08 11	
21 12 00	0205-010	01 14 38	35.0	163.2	-0.9		-10.0	-14	969	No stop	
21 13 10	---	01 15 48	35.0	163.6	-0.9		-9.8	56	978	21 12 01	
21 13 10	MRK1018	01 15 48	35.6	164.1	-0.9		-9.5	-14	978	No stop	
21 17 00	---	01 19 38	35.8	165.3	-0.8		-8.8	216	1008	21 13 11	
21 17 30	0205-010	01 20 08	35.2	164.9	-0.8		-9.0	16	1008	21 17 30	
21 18 40	---	01 21 19	35.3	165.2	-0.8		-8.8	70	1017	21 17 31	
21 18 40	MRK1018	01 21 19	35.8	165.8	-0.8		-8.5	-14	1017	No stop	
21 22 30	---	01 25 09	36.0	167.0	-0.7		-7.8	216	1046	21 18 41	
21 22 30	0205-010	01 25 09	35.4	166.4	-0.7		-8.1	-14	1046	No stop	
21 23 40	---	01 26 19	35.4	166.7	-0.7		-7.9	56	1055	21 22 31	
21 23 40	MRK1018	01 26 19	36.0	167.3	-0.7		-7.6	-14	1055	No stop	
21 27 30	---	01 30 10	36.1	168.5	-0.6		-6.9	216	1085	21 23 41	
21 28 00	0205-010	01 30 40	35.6	168.1	-0.6		-7.1	16	1085	21 28 00	
21 29 10	---	01 31 50	35.6	168.4	-0.6		-6.9	70	1094	21 28 01	
21 29 10	MRK1018	01 31 50	36.2	169.0	-0.6		-6.6	-14	1094	No stop	
21 33 00	---	01 35 41	36.3	170.2	-0.5		-5.9	216	1123	21 29 11	
21 33 00	0205-010	01 35 41	35.7	169.6	-0.6		-6.2	-14	1123	No stop	
21 34 10	---	01 36 51	35.8	170.0	-0.5		-6.0	56	1132	21 33 01	

Schedule for TORUN (Code Tr)

Page 6

Mrk1018 at 1 Gb/s - L band

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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	2 Nov 2018	Day 306		---					
21 34 10	MRK1018	01 36 51	36.3	170.6	-0.5		-5.7	-14	1132	No stop
21 38 00	---	01 40 42	36.4	171.7	-0.4		-4.9	216	1162	21 34 11
21 38 30	0205-010	01 41 12	35.9	171.3	-0.5		-5.2	16	1162	21 38 30
21 39 40	---	01 42 22	35.9	171.6	-0.5		-5.0	70	1171	21 38 31
21 39 40	MRK1018	01 42 22	36.4	172.3	-0.4		-4.6	-14	1171	No stop
21 43 30	---	01 46 13	36.5	173.5	-0.4		-3.9	216	1200	21 39 41
21 43 30	0205-010	01 46 13	36.0	172.8	-0.4		-4.3	-13	1200	No stop
21 44 40	---	01 47 23	36.0	173.2	-0.4		-4.1	57	1209	21 43 31
21 44 40	0154-000	01 47 23	37.1	176.6	-0.2		-2.0	-22	1209	No stop
21 46 40	---	01 49 23	37.2	177.3	-0.1		-1.6	98	1224	21 44 41
21 46 40	MRK1018	01 49 23	36.6	174.4	-0.3		-3.3	-20	1224	No stop
21 50 30	---	01 53 14	36.6	175.6	-0.2		-2.6	210	1254	21 46 41
21 51 00	0205-010	01 53 44	36.1	175.1	-0.3		-2.9	17	1254	21 51 00
21 52 10	---	01 54 54	36.1	175.5	-0.2		-2.7	70	1263	21 51 01
21 52 10	MRK1018	01 54 54	36.6	176.2	-0.2		-2.3	-13	1263	No stop
21 56 00	---	01 58 45	36.7	177.4	-0.1		-1.6	217	1292	21 52 11
21 56 00	0205-010	01 58 45	36.2	176.7	-0.2		-2.0	-13	1292	No stop
21 57 10	---	01 59 55	36.2	177.1	-0.2		-1.8	57	1301	21 56 01
21 57 10	MRK1018	01 59 55	36.7	177.7	-0.1		-1.4	-13	1301	No stop
22 01 00	---	02 03 46	36.7	178.9	-0.1		-0.7	217	1331	21 57 11
22 01 30	0205-010	02 04 16	36.2	178.4	-0.1		-1.0	17	1331	22 01 30
22 02 40	---	02 05 26	36.2	178.8	-0.1		-0.7	70	1340	22 01 31
22 02 40	MRK1018	02 05 26	36.7	179.4	-0.0		-0.3	-13	1340	No stop
22 06 30	---	02 09 16	36.7	180.6	0.0		0.4	217	1369	22 02 41
22 06 30	0205-010	02 09 16	36.2	180.0	-0.0		-0.0	-13	1369	No stop
22 07 40	---	02 10 27	36.2	180.3	0.0		0.2	57	1378	22 06 31
22 07 40	MRK1018	02 10 27	36.7	181.0	0.1		0.6	-13	1378	No stop
22 11 30	---	02 14 17	36.7	182.2	0.1		1.3	217	1408	22 07 41
22 12 00	0205-010	02 14 47	36.2	181.7	0.1		1.0	17	1408	22 12 00
22 13 10	---	02 15 58	36.2	182.0	0.1		1.2	70	1417	22 12 01

Schedule for TORUN (Code Tr)

Page 7

Mrk1018 at 1 Gb/s - L band

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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	2 Nov 2018	Day 306		---					
22 13 10	MRK1018	02 15 58	36.7	182.7	0.1		1.6	-13	1417	No stop
22 17 00	---	02 19 48	36.6	183.9	0.2		2.4	217	1446	22 13 11
22 17 00	0205-010	02 19 48	36.2	183.2	0.2		1.9	-13	1446	No stop
22 18 10	---	02 20 58	36.1	183.6	0.2		2.1	57	1455	22 17 01
22 18 10	MRK1018	02 20 58	36.6	184.3	0.2		2.6	-13	1455	No stop
22 22 00	---	02 24 49	36.6	185.5	0.3		3.3	217	1485	22 18 11
22 22 30	0205-010	02 25 19	36.1	184.9	0.3		3.0	17	1485	22 22 30
22 23 40	---	02 26 29	36.1	185.3	0.3		3.2	70	1494	22 22 31
22 23 40	MRK1018	02 26 29	36.6	186.0	0.3		3.6	-13	1494	No stop
22 27 30	---	02 30 20	36.5	187.2	0.4		4.3	217	1523	22 23 41
22 27 30	0205-010	02 30 20	36.0	186.5	0.3		3.9	-13	1523	No stop
22 28 40	---	02 31 30	36.0	186.8	0.4		4.1	57	1532	22 27 31
22 28 40	MRK1018	02 31 30	36.5	187.6	0.4		4.5	-13	1532	No stop
22 32 30	---	02 35 21	36.4	188.7	0.5		5.2	217	1562	22 28 41
22 33 00	0205-010	02 35 51	35.9	188.2	0.4		4.9	17	1562	22 33 00
22 34 10	---	02 37 01	35.9	188.5	0.5		5.1	70	1571	22 33 01
22 34 10	MRK1018	02 37 01	36.3	189.3	0.5		5.5	-13	1571	No stop
22 38 00	---	02 40 52	36.2	190.4	0.6		6.2	217	1600	22 34 11
22 38 00	0205-010	02 40 52	35.8	189.7	0.5		5.8	-13	1600	No stop
22 39 10	---	02 42 02	35.8	190.1	0.5		6.0	57	1609	22 38 01
22 39 10	MRK1018	02 42 02	36.2	190.8	0.6		6.5	-13	1609	No stop
22 43 00	---	02 45 52	36.1	192.0	0.6		7.2	217	1638	22 39 11
22 43 30	0205-010	02 46 23	35.6	191.4	0.6		6.8	17	1638	22 43 30
22 44 40	---	02 47 33	35.6	191.8	0.6		7.0	70	1647	22 43 31
22 44 40	MRK1018	02 47 33	36.0	192.5	0.7		7.5	-13	1647	No stop
22 48 30	---	02 51 23	35.9	193.7	0.7		8.2	217	1677	22 44 41
22 48 30	0205-010	02 51 23	35.5	192.9	0.7		7.7	-13	1677	No stop
22 49 40	---	02 52 34	35.4	193.3	0.7		7.9	57	1686	22 48 31
22 49 40	MRK1018	02 52 34	35.9	194.0	0.8		8.4	-13	1686	No stop
22 53 30	---	02 56 24	35.7	195.2	0.8		9.1	217	1715	22 49 41

Schedule for TORUN (Code Tr)

Page 8

Mrk1018 at 1 Gb/s - L band

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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 2 Nov 2018 Day 306 ---										
22 54 00	0205-010	02 56 54	35.3	194.6	0.8		8.7	17	1715	22 54 00
22 55 10	---	02 58 04	35.2	195.0	0.8		8.9	70	1724	22 54 01
22 55 10	MRK1018	02 58 04	35.7	195.7	0.8		9.4	-13	1724	No stop
22 59 00	---	03 01 55	35.5	196.9	0.9		10.0	217	1754	22 55 11
22 59 00	0205-010	03 01 55	35.1	196.1	0.9		9.6	-13	1754	No stop
23 00 10	---	03 03 05	35.0	196.5	0.9		9.8	57	1763	22 59 01
23 00 10	MRK1018	03 03 05	35.4	197.2	0.9		10.2	-13	1763	No stop
23 04 00	---	03 06 56	35.3	198.4	1.0		10.9	217	1792	23 00 11
23 04 30	0205-010	03 07 26	34.8	197.8	1.0		10.6	17	1792	23 04 30
23 05 40	---	03 08 36	34.8	198.1	1.0		10.8	70	1801	23 04 31
23 05 40	MRK1018	03 08 36	35.2	198.9	1.0		11.2	-13	1801	No stop
23 09 30	---	03 12 27	35.0	200.0	1.1		11.9	217	1831	23 05 41
23 09 30	0205-010	03 12 27	34.6	199.3	1.1		11.4	-13	1831	No stop
23 10 40	---	03 13 37	34.6	199.6	1.1		11.6	57	1840	23 09 31
23 10 40	MRK1018	03 13 37	34.9	200.4	1.1		12.1	-13	1840	No stop
23 14 30	---	03 17 28	34.7	201.5	1.2		12.7	217	1869	23 10 41
23 15 00	0205-010	03 17 58	34.3	200.9	1.1		12.4	17	1869	23 15 00
23 16 10	---	03 19 08	34.3	201.3	1.2		12.6	70	1878	23 15 01
23 16 10	MRK1018	03 19 08	34.6	202.0	1.2		13.0	-13	1878	No stop
23 20 00	---	03 22 59	34.4	203.2	1.3		13.7	217	1908	23 16 11
23 20 00	0205-010	03 22 59	34.0	202.4	1.2		13.2	-13	1908	No stop
23 21 10	---	03 24 09	34.0	202.7	1.2		13.4	57	1917	23 20 01
23 21 10	MRK1018	03 24 09	34.3	203.5	1.3		13.9	-13	1917	No stop
23 25 00	---	03 27 59	34.1	204.6	1.3		14.5	217	1946	23 21 11
23 25 30	0205-010	03 28 29	33.7	204.0	1.3		14.1	17	1946	23 25 30
23 26 40	---	03 29 40	33.7	204.3	1.3		14.3	70	1955	23 25 31
23 26 40	MRK1018	03 29 40	34.0	205.1	1.4		14.8	-13	1955	No stop
23 30 30	---	03 33 30	33.8	206.2	1.4		15.4	217	1985	23 26 41
23 30 30	0205-010	03 33 30	33.4	205.5	1.4		15.0	-13	1985	No stop
23 31 40	---	03 34 40	33.3	205.8	1.4		15.1	57	1994	23 30 31

Schedule for TORUN (Code Tr)

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Mrk1018 at 1 Gb/s - L band

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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 2 Nov 2018 Day 306 ---										
23 31 40	MRK1018	03 34 40	33.7	206.6	1.5		15.6	-13	1994	No stop
23 35 30	---	03 38 31	33.4	207.7	1.5		16.2	217	2023	23 31 41
23 36 00	0205-010	03 39 01	33.0	207.0	1.5		15.8	17	2023	23 36 00
23 37 10	---	03 40 11	33.0	207.4	1.5		16.0	70	2032	23 36 01
23 37 10	MRK1018	03 40 11	33.3	208.2	1.5		16.5	-13	2032	No stop
23 41 00	---	03 44 02	33.0	209.3	1.6		17.1	217	2062	23 37 11
23 41 00	0205-010	03 44 02	32.7	208.5	1.6		16.6	-13	2062	No stop
23 42 10	---	03 45 12	32.6	208.8	1.6		16.8	57	2071	23 41 01
23 42 10	MRK1018	03 45 12	32.9	209.6	1.6		17.3	-13	2071	No stop
23 46 00	---	03 49 03	32.6	210.7	1.7		17.8	217	2100	23 42 11
23 46 30	0205-010	03 49 33	32.3	210.0	1.7		17.5	17	2100	23 46 30
23 47 40	---	03 50 43	32.2	210.4	1.7		17.7	70	2109	23 46 31
23 47 40	MRK1018	03 50 43	32.5	211.2	1.7		18.1	-13	2109	No stop
23 51 30	---	03 54 34	32.2	212.2	1.8		18.7	217	2138	23 47 41
23 51 30	0205-010	03 54 34	31.9	211.4	1.8		18.3	-13	2138	No stop
23 52 40	---	03 55 44	31.8	211.8	1.8		18.4	57	2147	23 51 31
23 52 40	MRK1018	03 55 44	32.1	212.6	1.8		18.9	-13	2147	No stop
23 56 30	---	03 59 35	31.8	213.6	1.9		19.4	217	2177	23 52 41
23 57 00	0205-010	04 00 05	31.5	213.0	1.8		19.1	17	2177	23 57 00
23 58 10	---	04 01 15	31.4	213.3	1.9		19.3	70	2186	23 57 01
--- Start: Fri 2 Nov 2018 Day 306 -- Stop: Sat 3 Nov 2018 Day 307 ---										
23 58 10	MRK1018	04 01 15	31.7	214.1	1.9		19.7	-13	2186	No stop
00 02 00	---	04 05 05	31.3	215.2	2.0		20.2	217	2215	23 58 11
00 02 00	0205-010	04 05 05	31.0	214.4	1.9		19.8	-13	2215	No stop
00 03 10	---	04 06 16	30.9	214.7	1.9		20.0	57	2224	00 02 01
00 03 10	MRK1018	04 06 16	31.2	215.5	2.0		20.4	-13	2224	No stop
00 07 00	---	04 10 06	30.9	216.5	2.0		20.9	217	2254	00 03 11
00 07 30	0205-010	04 10 36	30.6	215.9	2.0		20.6	17	2254	00 07 30
00 08 40	---	04 11 47	30.5	216.2	2.0		20.8	70	2263	00 07 31

Schedule for TORUN (Code Tr)

Page 10

Mrk1018 at 1 Gb/s - L band

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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	3 Nov 2018	Day 307		---					
00 08 40	MRK1018	04 11 47	30.7	217.0	2.1		21.2	-13	2263	No stop
00 12 30	---	04 15 37	30.4	218.0	2.1		21.7	217	2292	00 08 41
00 12 30	0205-010	04 15 37	30.1	217.2	2.1		21.3	-13	2292	No stop
00 13 40	---	04 16 47	30.0	217.5	2.1		21.5	57	2301	00 12 31
00 13 40	MRK1018	04 16 47	30.3	218.3	2.2		21.9	-13	2301	No stop
00 17 30	---	04 20 38	29.9	219.4	2.2		22.4	217	2331	00 13 41
00 18 00	0205-010	04 21 08	29.6	218.7	2.2		22.1	17	2331	00 18 00
00 19 10	---	04 22 18	29.5	219.0	2.2		22.2	70	2340	00 18 01
00 19 10	MRK1018	04 22 18	29.8	219.8	2.3		22.6	-13	2340	No stop
00 23 00	---	04 26 09	29.4	220.8	2.3		23.1	217	2369	00 19 11
00 23 00	0205-010	04 26 09	29.1	220.0	2.3		22.7	-13	2369	No stop
00 24 10	---	04 27 19	29.0	220.3	2.3		22.9	57	2378	00 23 01
00 24 10	0154-000	04 27 19	28.8	223.7	2.5		24.5	-22	2378	No stop
00 26 10	---	04 29 19	28.6	224.3	2.5		24.8	98	2394	00 24 11
00 26 10	MRK1018	04 29 19	29.1	221.7	2.4		23.5	-19	2394	No stop
00 30 00	---	04 33 10	28.7	222.7	2.4		24.0	211	2423	00 26 11
00 30 30	0205-010	04 33 40	28.4	222.0	2.4		23.7	17	2423	00 30 30
00 31 40	---	04 34 50	28.3	222.3	2.4		23.8	70	2432	00 30 31
00 31 40	MRK1018	04 34 50	28.5	223.1	2.5		24.2	-13	2432	No stop
00 35 30	---	04 38 41	28.1	224.1	2.5		24.7	217	2462	00 31 41
00 35 30	0205-010	04 38 41	27.9	223.3	2.5		24.3	-13	2462	No stop
00 36 40	---	04 39 51	27.8	223.6	2.5		24.5	57	2471	00 35 31
00 36 40	MRK1018	04 39 51	28.0	224.4	2.5		24.8	-13	2471	No stop
00 40 30	---	04 43 42	27.6	225.4	2.6		25.3	217	2500	00 36 41
00 41 00	0205-010	04 44 12	27.3	224.7	2.6		25.0	17	2500	00 41 00
00 42 10	---	04 45 22	27.2	225.0	2.6		25.1	70	2509	00 41 01
00 42 10	MRK1018	04 45 22	27.4	225.8	2.6		25.5	-13	2509	No stop
00 46 00	---	04 49 13	27.0	226.8	2.7		26.0	217	2538	00 42 11
00 46 00	0205-010	04 49 13	26.8	226.0	2.7		25.6	-13	2538	No stop
00 47 10	---	04 50 23	26.6	226.3	2.7		25.7	57	2547	00 46 01

Schedule for TORUN (Code Tr)

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Mrk1018 at 1 Gb/s - L band

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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 3 Nov 2018 Day 307 ---										
00 47 10	MRK1018	04 50 23	26.9	227.1	2.7		26.1	-13	2547	No stop
00 51 00	---	04 54 14	26.4	228.0	2.8		26.5	217	2577	00 47 11
00 51 30	0205-010	04 54 44	26.2	227.4	2.8		26.2	17	2577	00 51 30
00 52 40	---	04 55 54	26.0	227.7	2.8		26.4	70	2586	00 51 31
00 52 40	MRK1018	04 55 54	26.2	228.5	2.8		26.7	-13	2586	No stop
00 56 30	---	04 59 44	25.8	229.4	2.9		27.1	217	2615	00 52 41
00 56 30	0205-010	04 59 44	25.6	228.6	2.8		26.8	-13	2615	No stop
00 57 40	---	05 00 55	25.5	228.9	2.9		26.9	57	2624	00 56 31
00 57 40	MRK1018	05 00 55	25.7	229.7	2.9		27.3	-13	2624	No stop
01 01 30	---	05 04 45	25.2	230.6	3.0		27.7	217	2654	00 57 41
01 02 00	0205-010	05 05 15	25.0	230.0	2.9		27.4	17	2654	01 02 00
01 03 10	---	05 06 26	24.8	230.3	3.0		27.5	70	2663	01 02 01
01 03 10	MRK1018	05 06 26	25.0	231.1	3.0		27.8	-13	2663	No stop
01 07 00	---	05 10 16	24.6	232.0	3.1		28.2	217	2692	01 03 11
01 07 00	0205-010	05 10 16	24.4	231.2	3.0		27.9	-13	2692	No stop
01 08 10	---	05 11 26	24.3	231.5	3.0		28.0	57	2701	01 07 01
01 08 10	MRK1018	05 11 26	24.5	232.3	3.1		28.4	-13	2701	No stop
01 12 00	---	05 15 17	24.0	233.2	3.1		28.7	217	2731	01 08 11
01 12 30	0205-010	05 15 47	23.7	232.5	3.1		28.5	17	2731	01 12 30
01 13 40	---	05 16 57	23.6	232.8	3.1		28.6	70	2740	01 12 31
01 13 40	MRK1018	05 16 57	23.8	233.6	3.2		28.9	-13	2740	No stop
01 17 30	---	05 20 48	23.3	234.5	3.2		29.3	217	2769	01 13 41
01 17 30	0205-010	05 20 48	23.1	233.7	3.2		29.0	-13	2769	No stop
01 18 40	---	05 21 58	23.0	234.0	3.2		29.1	57	2778	01 17 31
01 18 40	MRK1018	05 21 58	23.2	234.8	3.2		29.4	-13	2778	No stop
01 22 30	---	05 25 49	22.7	235.7	3.3		29.7	217	2808	01 18 41
01 23 00	0205-010	05 26 19	22.5	235.0	3.3		29.5	17	2808	01 23 00
01 24 10	---	05 27 29	22.3	235.3	3.3		29.6	70	2817	01 23 01
01 24 10	MRK1018	05 27 29	22.5	236.1	3.3		29.9	-13	2817	No stop
01 28 00	---	05 31 20	22.0	237.0	3.4		30.2	217	2846	01 24 11

Schedule for TORUN (Code Tr)

Page 12

Mrk1018 at 1 Gb/s - L band

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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	3 Nov 2018	Day 307			---					
01 28 00	0205-010	05 31 20	21.9	236.2	3.4		29.9	-13	2846	No stop	
01 29 10	---	05 32 30	21.7	236.5	3.4		30.0	57	2855	01 28 01	
01 29 10	MRK1018	05 32 30	21.9	237.3	3.4		30.3	-13	2855	No stop	
01 33 00	---	05 36 20	21.4	238.1	3.5		30.7	217	2885	01 29 11	
01 33 30	0205-010	05 36 50	21.2	237.5	3.5		30.4	17	2885	01 33 30	
01 34 40	---	05 38 01	21.0	237.8	3.5		30.5	70	2894	01 33 31	
01 34 40	MRK1018	05 38 01	21.2	238.5	3.5		30.8	-13	2894	No stop	
01 38 30	---	05 41 51	20.7	239.4	3.6		31.1	217	2923	01 34 41	
01 38 30	0205-010	05 41 51	20.5	238.6	3.5		30.9	-13	2923	No stop	
01 39 40	---	05 43 02	20.4	238.9	3.6		30.9	57	2932	01 38 31	
01 39 40	MRK1018	05 43 02	20.5	239.7	3.6		31.2	-13	2932	No stop	
01 43 30	---	05 46 52	20.0	240.6	3.7		31.5	217	2962	01 39 41	
01 44 00	0205-010	05 47 22	19.8	239.9	3.6		31.3	17	2962	01 44 00	
01 45 10	---	05 48 32	19.7	240.2	3.7		31.4	70	2971	01 44 01	
01 45 10	MRK1018	05 48 32	19.8	240.9	3.7		31.7	-13	2971	No stop	
01 49 00	---	05 52 23	19.3	241.8	3.8		32.0	217	3000	01 45 11	
01 49 00	0205-010	05 52 23	19.2	241.0	3.7		31.7	-13	3000	No stop	
01 50 10	---	05 53 33	19.0	241.3	3.7		31.8	57	3009	01 49 01	
01 50 10	MRK1018	05 53 33	19.1	242.1	3.8		32.0	-13	3009	No stop	
01 54 00	---	05 57 24	18.6	242.9	3.8		32.3	217	3038	01 50 11	
01 54 30	0205-010	05 57 54	18.4	242.3	3.8		32.1	17	3038	01 54 30	
01 55 40	---	05 59 04	18.3	242.5	3.8		32.2	70	3047	01 54 31	
01 55 40	MRK1018	05 59 04	18.4	243.3	3.9		32.4	-13	3047	No stop	
01 59 30	---	06 02 55	17.9	244.2	3.9		32.7	217	3077	01 55 41	
01 59 30	0205-010	06 02 55	17.8	243.4	3.9		32.5	-13	3077	No stop	
02 00 40	---	06 04 05	17.6	243.6	3.9		32.6	57	3086	01 59 31	
02 00 40	MRK1018	06 04 05	17.7	244.4	3.9		32.8	-13	3086	No stop	
02 04 30	---	06 07 56	17.2	245.3	4.0		33.0	217	3115	02 00 41	
02 05 00	0205-010	06 08 26	17.0	244.6	4.0		32.9	17	3115	02 05 00	
02 06 10	---	06 09 36	16.9	244.9	4.0		32.9	70	3124	02 05 01	

Schedule for TORUN (Code Tr)

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Mrk1018 at 1 Gb/s - L band

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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	3 Nov 2018	Day 307		---					
02 06 10	MRK1018	06 09 36	17.0	245.6	4.0		33.2	-13	3124	No stop
02 10 00	---	06 13 26	16.5	246.5	4.1		33.4	217	3154	02 06 11
02 10 00	0205-010	06 13 26	16.3	245.7	4.1		33.2	-13	3154	No stop
02 11 10	---	06 14 37	16.2	246.0	4.1		33.3	57	3163	02 10 01
02 11 10	MRK1018	06 14 37	16.3	246.7	4.1		33.5	-13	3163	No stop
02 15 00	---	06 18 27	15.8	247.5	4.2		33.7	217	3192	02 11 11
02 15 30	0205-010	06 18 57	15.6	246.9	4.2		33.5	17	3192	02 15 30
02 16 40	---	06 20 08	15.4	247.1	4.2		33.6	70	3201	02 15 31
02 16 40	MRK1018	06 20 08	15.5	247.9	4.2		33.8	-13	3201	No stop
02 20 30	---	06 23 58	15.0	248.7	4.3		34.0	217	3231	02 16 41
02 20 30	0205-010	06 23 58	14.9	248.0	4.2		33.8	-13	3231	No stop
02 21 40	---	06 25 08	14.7	248.2	4.3		33.9	57	3240	02 20 31
02 21 40	MRK1018	06 25 08	14.8	249.0	4.3		34.1	-13	3240	No stop
02 25 30	---	06 28 59	14.3	249.8	4.4		34.3	217	3269	02 21 41
02 26 00	0205-010	06 29 29	14.1	249.2	4.3		34.1	17	3269	02 26 00
02 27 10	---	06 30 39	13.9	249.4	4.4		34.2	70	3278	02 26 01
02 27 10	MRK1018	06 30 39	14.1	250.2	4.4		34.4	-13	3278	No stop
02 31 00	---	06 34 30	13.5	251.0	4.5		34.6	217	3308	02 27 11
02 31 00	0205-010	06 34 30	13.4	250.2	4.4		34.4	-13	3308	No stop
02 32 10	---	06 35 40	13.2	250.5	4.4		34.5	57	3317	02 31 01
02 32 10	MRK1018	06 35 40	13.3	251.2	4.5		34.6	-13	3317	No stop
02 36 00	---	06 39 31	12.8	252.0	4.5		34.8	217	3346	02 32 11
02 36 30	0205-010	06 40 01	12.6	251.4	4.5		34.7	17	3346	02 36 30
02 37 40	---	06 41 11	12.5	251.6	4.5		34.7	70	3355	02 36 31
02 37 40	MRK1018	06 41 11	12.6	252.4	4.6		34.9	-13	3355	No stop
02 41 30	---	06 45 02	12.0	253.2	4.6		35.1	217	3385	02 37 41
02 41 30	0205-010	06 45 02	11.9	252.4	4.6		34.9	-13	3385	No stop
02 42 40	---	06 46 12	11.7	252.7	4.6		35.0	57	3394	02 41 31
02 42 40	MRK1018	06 46 12	11.8	253.4	4.6		35.1	-13	3394	No stop
02 46 30	---	06 50 02	11.3	254.2	4.7		35.3	217	3423	02 42 41

Schedule for TORUN (Code Tr)

Page 14

Mrk1018 at 1 Gb/s - L band

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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   3 Nov 2018   Day 307 ---

02 47 00  0205-010    06 50 33  11.1 253.6  4.7    35.2   17   3423  02 47 00
02 48 10  ---          06 51 43  10.9 253.8  4.7    35.2   70   3432  02 47 01

02 48 10  MRK1018    06 51 43  11.0 254.6  4.7    35.4  -13   3432  No stop
02 52 00  ---          06 55 33  10.5 255.4  4.8    35.5  217   3462  02 48 11

02 52 00  0205-010    06 55 33  10.4 254.6  4.8    35.4  -13   3462  No stop
02 53 10  ---          06 56 44  10.2 254.9  4.8    35.4   57   3471  02 52 01

02 53 10  MRK1018    06 56 44  10.3 255.6  4.8    35.6  -13   3471  No stop
02 56 10  ---          06 59 44   9.9 256.2  4.9    35.7  167   3494  02 53 11

02 56 40  0205-010    07 00 14   9.7 255.6  4.8    35.6   17   3494  02 56 40
03 00 10  ---          07 03 45   9.2 256.3  4.9    35.7  210   3521  02 56 41

```

SETUP FILE INFORMATION:

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

==== Setup file: sess318.L1024

```

Setup group:   10          Station: TORUN          Total bit rate: 1024
Format: MARK5B          Bits per sample: 2      Sample rate: 32.000
Number of channels: 16   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	2300.00
	2300.00	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	U
	L	L	U	U	L	L	U	U	U
IF SB =	L	L	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	LCP
	RCP	LCP	RCP	LCP	RCP	LCP	RCP	LCP	LCP
BBC =	1	5	1	5	2	6	2	6	6
	3	7	3	7	4	8	4	8	8
BBC SB=	U	U	L	L	U	U	L	L	L
	U	U	L	L	U	U	L	L	L
IF =	A1	B1	A1	B1	A1	B1	A1	B1	B1
	A1	B1	A1	B1	A1	B1	A1	B1	B1

The following frequency sets based on these setups were used.

Frequency Set: 8 Setup file default. Used with PCAL = off

LO sum=	1610.49	1610.49	1610.49	1610.49	1642.49	1642.49	1642.49	1642.49
	1674.49	1674.49	1674.49	1674.49	1706.49	1706.49	1706.49	1706.49
BBC fr=	689.51	689.51	689.51	689.51	657.51	657.51	657.51	657.51
	625.51	625.51	625.51	625.51	593.51	593.51	593.51	593.51
Bandwd=	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00
	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00

Matching frequency sets: 8

Track assignments are:

track1= 2, 10, 18, 26, 4, 12, 20, 28, 6, 14, 22, 30, 8, 16, 24, 32

barrel=roll_off

POSITIONS OF SOURCES USED IN RECORDING SCANS

Source	Source position (RA/Dec) (B1950)	(Date)	Error (mas)	
* MRK1018	02 03 42.480768	* 02 06 15.990000	02 07 14.147753	0.00
	-00 31 46.69524	*-00 17 29.90000	-00 12 10.36786	0.00
* 0149+218	01 49 31.744135	* 01 52 18.059046	01 53 21.227614	0.01
J0152+2207	21 52 20.74786	* 22 07 07.69973	22 12 40.23770	0.02
J0152+22	/home/guest/rmc/SCHED/sched11.5/catalogs/sources.gsfc GSFC 2016a X/S astro solution, 2491 observations.			
* 0154-000	01 54 36.737815	* 01 57 10.534897	01 58 08.789211	0.09
J0157+0011	-00 03 12.25378	* 00 11 24.48436	00 16 51.68810	0.20
	/home/guest/rmc/SCHED/sched11.5/catalogs/sources.gsfc GSFC 2016a X/S astro solution, 161 observations.			
* 0205-010	02 05 53.149978	* 02 08 26.345914	02 09 24.387036	0.09
J0208-0047	-01 01 56.12008	*-00 47 44.29431	-00 42 26.69297	0.16
	/home/guest/rmc/SCHED/sched11.5/catalogs/sources.gsfc GSFC 2016a X/S astro solution, 142 observations.			

ep11btr

EP111B

PI: Antonis Polatidis

Address: ASTRON

Observing mode: evn

Schedule for TORUN (Code Tr)

Page 2

EP111B

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes 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 3 Nov 2018 Day 307 ---											
Next scan frequencies:		1599.45	1599.45	1599.45	1599.45	1599.45	1599.45	1631.45	1631.45	1631.45	1631.45
		1663.45	1663.45	1663.45	1663.45	1663.45	1663.45	1695.45	1695.45	1695.45	1695.45
Next BBC frequencies:		700.55	700.55	700.55	700.55	700.55	700.55	668.55	668.55	668.55	668.55
		636.55	636.55	636.55	636.55	636.55	636.55	604.55	604.55	604.55	604.55
Next scan bandwidths:		16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00
		16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00
07 34 45	J1642-0621	11 39 05	3.2	105.1	-5.1		-35.7	0	0	07 34 45	
07 36 15	=1639-062	11 40 35	3.4	105.4	-5.0		-35.6	90	12	07 34 46	
07 39 45	J1642-0621	11 44 06	3.9	106.1	-5.0		-35.5	203	12	07 39 45	
07 41 15	=1639-062	11 45 36	4.1	106.4	-5.0		-35.4	90	23	07 39 46	
07 45 30	J1642-0621	11 49 52	4.7	107.2	-4.9		-35.2	248	23	07 45 30	
07 47 00	=1639-062	11 51 22	5.0	107.5	-4.9		-35.2	90	35	07 45 31	
07 47 00	IRAS16399	11 51 22	2.6	109.9	-4.8	D	-35.0	-21	35	No stop	
07 50 30	---	11 54 52	3.1	110.6	-4.8		-34.8	0	62	07 47 01	
07 50 30	J1642-0621	11 54 52	5.5	108.3	-4.8		-35.0	-23	62	No stop	
07 52 00	=1639-062	11 56 23	5.7	108.6	-4.8		-34.9	67	73	07 50 31	
07 52 00	IRAS16399	11 56 23	3.3	110.9	-4.7		-34.7	-23	73	No stop	
07 55 30	---	11 59 53	3.8	111.6	-4.7		-34.5	187	100	07 52 01	
07 56 15	J1642-0621	12 00 38	6.3	109.4	-4.7		-34.7	22	100	07 56 15	
07 57 45	=1639-062	12 02 09	6.5	109.8	-4.7		-34.7	90	112	07 56 16	
07 57 45	IRAS16399	12 02 09	4.1	112.0	-4.6		-34.4	-23	112	No stop	
08 01 15	---	12 05 39	4.6	112.8	-4.6		-34.2	187	138	07 57 46	
08 01 15	J1642-0621	12 05 39	7.0	110.5	-4.6		-34.5	-23	138	No stop	
08 02 45	=1639-062	12 07 09	7.2	110.8	-4.6		-34.4	67	150	08 01 16	
08 02 45	IRAS16399	12 07 09	4.8	113.1	-4.6		-34.1	-23	150	No stop	
08 06 15	---	12 10 40	5.3	113.8	-4.5		-33.9	187	177	08 02 46	
08 07 00	J1642-0621	12 11 25	7.8	111.7	-4.5		-34.2	22	177	08 07 00	
08 08 30	=1639-062	12 12 55	8.0	112.0	-4.5		-34.1	90	188	08 07 01	
08 08 30	IRAS16399	12 12 55	5.6	114.2	-4.5		-33.7	-23	188	No stop	
08 12 00	---	12 16 26	6.1	115.0	-4.4		-33.5	187	215	08 08 31	

Schedule for TORUN (Code Tr)

Page 3

EP111B

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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 3 Nov 2018	Day 307					---				
08 12 00	J1642-0621	12 16 26	8.5	112.7	-4.4		-33.9	-23	215	No stop	
08 13 30	=1639-062	12 17 56	8.7	113.0	-4.4		-33.8	67	227	08 12 01	
08 13 30	IRAS16399	12 17 56	6.3	115.3	-4.4		-33.4	-23	227	No stop	
08 17 00	---	12 21 27	6.7	116.0	-4.3		-33.2	187	254	08 13 31	
08 17 45	J1642-0621	12 22 12	9.3	113.9	-4.3		-33.5	22	254	08 17 45	
08 19 15	=1639-062	12 23 42	9.5	114.2	-4.3		-33.4	90	265	08 17 46	
08 19 15	IRAS16399	12 23 42	7.0	116.5	-4.3		-33.0	-23	265	No stop	
08 22 45	---	12 27 13	7.5	117.2	-4.2		-32.8	187	292	08 19 16	
08 22 45	J1642-0621	12 27 13	10.0	115.0	-4.3		-33.2	-23	292	No stop	
08 24 15	=1639-062	12 28 43	10.2	115.3	-4.2		-33.1	67	304	08 22 46	
08 24 15	IRAS16399	12 28 43	7.7	117.5	-4.2		-32.7	-23	304	No stop	
08 27 45	---	12 32 14	8.2	118.3	-4.1		-32.4	187	331	08 24 16	
08 28 30	J1642-0621	12 32 59	10.7	116.2	-4.2		-32.8	22	331	08 28 30	
08 30 00	=1639-062	12 34 29	11.0	116.5	-4.1		-32.7	90	342	08 28 31	
08 30 00	IRAS16399	12 34 29	8.5	118.7	-4.1		-32.3	-23	342	No stop	
08 33 30	---	12 37 59	8.9	119.5	-4.0		-32.0	187	369	08 30 01	
08 33 30	J1642-0621	12 37 59	11.4	117.3	-4.1		-32.5	-23	369	No stop	
08 35 00	=1639-062	12 39 30	11.6	117.6	-4.1		-32.4	67	381	08 33 31	
08 35 00	IRAS16399	12 39 30	9.1	119.8	-4.0		-31.9	-23	381	No stop	
08 38 30	---	12 43 00	9.6	120.5	-4.0		-31.6	187	408	08 35 01	
08 39 15	J1642-0621	12 43 45	12.2	118.5	-4.0		-32.1	22	408	08 39 15	
08 40 45	=1639-062	12 45 16	12.4	118.8	-4.0		-32.0	90	419	08 39 16	
08 40 45	IRAS16399	12 45 16	9.9	121.0	-3.9		-31.5	-23	419	No stop	
08 44 15	---	12 48 46	10.3	121.8	-3.9		-31.2	187	446	08 40 46	
08 44 15	J1642-0621	12 48 46	12.8	119.6	-3.9		-31.7	-23	446	No stop	
08 45 45	=1639-062	12 50 17	13.0	119.9	-3.9		-31.6	67	458	08 44 16	
08 45 45	IRAS16399	12 50 17	10.5	122.1	-3.8		-31.1	-23	458	No stop	
08 49 15	---	12 53 47	11.0	122.9	-3.8		-30.8	187	485	08 45 46	
08 50 00	J1642-0621	12 54 32	13.6	120.8	-3.8		-31.3	21	485	08 50 00	
08 51 30	=1639-062	12 56 02	13.8	121.2	-3.8		-31.1	90	496	08 50 01	
08 51 30	IRAS16399	12 56 02	11.2	123.3	-3.7		-30.6	-23	496	No stop	
08 55 00	---	12 59 33	11.7	124.1	-3.7		-30.3	187	523	08 51 31	

Schedule for TORUN (Code Tr)

Page 4

EP111B

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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 3 Nov 2018 Day 307 ---										
08 55 00	J1642-0621	12 59 33	14.2	121.9	-3.7		-30.8	-24	523	No stop
08 56 30	=1639-062	13 01 03	14.4	122.3	-3.7		-30.7	66	535	08 55 01
08 56 30	IRAS16399	13 01 03	11.9	124.4	-3.7		-30.2	-23	535	No stop
09 00 00	---	13 04 34	12.3	125.2	-3.6		-29.9	187	562	08 56 31
09 00 45	J1642-0621	13 05 19	15.0	123.2	-3.6		-30.4	21	562	09 00 45
09 02 15	=1639-062	13 06 49	15.2	123.5	-3.6		-30.2	90	573	09 00 46
09 02 15	IRAS16399	13 06 49	12.6	125.7	-3.6		-29.7	-23	573	No stop
09 05 45	---	13 10 20	13.0	126.5	-3.5		-29.3	187	600	09 02 16
09 05 45	J1642-0621	13 10 20	15.6	124.3	-3.5		-29.9	-24	600	No stop
09 07 15	=1639-062	13 11 50	15.8	124.7	-3.5		-29.8	66	612	09 05 46
09 07 15	IRAS16399	13 11 50	13.2	126.8	-3.5		-29.2	-23	612	No stop
09 10 45	---	13 15 21	13.6	127.6	-3.4		-28.9	187	638	09 07 16
09 11 30	J1642-0621	13 16 06	16.3	125.6	-3.4		-29.4	21	638	09 11 30
09 13 00	=1639-062	13 17 36	16.5	126.0	-3.4		-29.3	90	650	09 11 31
09 13 00	IRAS16399	13 17 36	13.9	128.1	-3.4		-28.7	-24	650	No stop
09 16 30	---	13 21 07	14.3	128.9	-3.3		-28.3	186	677	09 13 01
09 16 30	J1642-0621	13 21 07	16.9	126.8	-3.4		-29.0	-24	677	No stop
09 18 00	=1639-062	13 22 37	17.1	127.1	-3.3		-28.8	66	688	09 16 31
09 18 00	IRAS16399	13 22 37	14.5	129.2	-3.3		-28.2	-24	688	No stop
09 21 30	---	13 26 07	14.9	130.0	-3.2		-27.8	186	715	09 18 01
09 22 15	J1642-0621	13 26 52	17.6	128.1	-3.3		-28.4	21	715	09 22 15
09 23 45	=1639-062	13 28 23	17.8	128.4	-3.2		-28.3	90	727	09 22 16
09 23 45	IRAS16399	13 28 23	15.1	130.5	-3.2		-27.6	-24	727	No stop
09 27 15	---	13 31 53	15.5	131.3	-3.2		-27.2	186	754	09 23 46
09 27 15	J1642-0621	13 31 53	18.2	129.2	-3.2		-27.9	-24	754	No stop
09 28 45	=1639-062	13 33 24	18.4	129.6	-3.2		-27.8	66	765	09 27 16
09 28 45	IRAS16399	13 33 24	15.7	131.6	-3.1		-27.1	-24	765	No stop
09 32 15	---	13 36 54	16.1	132.4	-3.1		-26.7	186	792	09 28 46
09 33 00	J1642-0621	13 37 39	18.8	130.6	-3.1		-27.3	21	792	09 33 00
09 34 30	=1639-062	13 39 10	19.0	130.9	-3.1		-27.2	90	804	09 33 01

Schedule for TORUN (Code Tr)

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EP111B

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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 3 Nov 2018 Day 307 ---										
09 34 30	IRAS16399	13 39 10	16.3	132.9	-3.0		-26.5	-24	804	No stop
09 38 00	---	13 42 40	16.7	133.8	-3.0		-26.1	186	831	09 34 31
09 38 00	J1642-0621	13 42 40	19.4	131.7	-3.0		-26.8	-24	831	No stop
09 39 30	=1639-062	13 44 10	19.6	132.1	-3.0		-26.6	66	842	09 38 01
09 39 30	IRAS16399	13 44 10	16.9	134.1	-2.9		-25.9	-24	842	No stop
09 43 00	---	13 47 41	17.3	134.9	-2.9		-25.6	186	869	09 39 31
09 43 45	J1642-0621	13 48 26	20.1	133.1	-2.9		-26.2	21	869	09 43 45
09 45 15	=1639-062	13 49 56	20.2	133.5	-2.9		-26.0	90	881	09 43 46
09 45 15	IRAS16399	13 49 56	17.5	135.4	-2.8		-25.3	-24	881	No stop
09 48 45	---	13 53 27	17.9	136.3	-2.8		-24.9	186	908	09 45 16
09 48 45	J1642-0621	13 53 27	20.6	134.3	-2.8		-25.6	-24	908	No stop
09 50 15	=1639-062	13 54 57	20.8	134.7	-2.8		-25.5	66	919	09 48 46
09 50 15	IRAS16399	13 54 57	18.0	136.6	-2.8		-24.7	-24	919	No stop
09 53 45	---	13 58 28	18.4	137.5	-2.7		-24.3	186	946	09 50 16
09 54 30	J1642-0621	13 59 13	21.2	135.7	-2.7		-25.0	21	946	09 54 30
09 56 00	=1639-062	14 00 43	21.4	136.0	-2.7		-24.8	90	958	09 54 31
09 56 20	J1642-0621	14 01 03	21.4	136.1	-2.7		-24.8	14	958	09 56 20
10 00 20	=1639-062	14 05 04	21.8	137.1	-2.6		-24.3	240	988	09 56 21
10 00 20	IRAS16399	14 05 04	19.0	139.0	-2.6		-23.5	-24	988	No stop
10 03 50	---	14 08 34	19.4	139.9	-2.5		-23.1	186	1015	10 00 21
10 03 50	J1642-0621	14 08 34	22.2	138.0	-2.6		-23.9	-24	1015	No stop
10 05 20	=1639-062	14 10 05	22.3	138.3	-2.5		-23.7	66	1027	10 03 51
10 05 20	IRAS16399	14 10 05	19.5	140.2	-2.5		-22.9	-24	1027	No stop
10 08 50	---	14 13 35	19.9	141.1	-2.5		-22.5	186	1054	10 05 21
10 09 35	J1642-0621	14 14 20	22.7	139.4	-2.5		-23.2	20	1054	10 09 35
10 11 05	=1639-062	14 15 51	22.9	139.8	-2.5		-23.0	90	1065	10 09 36
10 11 05	IRAS16399	14 15 51	20.1	141.6	-2.4		-22.2	-24	1065	No stop
10 14 35	---	14 19 21	20.4	142.5	-2.4		-21.8	186	1092	10 11 06
10 14 35	J1642-0621	14 19 21	23.2	140.6	-2.4		-22.5	-25	1092	No stop
10 16 05	=1639-062	14 20 51	23.4	141.0	-2.4		-22.3	65	1104	10 14 36

Schedule for TORUN (Code Tr)

Page 6

EP111B

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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	3 Nov 2018	Day 307	---						
10 16 05	IRAS16399	14 20 51	20.5	142.8	-2.3		-21.6	-24	1104	No stop
10 19 35	---	14 24 22	20.8	143.7	-2.3		-21.1	186	1131	10 16 06
10 20 20	J1642-0621	14 25 07	23.8	142.1	-2.3		-21.8	20	1131	10 20 20
10 21 50	=1639-062	14 26 37	23.9	142.5	-2.3		-21.6	90	1142	10 20 21
10 21 50	IRAS16399	14 26 37	21.0	144.3	-2.2		-20.8	-25	1142	No stop
10 25 20	---	14 30 08	21.3	145.1	-2.2		-20.4	185	1169	10 21 51
10 25 20	J1642-0621	14 30 08	24.2	143.3	-2.2		-21.1	-25	1169	No stop
10 26 50	=1639-062	14 31 38	24.4	143.7	-2.2		-20.9	65	1181	10 25 21
10 26 50	IRAS16399	14 31 38	21.5	145.5	-2.2		-20.2	-25	1181	No stop
10 30 20	---	14 35 09	21.8	146.4	-2.1		-19.7	185	1208	10 26 51
10 31 05	J1642-0621	14 35 54	24.7	144.8	-2.1		-20.4	20	1208	10 31 05
10 32 35	=1639-062	14 37 24	24.9	145.2	-2.1		-20.2	90	1219	10 31 06
10 32 35	IRAS16399	14 37 24	22.0	146.9	-2.1		-19.4	-25	1219	No stop
10 36 05	---	14 40 55	22.2	147.8	-2.0		-18.9	185	1246	10 32 36
10 36 05	J1642-0621	14 40 55	25.2	146.1	-2.0		-19.7	-25	1246	No stop
10 37 35	=1639-062	14 42 25	25.3	146.5	-2.0		-19.5	65	1258	10 36 06
10 37 35	IRAS16399	14 42 25	22.4	148.2	-2.0		-18.7	-25	1258	No stop
10 41 05	---	14 45 55	22.6	149.1	-1.9		-18.2	185	1285	10 37 36
10 41 50	J1642-0621	14 46 41	25.6	147.6	-1.9		-18.9	20	1285	10 41 50
10 43 20	=1639-062	14 48 11	25.7	148.0	-1.9		-18.7	90	1296	10 41 51
10 43 20	IRAS16399	14 48 11	22.8	149.7	-1.9		-17.9	-25	1296	No stop
10 46 50	---	14 51 41	23.1	150.6	-1.8		-17.4	185	1323	10 43 21
10 46 50	J1642-0621	14 51 41	26.0	148.9	-1.9		-18.2	-25	1323	No stop
10 48 20	=1639-062	14 53 12	26.1	149.3	-1.8		-18.0	65	1335	10 46 51
10 48 20	IRAS16399	14 53 12	23.2	150.9	-1.8		-17.2	-25	1335	No stop
10 51 50	---	14 56 42	23.4	151.8	-1.7		-16.7	185	1362	10 48 21
10 52 35	J1642-0621	14 57 27	26.5	150.4	-1.8		-17.3	20	1362	10 52 35
10 54 05	=1639-062	14 58 58	26.6	150.8	-1.7		-17.1	90	1373	10 52 36
10 54 05	IRAS16399	14 58 58	23.6	152.4	-1.7		-16.4	-25	1373	No stop
10 57 35	---	15 02 28	23.8	153.3	-1.6		-15.9	185	1400	10 54 06

Schedule for TORUN (Code Tr)

Page 7

EP111B

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TPStart: Recording start time. Frequencies are L0 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	3 Nov 2018	Day 307	---						
10 57 35	J1642-0621	15 02 28	26.8	151.8	-1.7		-16.6	-25	1400	No stop
10 59 05	=1639-062	15 03 58	26.9	152.2	-1.7		-16.4	65	1412	10 57 36
10 59 05	IRAS16399	15 03 58	23.9	153.7	-1.6		-15.6	-25	1412	No stop
11 02 35	---	15 07 29	24.2	154.6	-1.6		-15.1	185	1438	10 59 06
11 03 20	J1642-0621	15 08 14	27.2	153.3	-1.6		-15.7	20	1438	11 03 20
11 04 50	=1639-062	15 09 44	27.3	153.7	-1.6		-15.5	90	1450	11 03 21
11 04 50	IRAS16399	15 09 44	24.3	155.2	-1.5		-14.8	-25	1450	No stop
11 08 20	---	15 13 15	24.5	156.1	-1.5		-14.3	185	1477	11 04 51
11 08 20	J1642-0621	15 13 15	27.6	154.7	-1.5		-15.0	-25	1477	No stop
11 09 50	=1639-062	15 14 45	27.7	155.1	-1.5		-14.8	65	1488	11 08 21
11 09 50	IRAS16399	15 14 45	24.6	156.5	-1.4		-14.0	-25	1488	No stop
11 13 20	---	15 18 16	24.8	157.5	-1.4		-13.5	185	1515	11 09 51
11 14 05	J1642-0621	15 19 01	27.9	156.2	-1.4		-14.1	20	1515	11 14 05
11 15 35	=1639-062	15 20 31	28.0	156.6	-1.4		-13.9	90	1527	11 14 06
11 15 35	IRAS16399	15 20 31	24.9	158.1	-1.3		-13.2	-25	1527	No stop
11 19 05	---	15 24 02	25.1	159.0	-1.3		-12.6	185	1554	11 15 36
11 19 05	J1642-0621	15 24 02	28.2	157.6	-1.3		-13.3	-25	1554	No stop
11 20 35	=1639-062	15 25 32	28.3	158.0	-1.3		-13.1	65	1565	11 19 06
11 20 35	IRAS16399	15 25 32	25.2	159.4	-1.3		-12.4	-25	1565	No stop
11 24 05	---	15 29 03	25.4	160.3	-1.2		-11.8	185	1592	11 20 36
11 24 50	J1642-0621	15 29 48	28.5	159.2	-1.2		-12.4	19	1592	11 24 50
11 26 20	=1639-062	15 31 18	28.6	159.6	-1.2		-12.2	90	1604	11 24 51
11 26 20	IRAS16399	15 31 18	25.5	160.9	-1.2		-11.5	-25	1604	No stop
11 29 50	---	15 34 48	25.7	161.9	-1.1		-10.9	185	1631	11 26 21
11 29 50	J1642-0621	15 34 48	28.8	160.6	-1.1		-11.6	-26	1631	No stop
11 31 20	=1639-062	15 36 19	28.9	161.0	-1.1		-11.3	64	1642	11 29 51
11 31 20	IRAS16399	15 36 19	25.7	162.3	-1.1		-10.7	-26	1642	No stop
11 34 50	---	15 39 49	25.9	163.2	-1.0		-10.1	184	1669	11 31 21
11 35 35	J1642-0621	15 40 34	29.1	162.2	-1.0		-10.7	19	1669	11 35 35
11 37 05	=1639-062	15 42 05	29.1	162.6	-1.0		-10.4	90	1681	11 35 36

Schedule for TORUN (Code Tr)

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EP111B

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Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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	3 Nov 2018	Day 307	---						
11 37 05	IRAS16399	15 42 05	26.0	163.8	-1.0		-9.8	-26	1681	No stop
11 40 35	---	15 45 35	26.1	164.8	-0.9		-9.2	184	1708	11 37 06
11 40 35	J1642-0621	15 45 35	29.3	163.6	-1.0		-9.8	-26	1708	No stop
11 42 05	=1639-062	15 47 05	29.3	164.0	-0.9		-9.6	64	1719	11 40 36
11 42 05	IRAS16399	15 47 05	26.2	165.2	-0.9		-9.0	-26	1719	No stop
11 45 35	---	15 50 36	26.3	166.1	-0.8		-8.4	184	1746	11 42 06
11 46 20	J1642-0621	15 51 21	29.5	165.2	-0.9		-8.9	19	1746	11 46 20
11 47 50	=1639-062	15 52 51	29.6	165.6	-0.8		-8.6	90	1758	11 46 21
11 47 50	IRAS16399	15 52 51	26.4	166.8	-0.8		-8.0	-26	1758	No stop
11 51 20	---	15 56 22	26.5	167.7	-0.7		-7.4	184	1785	11 47 51
11 51 20	J1642-0621	15 56 22	29.7	166.6	-0.8		-8.0	-26	1785	No stop
11 52 50	=1639-062	15 57 52	29.8	167.1	-0.8		-7.8	64	1796	11 51 21
11 52 50	IRAS16399	15 57 52	26.6	168.1	-0.7		-7.2	-26	1796	No stop
11 56 20	---	16 01 23	26.7	169.1	-0.7		-6.6	184	1823	11 52 51
11 57 05	J1642-0621	16 02 08	29.9	168.3	-0.7		-7.1	19	1823	11 57 05
11 58 35	=1639-062	16 03 38	29.9	168.7	-0.7		-6.8	90	1835	11 57 06
11 58 35	IRAS16399	16 03 38	26.7	169.7	-0.6		-6.3	-26	1835	No stop
12 02 05	---	16 07 09	26.8	170.7	-0.6		-5.7	184	1862	11 58 36
12 02 05	J1642-0621	16 07 09	30.0	169.7	-0.6		-6.2	-26	1862	No stop
12 03 35	=1639-062	16 08 39	30.1	170.1	-0.6		-5.9	64	1873	12 02 06
12 03 35	IRAS16399	16 08 39	26.9	171.1	-0.5		-5.4	-26	1873	No stop
12 07 05	---	16 12 10	26.9	172.0	-0.5		-4.8	184	1900	12 03 36
12 07 50	J1642-0621	16 12 55	30.2	171.3	-0.5		-5.2	19	1900	12 07 50
12 09 20	=1639-062	16 14 25	30.2	171.8	-0.5		-5.0	90	1912	12 07 51
12 09 20	IRAS16399	16 14 25	27.0	172.7	-0.4		-4.5	-26	1912	No stop
12 12 50	---	16 17 56	27.1	173.6	-0.4		-3.9	184	1938	12 09 21
12 12 50	J1642-0621	16 17 56	30.3	172.8	-0.4		-4.4	-26	1938	No stop
12 14 20	=1639-062	16 19 26	30.3	173.2	-0.4		-4.1	64	1950	12 12 51
12 14 20	IRAS16399	16 19 26	27.1	174.0	-0.4		-3.6	-26	1950	No stop
12 17 50	---	16 22 56	27.1	175.0	-0.3		-3.0	184	1977	12 14 21

Schedule for TORUN (Code Tr)

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EP111B

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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	3 Nov 2018	Day 307	---						
12 18 35	J1642-0621	16 23 41	30.4	174.4	-0.3		-3.4	19	1977	12 18 35
12 20 05	=1639-062	16 25 12	30.4	174.9	-0.3		-3.1	90	1988	12 18 36
12 20 05	IRAS16399	16 25 12	27.2	175.6	-0.3		-2.7	-26	1988	No stop
12 23 35	---	16 28 42	27.2	176.6	-0.2		-2.1	184	2015	12 20 06
12 23 35	J1642-0621	16 28 42	30.4	175.9	-0.2		-2.5	-26	2015	No stop
12 25 05	=1639-062	16 30 13	30.5	176.3	-0.2		-2.2	64	2027	12 23 36
12 25 05	IRAS16399	16 30 13	27.2	177.0	-0.2		-1.8	-26	2027	No stop
12 28 35	---	16 33 43	27.2	178.0	-0.1		-1.2	184	2054	12 25 06
12 29 20	J1642-0621	16 34 28	30.5	177.5	-0.1		-1.5	19	2054	12 29 20
12 30 50	=1639-062	16 35 58	30.5	178.0	-0.1		-1.2	90	2065	12 29 21
12 30 50	IRAS16399	16 35 58	27.2	178.6	-0.1		-0.8	-26	2065	No stop
12 34 20	---	16 39 29	27.2	179.6	-0.0		-0.2	184	2092	12 30 51
12 34 20	J1642-0621	16 39 29	30.5	179.0	-0.1		-0.6	-26	2092	No stop
12 35 50	=1639-062	16 40 59	30.5	179.4	-0.0		-0.4	64	2104	12 34 21
12 35 50	IRAS16399	16 40 59	27.2	180.0	0.0		0.0	-26	2104	No stop
12 39 20	---	16 44 30	27.2	181.0	0.1		0.6	184	2131	12 35 51
12 40 05	J1642-0621	16 45 15	30.5	180.6	0.0		0.4	19	2131	12 40 05
12 41 35	=1639-062	16 46 45	30.5	181.1	0.1		0.7	90	2142	12 40 06
12 41 35	IRAS16399	16 46 45	27.2	181.6	0.1		1.0	-26	2142	No stop
12 45 05	---	16 50 16	27.2	182.6	0.2		1.6	184	2169	12 41 36
12 45 05	J1642-0621	16 50 16	30.5	182.1	0.1		1.3	-26	2169	No stop
12 46 35	=1639-062	16 51 46	30.5	182.5	0.1		1.5	64	2181	12 45 06
12 46 35	IRAS16399	16 51 46	27.2	183.0	0.2		1.8	-26	2181	No stop
12 50 05	---	16 55 17	27.2	184.0	0.2		2.4	184	2208	12 46 36
12 50 50	J1642-0621	16 56 02	30.5	183.8	0.2		2.3	19	2208	12 50 50
12 52 20	=1639-062	16 57 32	30.4	184.2	0.2		2.5	90	2219	12 50 51
12 52 40	J1642-0621	16 57 52	30.4	184.3	0.2		2.6	14	2219	12 52 40
12 56 40	=1639-062	17 01 53	30.4	185.4	0.3		3.3	240	2250	12 52 41
12 56 40	IRAS16399	17 01 53	27.1	185.8	0.3		3.5	-26	2250	No stop
13 00 10	---	17 05 23	27.0	186.8	0.4		4.1	184	2277	12 56 41

Schedule for TORUN (Code Tr)

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EP111B

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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	3 Nov 2018	Day 307		---					
13 00 10	J1642-0621	17 05 23	30.3	186.4	0.4		3.9	-26	2277	No stop
13 01 40	=1639-062	17 06 54	30.3	186.9	0.4		4.1	64	2288	13 00 11
13 01 40	IRAS16399	17 06 54	27.0	187.2	0.4		4.4	-26	2288	No stop
13 05 10	---	17 10 24	26.9	188.2	0.5		5.0	184	2315	13 01 41
13 05 55	J1642-0621	17 11 09	30.2	188.1	0.5		4.9	19	2315	13 05 55
13 07 25	=1639-062	17 12 39	30.2	188.5	0.5		5.1	90	2327	13 05 56
13 07 25	IRAS16399	17 12 39	26.9	188.8	0.5		5.3	-26	2327	No stop
13 10 55	---	17 16 10	26.8	189.7	0.6		5.9	184	2354	13 07 26
13 10 55	J1642-0621	17 16 10	30.1	189.5	0.6		5.7	-26	2354	No stop
13 12 25	=1639-062	17 17 40	30.1	190.0	0.6		6.0	64	2365	13 10 56
13 12 25	IRAS16399	17 17 40	26.8	190.2	0.6		6.2	-26	2365	No stop
13 15 55	---	17 21 11	26.7	191.1	0.7		6.7	184	2392	13 12 26
13 16 40	J1642-0621	17 21 56	29.9	191.2	0.6		6.7	19	2392	13 16 40
13 18 10	=1639-062	17 23 26	29.9	191.6	0.7		7.0	90	2404	13 16 41
13 18 10	IRAS16399	17 23 26	26.6	191.7	0.7		7.1	-26	2404	No stop
13 21 40	---	17 26 57	26.5	192.7	0.8		7.7	184	2431	13 18 11
13 21 40	J1642-0621	17 26 57	29.8	192.6	0.7		7.6	-26	2431	No stop
13 23 10	=1639-062	17 28 27	29.7	193.0	0.8		7.8	64	2442	13 21 41
13 23 10	IRAS16399	17 28 27	26.4	193.1	0.8		7.9	-26	2442	No stop
13 26 40	---	17 31 58	26.3	194.1	0.9		8.5	184	2469	13 23 11
13 27 25	J1642-0621	17 32 43	29.6	194.2	0.8		8.5	19	2469	13 27 25
13 28 55	=1639-062	17 34 13	29.5	194.7	0.9		8.8	90	2481	13 27 26
13 28 55	IRAS16399	17 34 13	26.2	194.7	0.9		8.9	-26	2481	No stop
13 32 25	---	17 37 44	26.1	195.6	0.9		9.4	184	2508	13 28 56
13 32 25	J1642-0621	17 37 44	29.4	195.6	0.9		9.4	-26	2508	No stop
13 33 55	=1639-062	17 39 14	29.3	196.1	0.9		9.6	64	2519	13 32 26
13 33 55	IRAS16399	17 39 14	26.0	196.0	1.0		9.7	-26	2519	No stop
13 37 25	---	17 42 44	25.9	197.0	1.0		10.2	184	2546	13 33 56
13 38 10	J1642-0621	17 43 30	29.2	197.3	1.0		10.3	19	2546	13 38 10
13 39 40	=1639-062	17 45 00	29.1	197.7	1.0		10.6	90	2558	13 38 11

Schedule for TORUN (Code Tr)

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EP111B

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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	3 Nov 2018	Day 307	---						
13 39 40	IRAS16399	17 45 00	25.8	197.6	1.1		10.6	-26	2558	No stop
13 43 10	---	17 48 30	25.6	198.5	1.1		11.2	184	2585	13 39 41
13 43 10	J1642-0621	17 48 30	28.9	198.7	1.1		11.2	-26	2585	No stop
13 44 40	=1639-062	17 50 01	28.8	199.1	1.1		11.4	64	2596	13 43 11
13 44 40	IRAS16399	17 50 01	25.5	198.9	1.2		11.4	-26	2596	No stop
13 48 10	---	17 53 31	25.4	199.9	1.2		11.9	184	2623	13 44 41
13 48 55	J1642-0621	17 54 16	28.6	200.3	1.2		12.1	19	2623	13 48 55
13 50 25	=1639-062	17 55 47	28.6	200.7	1.2		12.3	90	2635	13 48 56
13 50 25	IRAS16399	17 55 47	25.2	200.5	1.2		12.3	-26	2635	No stop
13 53 55	---	17 59 17	25.1	201.4	1.3		12.8	184	2662	13 50 26
13 53 55	J1642-0621	17 59 17	28.4	201.7	1.3		12.9	-26	2662	No stop
13 55 25	=1639-062	18 00 47	28.3	202.1	1.3		13.1	64	2673	13 53 56
13 55 25	IRAS16399	18 00 47	25.0	201.8	1.3		13.1	-26	2673	No stop
13 58 55	---	18 04 18	24.8	202.7	1.4		13.6	184	2700	13 55 26
13 59 40	J1642-0621	18 05 03	28.0	203.2	1.4		13.8	19	2700	13 59 40
14 01 10	=1639-062	18 06 33	27.9	203.6	1.4		14.0	90	2712	13 59 41
14 01 10	IRAS16399	18 06 33	24.6	203.3	1.4		14.0	-26	2712	No stop
14 04 40	---	18 10 04	24.4	204.2	1.5		14.5	184	2738	14 01 11
14 04 40	J1642-0621	18 10 04	27.7	204.6	1.5		14.6	-26	2738	No stop
14 06 10	=1639-062	18 11 34	27.6	205.0	1.5		14.8	64	2750	14 04 41
14 06 10	IRAS16399	18 11 34	24.3	204.6	1.5		14.7	-26	2750	No stop
14 09 40	---	18 15 05	24.1	205.6	1.6		15.2	184	2777	14 06 11
14 10 25	J1642-0621	18 15 50	27.4	206.2	1.5		15.5	19	2777	14 10 25
14 11 55	=1639-062	18 17 20	27.3	206.6	1.6		15.7	90	2788	14 10 26
14 11 55	IRAS16399	18 17 20	24.0	206.1	1.6		15.6	-26	2788	No stop
14 15 25	---	18 20 51	23.7	207.1	1.7		16.1	184	2815	14 11 56
14 15 25	J1642-0621	18 20 51	27.0	207.5	1.6		16.2	-26	2815	No stop
14 16 55	=1639-062	18 22 21	26.9	207.9	1.7		16.4	64	2827	14 15 26
14 16 55	IRAS16399	18 22 21	23.6	207.4	1.7		16.3	-26	2827	No stop
14 20 25	---	18 25 51	23.4	208.3	1.7		16.8	184	2854	14 16 56

Schedule for TORUN (Code Tr)

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EP111B

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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 3 Nov 2018 Day 307 ---										
14 21 10	J1642-0621	18 26 37	26.6	209.0	1.7		17.1	19	2854	14 21 10
14 22 40	=1639-062	18 28 07	26.5	209.4	1.8		17.3	90	2865	14 21 11
14 22 40	IRAS16399	18 28 07	23.2	208.9	1.8		17.1	-26	2865	No stop
14 26 10	---	18 31 37	23.0	209.8	1.8		17.6	184	2892	14 22 41
14 26 10	J1642-0621	18 31 37	26.2	210.4	1.8		17.8	-26	2892	No stop
14 27 40	=1639-062	18 33 08	26.1	210.8	1.8		18.0	64	2904	14 26 11
14 27 40	IRAS16399	18 33 08	22.8	210.2	1.9		17.8	-26	2904	No stop
14 31 10	---	18 36 38	22.6	211.1	1.9		18.3	184	2931	14 27 41
14 31 55	J1642-0621	18 37 23	25.8	211.9	1.9		18.6	19	2931	14 31 55
14 33 25	=1639-062	18 38 54	25.7	212.3	1.9		18.8	90	2942	14 31 56
14 33 25	IRAS16399	18 38 54	22.4	211.7	2.0		18.6	-26	2942	No stop
14 36 55	---	18 42 24	22.1	212.5	2.0		19.1	184	2969	14 33 26
14 36 55	J1642-0621	18 42 24	25.4	213.2	2.0		19.3	-26	2969	No stop
14 38 25	=1639-062	18 43 54	25.3	213.6	2.0		19.5	64	2981	14 36 56
14 38 25	IRAS16399	18 43 54	22.0	212.9	2.0		19.3	-26	2981	No stop
14 41 55	---	18 47 25	21.7	213.8	2.1		19.8	184	3008	14 38 26
14 42 40	J1642-0621	18 48 10	24.9	214.7	2.1		20.1	19	3008	14 42 40
14 44 10	=1639-062	18 49 40	24.8	215.1	2.1		20.3	90	3019	14 42 41
14 44 10	IRAS16399	18 49 40	21.5	214.4	2.1		20.1	-26	3019	No stop
14 47 40	---	18 53 11	21.2	215.2	2.2		20.6	184	3046	14 44 11
14 47 40	J1642-0621	18 53 11	24.5	216.0	2.2		20.8	-26	3046	No stop
14 49 10	=1639-062	18 54 41	24.3	216.4	2.2		21.0	64	3058	14 47 41
14 49 10	IRAS16399	18 54 41	21.1	215.6	2.2		20.8	-26	3058	No stop
14 52 40	---	18 58 12	20.8	216.5	2.3		21.2	184	3085	14 49 11
14 53 25	J1642-0621	18 58 57	23.9	217.4	2.3		21.5	19	3085	14 53 25
14 54 55	=1639-062	19 00 27	23.8	217.8	2.3		21.7	90	3096	14 53 26
14 54 55	IRAS16399	19 00 27	20.6	217.0	2.3		21.5	-26	3096	No stop
14 58 25	---	19 03 58	20.3	217.9	2.4		22.0	184	3123	14 54 56
14 58 25	J1642-0621	19 03 58	23.5	218.7	2.3		22.2	-26	3123	No stop
14 59 55	=1639-062	19 05 28	23.3	219.1	2.4		22.4	64	3135	14 58 26

Schedule for TORUN (Code Tr)

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EP111B

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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 3 Nov 2018 Day 307 ---										
14 59 55	IRAS16399	19 05 28	20.1	218.3	2.4		22.2	-26	3135	No stop
15 03 25	---	19 08 59	19.8	219.1	2.5		22.6	184	3162	14 59 56
15 04 10	J1642-0621	19 09 44	22.9	220.1	2.4		22.9	19	3162	15 04 10
15 05 40	=1639-062	19 11 14	22.8	220.5	2.5		23.1	90	3173	15 04 11
15 06 00	J1642-0621	19 11 34	22.8	220.6	2.5		23.1	14	3173	15 06 00
15 10 00	=1639-062	19 15 35	22.4	221.6	2.5		23.6	240	3204	15 06 01
15 10 00	IRAS16399	19 15 35	19.2	220.7	2.6		23.4	-26	3204	No stop
15 13 30	---	19 19 05	18.8	221.5	2.6		23.8	184	3231	15 10 01
15 13 30	J1642-0621	19 19 05	22.0	222.4	2.6		24.1	-26	3231	No stop
15 15 00	=1639-062	19 20 35	21.9	222.8	2.6		24.2	64	3242	15 13 31
15 15 00	IRAS16399	19 20 35	18.7	221.9	2.7		24.0	-26	3242	No stop
15 18 30	---	19 24 06	18.3	222.7	2.7		24.4	184	3269	15 15 01
15 19 15	J1642-0621	19 24 51	21.4	223.8	2.7		24.7	19	3269	15 19 15
15 20 45	=1639-062	19 26 21	21.3	224.2	2.7		24.9	90	3281	15 19 16
15 20 45	IRAS16399	19 26 21	18.1	223.3	2.8		24.7	-26	3281	No stop
15 24 15	---	19 29 52	17.7	224.1	2.8		25.1	184	3308	15 20 46
15 24 15	J1642-0621	19 29 52	20.9	225.1	2.8		25.3	-26	3308	No stop
15 25 45	=1639-062	19 31 22	20.7	225.4	2.8		25.5	64	3319	15 24 16
15 25 45	IRAS16399	19 31 22	17.5	224.4	2.8		25.2	-26	3319	No stop
15 29 15	---	19 34 53	17.2	225.2	2.9		25.6	184	3346	15 25 46
15 30 00	J1642-0621	19 35 38	20.3	226.4	2.9		26.0	19	3346	15 30 00
15 31 30	=1639-062	19 37 08	20.1	226.8	2.9		26.1	90	3358	15 30 01
15 31 30	IRAS16399	19 37 08	16.9	225.8	2.9		25.9	-26	3358	No stop
15 35 00	---	19 40 39	16.6	226.6	3.0		26.3	184	3385	15 31 31
15 35 00	J1642-0621	19 40 39	19.7	227.6	3.0		26.5	-26	3385	No stop
15 36 30	=1639-062	19 42 09	19.5	228.0	3.0		26.7	64	3396	15 35 01
15 36 30	IRAS16399	19 42 09	16.4	226.9	3.0		26.4	-26	3396	No stop
15 40 00	---	19 45 40	16.0	227.7	3.1		26.8	184	3423	15 36 31
15 40 45	J1642-0621	19 46 25	19.1	229.0	3.1		27.1	19	3423	15 40 45
15 42 15	=1639-062	19 47 55	18.9	229.3	3.1		27.3	90	3435	15 40 46

Schedule for TORUN (Code Tr)

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EP111B

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 sum (band edge).

SYNC: Time correlator is expected to sync up.

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Start UT  Source          Start / Stop          Early  Disk  TPStart
Stop UT          LST      EL  AZ  HA  UP  ParA  Dwell  GBytes  SYNC
-----
--- Sat   3 Nov 2018   Day 307 ---

15 42 15  IRAS16399    19 47 55  15.8 228.2  3.1      27.0  -26   3435  No stop
15 45 45  ---              19 51 25  15.4 229.0  3.2      27.4  184   3462  15 42 16

15 45 45  J1642-0621    19 51 25  18.5 230.1  3.1      27.6  -26   3462  No stop
15 47 15  =1639-062      19 52 56  18.3 230.5  3.2      27.8   64   3473  15 45 46

15 47 15  IRAS16399    19 52 56  15.2 229.4  3.2      27.5  -26   3473  No stop
15 50 45  ---              19 56 26  14.8 230.2  3.3      27.9  184   3500  15 47 16

15 51 30  J1642-0621    19 57 11  17.8 231.5  3.2      28.2   20   3500  15 51 30
15 53 00  =1639-062      19 58 42  17.6 231.8  3.3      28.4   90   3512  15 51 31

15 53 00  IRAS16399    19 58 42  14.5 230.7  3.3      28.1  -26   3512  No stop
15 56 30  ---              20 02 12  14.1 231.5  3.4      28.5  184   3538  15 53 01

15 57 20  J1642-0621    20 03 02  17.1 232.8  3.3      28.8   25   3538  15 57 20
16 00 00  =1639-062      20 05 43  16.8 233.4  3.4      29.0  160   3559  15 57 21

```

SETUP FILE INFORMATION:

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

==== Setup file: sess318.L1024_111b

```

Setup group:   10          Station: TORUN          Total bit rate: 1024
Format: MARK5B          Bits per sample: 2      Sample rate: 32.000
Number of channels: 16   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	2300.00
	2300.00	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	
	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	5	1	5	2	6	2	6	
	3	7	3	7	4	8	4	8	
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: 6 Setup file default. Used with PCAL = off

LO sum=	1599.45	1599.45	1599.45	1599.45	1631.45	1631.45	1631.45	1631.45
	1663.45	1663.45	1663.45	1663.45	1695.45	1695.45	1695.45	1695.45
BBC fr=	700.55	700.55	700.55	700.55	668.55	668.55	668.55	668.55
	636.55	636.55	636.55	636.55	604.55	604.55	604.55	604.55
Bandwd=	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00
	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00

Matching frequency sets: 6

Track assignments are:

track1= 2, 10, 18, 26, 4, 12, 20, 28, 6, 14, 22, 30, 8, 16, 24, 32

barrel=roll_off

POSITIONS OF SOURCES USED IN RECORDING SCANS

Source	Source position (RA/Dec)		(Date)	Error
	(B1950)	(J2000)		(mas)
* IRAS16399	16 37 11.245843	* 16 39 55.600000	16 40 55.302708	0.00
	-09 31 46.92661	*-09 37 35.60000	-09 39 33.00227	0.00
1639-062	16 39 21.443869	* 16 42 02.177715	16 43 00.543185	0.01
* J1642-0621	-06 15 43.81938	*-06 21 23.69502	-06 23 17.36033	0.01
	/home/guest/rmc/SCHED/sched11.5/catalogs/sources.gsfc			
	GSFC 2016a X/S astro solution, 18089 observations.			

H2O MEGAMASER VLBI: A POWERFUL TOOL TO STUDY EJECTION AND ACCRETION

PI: A. Tarchi

Address: INAF - Osservatorio Astronomico di Cagliari

Observing mode: Observations of NGC3735 at 1.7 GHz (1024 Mb/s)

Schedule for TORUN (Code Tr)

Page 2

H2O megamaser VLBI: a powerful tool to study ejection and accretion

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

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Disk: GBytes 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 4 Nov 2018 Day 308 ---										
Next scan frequencies:		1610.49	1610.49	1610.49	1610.49	1610.49	1642.49	1642.49	1642.49	1642.49
		1674.49	1674.49	1674.49	1674.49	1674.49	1706.49	1706.49	1706.49	1706.49
Next BBC frequencies:		689.51	689.51	689.51	689.51	689.51	657.51	657.51	657.51	657.51
		625.51	625.51	625.51	625.51	625.51	593.51	593.51	593.51	593.51
Next scan bandwidths:		16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00
		16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00

01 00 00	DA193	05 07 12	74.3	142.5	-0.8		-28.4	0	0	01 00 00
01 05 00	---	05 12 12	74.7	145.7	-0.7		-26.1	300	38	01 00 01

01 10 00	J1134+7249	05 17 13	48.5	26.6	-6.3		-64.7	47	38	01 10 00
01 13 00	=1131+730	05 20 14	48.8	26.7	-6.2		-65.3	180	62	01 10 01

01 13 00	NGC3735	05 20 14	47.6	29.7	-6.3		-62.7	-21	62	No stop
01 16 30	---	05 23 44	47.9	29.9	-6.2		-63.4	189	88	01 13 01

01 17 10	J1134+7249	05 24 24	49.0	26.9	-6.2		-66.2	19	88	01 17 10
01 18 40	=1131+730	05 25 55	49.1	27.0	-6.2		-66.5	90	100	01 17 11

01 18 40	NGC3735	05 25 55	48.1	30.0	-6.2		-63.8	-21	100	No stop
01 22 10	---	05 29 25	48.3	30.2	-6.1		-64.5	189	127	01 18 41

01 22 10	J1134+7249	05 29 25	49.4	27.1	-6.1		-67.2	-21	127	No stop
01 23 40	=1131+730	05 30 55	49.5	27.2	-6.1		-67.5	69	138	01 22 11

01 23 40	NGC3735	05 30 55	48.4	30.3	-6.1		-64.8	-21	138	No stop
01 27 10	---	05 34 26	48.7	30.5	-6.0		-65.5	189	165	01 23 41

01 27 50	J1134+7249	05 35 06	49.8	27.4	-6.0		-68.4	19	165	01 27 50
01 29 20	=1131+730	05 36 36	49.9	27.5	-6.0		-68.7	90	177	01 27 51

01 29 20	NGC3735	05 36 36	48.9	30.6	-6.0		-65.9	-21	177	No stop
01 32 50	---	05 40 07	49.1	30.8	-5.9		-66.6	189	204	01 29 21

01 32 50	J1134+7249	05 40 07	50.1	27.6	-5.9		-69.4	-21	204	No stop
01 34 20	=1131+730	05 41 37	50.2	27.7	-5.9		-69.7	69	215	01 32 51

01 34 20	NGC3735	05 41 37	49.2	30.9	-5.9		-66.9	-21	215	No stop
01 37 50	---	05 45 08	49.5	31.0	-5.9		-67.6	189	242	01 34 21

01 38 30	J1134+7249	05 45 48	50.5	27.8	-5.8		-70.6	19	242	01 38 30
01 40 00	=1131+730	05 47 18	50.6	27.9	-5.8		-70.9	90	254	01 38 31

Schedule for TORUN (Code Tr)

Page 3

H2O megamaser VLBI: a powerful tool to study ejection and accretion

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

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Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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 4 Nov 2018	Day 308					---				
01 40 00	NGC3735	05 47 18	49.7	31.1	-5.8		-68.0	-21	254	No stop	
01 43 30	---	05 50 49	50.0	31.3	-5.8		-68.7	189	281	01 40 01	
01 43 30	J1134+7249	05 50 49	50.9	28.0	-5.7		-71.7	-21	281	No stop	
01 45 00	=1131+730	05 52 19	51.0	28.1	-5.7		-72.0	69	292	01 43 31	
01 45 00	NGC3735	05 52 19	50.1	31.4	-5.7		-69.0	-21	292	No stop	
01 48 30	---	05 55 50	50.4	31.5	-5.7		-69.7	189	319	01 45 01	
01 49 10	J1134+7249	05 56 30	51.3	28.2	-5.6		-72.9	19	319	01 49 10	
01 50 40	=1131+730	05 58 00	51.4	28.3	-5.6		-73.2	90	331	01 49 11	
01 50 40	NGC3735	05 58 00	50.5	31.6	-5.6		-70.1	-21	331	No stop	
01 54 10	---	06 01 30	50.8	31.8	-5.6		-70.8	189	358	01 50 41	
01 54 10	J1134+7249	06 01 30	51.6	28.4	-5.6		-73.9	-21	358	No stop	
01 55 40	=1131+730	06 03 01	51.7	28.4	-5.5		-74.2	69	369	01 54 11	
01 55 40	NGC3735	06 03 01	50.9	31.9	-5.6		-71.1	-22	369	No stop	
01 59 10	---	06 06 31	51.2	32.0	-5.5		-71.9	188	396	01 55 41	
01 59 50	J1134+7249	06 07 11	52.0	28.6	-5.5		-75.1	18	396	01 59 50	
02 01 20	=1131+730	06 08 42	52.1	28.6	-5.4		-75.5	90	408	01 59 51	
02 01 20	NGC3735	06 08 42	51.4	32.1	-5.5		-72.3	-22	408	No stop	
02 04 50	---	06 12 12	51.7	32.2	-5.4		-73.0	188	435	02 01 21	
02 04 50	J1134+7249	06 12 12	52.4	28.7	-5.4		-76.2	-22	435	No stop	
02 06 20	=1131+730	06 13 42	52.5	28.8	-5.4		-76.5	68	446	02 04 51	
02 06 20	NGC3735	06 13 42	51.8	32.3	-5.4		-73.3	-22	446	No stop	
02 09 50	---	06 17 13	52.1	32.4	-5.3		-74.0	188	473	02 06 21	
02 10 30	J1134+7249	06 17 53	52.8	28.9	-5.3		-77.4	18	473	02 10 30	
02 12 00	=1131+730	06 19 23	52.9	28.9	-5.3		-77.8	90	485	02 10 31	
02 12 00	NGC3735	06 19 23	52.2	32.5	-5.3		-74.5	-22	485	No stop	
02 15 30	---	06 22 54	52.5	32.6	-5.2		-75.2	188	512	02 12 01	
02 15 30	J1134+7249	06 22 54	53.2	29.0	-5.2		-78.5	-22	512	No stop	
02 17 00	=1131+730	06 24 24	53.3	29.0	-5.2		-78.9	68	523	02 15 31	
02 17 00	NGC3735	06 24 24	52.6	32.7	-5.2		-75.5	-22	523	No stop	
02 20 30	---	06 27 55	52.9	32.8	-5.2		-76.3	188	550	02 17 01	
02 21 10	J1134+7249	06 28 35	53.6	29.1	-5.1		-79.8	18	550	02 21 10	
02 22 40	=1131+730	06 30 05	53.7	29.2	-5.1		-80.1	90	562	02 21 11	

Schedule for TORUN (Code Tr)

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H2O megamaser VLBI: a powerful tool to study ejection and accretion

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

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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	4 Nov 2018	Day 308		---					
02 22 40	NGC3735	06 30 05	53.1	32.9	-5.1		-76.7	-22	562	No stop
02 26 10	---	06 33 36	53.4	33.0	-5.1		-77.5	188	588	02 22 41
02 26 10	J1134+7249	06 33 36	53.9	29.2	-5.0		-80.9	-22	588	No stop
02 27 40	=1131+730	06 35 06	54.1	29.3	-5.0		-81.2	68	600	02 26 11
02 27 40	NGC3735	06 35 06	53.5	33.0	-5.0		-77.8	-22	600	No stop
02 31 10	---	06 38 37	53.8	33.1	-5.0		-78.5	188	627	02 27 41
02 31 50	J1134+7249	06 39 17	54.4	29.4	-4.9		-82.2	18	627	02 31 50
02 33 20	=1131+730	06 40 47	54.5	29.4	-4.9		-82.5	90	638	02 31 51
02 33 20	NGC3735	06 40 47	54.0	33.2	-4.9		-79.0	-23	638	No stop
02 36 50	---	06 44 17	54.3	33.3	-4.9		-79.7	187	665	02 33 21
02 36 50	J1134+7249	06 44 17	54.7	29.4	-4.8		-83.3	-23	665	No stop
02 38 20	=1131+730	06 45 48	54.8	29.5	-4.8		-83.6	67	677	02 36 51
02 38 20	NGC3735	06 45 48	54.4	33.3	-4.9		-80.1	-23	677	No stop
02 41 50	---	06 49 18	54.7	33.4	-4.8		-80.8	187	704	02 38 21
02 42 30	J1134+7249	06 49 58	55.2	29.5	-4.8		-84.6	17	704	02 42 30
02 44 00	=1131+730	06 51 29	55.3	29.5	-4.7		-84.9	90	715	02 42 31
02 44 00	NGC3735	06 51 29	54.9	33.5	-4.8		-81.3	-23	715	No stop
02 47 30	---	06 54 59	55.1	33.5	-4.7		-82.1	187	742	02 44 01
02 47 30	J1134+7249	06 54 59	55.5	29.6	-4.7		-85.7	-23	742	No stop
02 49 00	=1131+730	06 56 29	55.6	29.6	-4.6		-86.1	67	754	02 47 31
02 49 00	NGC3735	06 56 29	55.3	33.6	-4.7		-82.4	-23	754	No stop
02 52 30	---	07 00 00	55.6	33.6	-4.6		-83.2	187	781	02 49 01
02 53 10	J1134+7249	07 00 40	55.9	29.6	-4.6		-87.1	17	781	02 53 10
02 55 10	=1131+730	07 02 40	56.1	29.6	-4.5		-87.5	120	796	02 53 11
02 58 40	4C39.25	07 06 11	62.0	105.9	-2.4		-48.0	43	796	02 58 40
03 03 40	---	07 11 12	62.7	107.3	-2.3		-47.5	300	835	02 58 41
03 07 50	J1134+7249	07 15 23	57.0	29.7	-4.3		-90.5	80	835	03 07 50
03 11 20	=1131+730	07 18 53	57.3	29.6	-4.3		-91.4	210	862	03 07 51
03 11 20	NGC3735	07 18 53	57.1	33.9	-4.3		-87.4	-23	862	No stop
03 14 50	---	07 22 24	57.4	33.9	-4.2		-88.2	187	888	03 11 21

Schedule for TORUN (Code Tr)

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Start UT	Source	Start / Stop					Early	Disk	TPStart	
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC

---	Sun	4 Nov 2018	Day 308		---					
03 15 30	J1134+7249	07 23 04	57.6	29.6	-4.2		-92.4	17	888	03 15 30
03 17 00	=1131+730	07 24 34	57.7	29.6	-4.2		-92.8	90	900	03 15 31
03 17 00	NGC3735	07 24 34	57.6	33.9	-4.2		-88.7	-24	900	No stop
03 20 30	---	07 28 05	57.9	33.9	-4.1		-89.6	186	927	03 17 01
03 20 30	J1134+7249	07 28 05	58.0	29.6	-4.1		-93.6	-24	927	No stop
03 22 00	=1131+730	07 29 35	58.1	29.6	-4.1		-94.0	66	938	03 20 31
03 22 00	NGC3735	07 29 35	58.0	33.9	-4.1		-89.9	-24	938	No stop
03 25 30	---	07 33 05	58.3	33.9	-4.1		-90.7	186	965	03 22 01
03 26 10	J1134+7249	07 33 46	58.4	29.5	-4.0		-95.0	16	965	03 26 10
03 27 40	=1131+730	07 35 16	58.5	29.5	-4.0		-95.4	90	977	03 26 11
03 27 40	NGC3735	07 35 16	58.5	33.9	-4.0		-91.3	-24	977	No stop
03 31 10	---	07 38 46	58.8	33.9	-4.0		-92.1	186	1004	03 27 41
03 31 10	J1134+7249	07 38 46	58.8	29.5	-3.9		-96.3	-24	1004	No stop
03 32 40	=1131+730	07 40 17	58.9	29.4	-3.9		-96.7	66	1015	03 31 11
03 32 40	NGC3735	07 40 17	58.9	33.9	-3.9		-92.5	-24	1015	No stop
03 36 10	---	07 43 47	59.2	33.8	-3.9		-93.3	186	1042	03 32 41
03 36 50	J1134+7249	07 44 27	59.2	29.4	-3.8		-97.7	16	1042	03 36 50
03 38 20	=1131+730	07 45 58	59.3	29.3	-3.8		-98.1	90	1054	03 36 51
03 38 20	NGC3735	07 45 58	59.4	33.8	-3.9		-93.8	-24	1054	No stop
03 41 50	---	07 49 28	59.7	33.8	-3.8		-94.7	186	1081	03 38 21
03 41 50	J1134+7249	07 49 28	59.6	29.3	-3.8		-99.0	-24	1081	No stop
03 43 20	=1131+730	07 50 58	59.7	29.2	-3.7		-99.4	66	1092	03 41 51
03 43 20	NGC3735	07 50 58	59.8	33.8	-3.8		-95.1	-24	1092	No stop
03 46 50	---	07 54 29	60.1	33.7	-3.7		-95.9	186	1119	03 43 21
03 47 30	J1134+7249	07 55 09	60.0	29.1	-3.7		-100.5	16	1119	03 47 30
03 49 00	=1131+730	07 56 39	60.1	29.1	-3.6		-100.9	90	1131	03 47 31
03 49 00	NGC3735	07 56 39	60.3	33.7	-3.7		-96.5	-24	1131	No stop
03 52 30	---	08 00 10	60.6	33.6	-3.6		-97.4	186	1158	03 49 01
03 52 30	J1134+7249	08 00 10	60.3	29.0	-3.6		-101.8	-24	1158	No stop
03 54 00	=1131+730	08 01 40	60.5	28.9	-3.6		-102.2	66	1169	03 52 31

Schedule for TORUN (Code Tr)

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Start UT	Source	Start / Stop					Early	Disk	TPStart	
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC

--- Sun 4 Nov 2018 Day 308 ---										
03 54 00	NGC3735	08 01 40	60.7	33.6	-3.6		-97.8	-24	1169	No stop
03 57 30	---	08 05 11	61.0	33.5	-3.5		-98.7	186	1196	03 54 01
03 58 10	J1134+7249	08 05 51	60.8	28.8	-3.5		-103.3	16	1196	03 58 10
03 59 40	=1131+730	08 07 21	60.9	28.7	-3.5		-103.7	90	1208	03 58 11
03 59 40	NGC3735	08 07 21	61.2	33.4	-3.5		-99.2	-24	1208	No stop
04 03 10	---	08 10 52	61.5	33.3	-3.4		-100.1	186	1235	03 59 41
04 03 10	J1134+7249	08 10 52	61.1	28.6	-3.4		-104.7	-24	1235	No stop
04 04 40	=1131+730	08 12 22	61.2	28.5	-3.4		-105.1	66	1246	04 03 11
04 04 40	NGC3735	08 12 22	61.6	33.3	-3.4		-100.5	-24	1246	No stop
04 08 10	---	08 15 52	61.9	33.1	-3.4		-101.5	186	1273	04 04 41
04 08 50	J1134+7249	08 16 33	61.5	28.4	-3.3		-106.3	15	1273	04 08 50
04 10 20	=1131+730	08 18 03	61.6	28.3	-3.3		-106.7	90	1285	04 08 51
04 10 20	NGC3735	08 18 03	62.1	33.1	-3.3		-102.1	-25	1285	No stop
04 13 50	---	08 21 33	62.3	32.9	-3.3		-103.0	185	1312	04 10 21
04 13 50	J1134+7249	08 21 33	61.9	28.1	-3.2		-107.7	-25	1312	No stop
04 15 20	=1131+730	08 23 04	62.0	28.1	-3.2		-108.1	65	1323	04 13 51
04 15 20	NGC3735	08 23 04	62.5	32.9	-3.2		-103.4	-25	1323	No stop
04 18 50	---	08 26 34	62.8	32.7	-3.2		-104.4	185	1350	04 15 21
04 19 30	J1134+7249	08 27 14	62.3	27.8	-3.1		-109.3	15	1350	04 19 30
04 21 00	=1131+730	08 28 45	62.4	27.8	-3.1		-109.7	90	1362	04 19 31
04 21 00	NGC3735	08 28 45	62.9	32.6	-3.1		-105.0	-25	1362	No stop
04 24 30	---	08 32 15	63.2	32.4	-3.1		-106.0	185	1388	04 21 01
04 24 30	J1134+7249	08 32 15	62.6	27.6	-3.0		-110.7	-25	1388	No stop
04 26 00	=1131+730	08 33 45	62.7	27.5	-3.0		-111.1	65	1400	04 24 31
04 26 00	NGC3735	08 33 45	63.3	32.4	-3.1		-106.4	-25	1400	No stop
04 29 30	---	08 37 16	63.6	32.2	-3.0		-107.4	185	1427	04 26 01
04 30 10	J1134+7249	08 37 56	63.0	27.2	-3.0		-112.4	15	1427	04 30 10
04 31 40	=1131+730	08 39 26	63.1	27.1	-2.9		-112.8	90	1438	04 30 11
04 31 40	NGC3735	08 39 26	63.8	32.0	-3.0		-108.0	-25	1438	No stop
04 35 10	---	08 42 57	64.1	31.8	-2.9		-109.0	185	1465	04 31 41

Schedule for TORUN (Code Tr)

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H2O megamaser VLBI: a powerful tool to study ejection and accretion

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

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SYNC: Time correlator is expected to sync up.

```
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```

Start UT	Source	Start / Stop					Early	Disk	TPStart	
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC

--- Sun 4 Nov 2018 Day 308 ---										
04 35 10	J1134+7249	08 42 57	63.4	26.9	-2.9		-113.9	-25	1465	No stop
04 36 40	=1131+730	08 44 27	63.5	26.8	-2.8		-114.3	65	1477	04 35 11
04 36 40	NGC3735	08 44 27	64.2	31.7	-2.9		-109.5	-25	1477	No stop
04 40 10	---	08 47 58	64.5	31.5	-2.8		-110.5	185	1504	04 36 41
04 40 50	J1134+7249	08 48 38	63.7	26.5	-2.8		-115.6	15	1504	04 40 50
04 42 20	=1131+730	08 50 08	63.8	26.4	-2.8		-116.0	90	1515	04 40 51
04 42 20	NGC3735	08 50 08	64.6	31.3	-2.8		-111.1	-25	1515	No stop
04 45 50	---	08 53 39	64.9	31.1	-2.7		-112.2	185	1542	04 42 21
04 46 30	J1134+7249	08 54 19	64.1	26.1	-2.7		-117.3	15	1542	04 46 30
04 50 30	=1131+730	08 58 19	64.4	25.8	-2.6		-118.5	240	1573	04 46 31
04 57 00	DA193	09 04 50	55.7	266.5	3.1		51.3	-107	1573	04 57 00
05 00 00	---	09 07 51	55.3	267.1	3.2		51.3	73	1596	04 57 01

```
-----
```

SETUP FILE INFORMATION:

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

==== Setup file: sess318.L1024

Setup group: 9	Station: TORUN	Total bit rate: 1024
Format: MARK5B	Bits per sample: 2	Sample rate: 32.000
Number of channels: 16	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	2300.00
	2300.00	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	
	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	5	1	5	2	6	2	6	
	3	7	3	7	4	8	4	8	
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=	1610.49	1610.49	1610.49	1610.49	1642.49	1642.49	1642.49	1642.49
	1674.49	1674.49	1674.49	1674.49	1706.49	1706.49	1706.49	1706.49
BBC fr=	689.51	689.51	689.51	689.51	657.51	657.51	657.51	657.51
	625.51	625.51	625.51	625.51	593.51	593.51	593.51	593.51
Bandwd=	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00
	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00

Matching frequency sets: 8

Track assignments are:

track1= 2, 10, 18, 26, 4, 12, 20, 28, 6, 14, 22, 30, 8, 16, 24, 32
barrel=roll_off

POSITIONS OF SOURCES USED IN RECORDING SCANS

Source	Source position (RA/Dec) (B1950)	(J2000)	(Date)	Error (mas)
* NGC3735	11 33 02.401363	* 11 35 57.300000	11 36 58.042213	0.00
	70 48 44.61683	* 70 32 09.00000	70 25 47.07648	0.00
0552+398	05 52 01.407168	* 05 55 30.805611	05 56 49.585806	0.00
J0555+3948	39 48 21.94581	* 39 48 49.16496	39 48 46.69873	0.00
* DA193	/home/guest/rmc/SCHED/sched11.5/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 11.899892	0.31
J0927+3902	39 15 23.56644	* 39 02 20.85185	38 57 18.44364	0.16
0923+392	/home/guest/rmc/SCHED/sched11.5/catalogs/sources.gsfc			
J0927+39	GSFC 2016a X/S astro solution, 250526 observations.			
1131+730	11 31 11.755699	* 11 34 11.407802	11 35 13.366537	2.12
* J1134+7249	73 05 54.76059	* 72 49 20.05280	72 42 57.88321	1.37
	/home/guest/rmc/SCHED/sched11.5/catalogs/sources.gsfc			
	GSFC 2016a X/S astro solution, 60 observations.			

ep111ctr

EP111C

PI: Antonis Polatidis

Address: ASTRON

Observing mode: evn

Schedule for TORUN (Code Tr)

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EP111C

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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 4 Nov 2018	Day 308					---				
Next scan frequencies:		1586.89	1586.89	1586.89	1586.89	1586.89	1586.89	1618.89	1618.89	1618.89	
		1650.89	1650.89	1650.89	1650.89	1650.89	1650.89	1682.89	1682.89	1682.89	
Next BBC frequencies:		713.11	713.11	713.11	713.11	713.11	713.11	681.11	681.11	681.11	
		649.11	649.11	649.11	649.11	649.11	649.11	617.11	617.11	617.11	
Next scan bandwidths:		16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	
		16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	

06 30 00	3C345	10 38 06	30.0	62.6	-6.1		-43.9	0	0	06 30 00	
06 34 00	---	10 42 06	30.6	63.2	-6.0		-44.2	240	31	06 30 01	
06 35 35	J1530+3758	10 43 42	39.7	77.1	-4.8		-47.9	47	31	06 35 35	
06 37 35	=1528+381	10 45 42	40.0	77.4	-4.8		-48.0	120	46	06 35 36	
06 37 35	IRAS15250	10 45 42	39.2	79.9	-4.7		-46.9	-19	46	No stop	
06 41 05	---	10 49 13	39.7	80.5	-4.6		-47.0	191	73	06 37 36	
06 41 05	J1530+3758	10 49 13	40.5	78.0	-4.7		-48.1	-19	73	No stop	
06 42 35	=1528+381	10 50 43	40.8	78.3	-4.7		-48.2	71	85	06 41 06	
06 42 35	IRAS15250	10 50 43	39.9	80.8	-4.6		-47.0	-19	85	No stop	
06 46 05	---	10 54 13	40.4	81.4	-4.6		-47.2	191	112	06 42 36	
06 46 45	J1530+3758	10 54 54	41.4	79.0	-4.6		-48.3	21	112	06 46 45	
06 48 15	=1528+381	10 56 24	41.6	79.3	-4.6		-48.4	90	123	06 46 46	
06 48 15	IRAS15250	10 56 24	40.7	81.8	-4.5		-47.2	-19	123	No stop	
06 51 45	---	10 59 54	41.3	82.5	-4.5		-47.3	191	150	06 48 16	
06 51 45	J1530+3758	10 59 54	42.1	79.9	-4.5		-48.5	-19	150	No stop	
06 53 15	=1528+381	11 01 25	42.3	80.2	-4.5		-48.6	71	162	06 51 46	
06 53 15	IRAS15250	11 01 25	41.5	82.7	-4.4		-47.3	-19	162	No stop	
06 56 45	---	11 04 55	42.0	83.4	-4.4		-47.4	191	188	06 53 16	
06 57 25	J1530+3758	11 05 35	43.0	80.9	-4.4		-48.7	21	188	06 57 25	
06 58 55	=1528+381	11 07 06	43.2	81.2	-4.4		-48.8	90	200	06 57 26	
06 58 55	IRAS15250	11 07 06	42.3	83.8	-4.3		-47.5	-20	200	No stop	
07 02 25	---	11 10 36	42.9	84.4	-4.3		-47.6	190	227	06 58 56	
07 02 25	J1530+3758	11 10 36	43.7	81.8	-4.3		-48.9	-19	227	No stop	
07 03 55	=1528+381	11 12 06	43.9	82.1	-4.3		-48.9	71	238	07 02 26	

Schedule for TORUN (Code Tr)

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EP111C

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Start UT	Source	Start / Stop					Early	Disk	TPStart		
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC	

---	Sun 4 Nov 2018	Day 308					---				
07 03 55	IRAS15250	11 12 06	43.1	84.7	-4.3		-47.6	-20	238	No stop	
07 07 25	---	11 15 37	43.6	85.4	-4.2		-47.6	190	265	07 03 56	
07 08 05	J1530+3758	11 16 17	44.6	82.8	-4.2		-49.0	20	265	07 08 05	
07 09 35	=1528+381	11 17 47	44.8	83.1	-4.2		-49.1	90	277	07 08 06	
07 09 35	IRAS15250	11 17 47	43.9	85.8	-4.2		-47.7	-20	277	No stop	
07 13 05	---	11 21 18	44.5	86.5	-4.1		-47.7	190	304	07 09 36	
07 13 05	J1530+3758	11 21 18	45.3	83.7	-4.2		-49.2	-20	304	No stop	
07 14 35	=1528+381	11 22 48	45.5	84.0	-4.1		-49.2	70	315	07 13 06	
07 14 35	IRAS15250	11 22 48	44.7	86.7	-4.1		-47.8	-20	315	No stop	
07 18 05	---	11 26 19	45.2	87.4	-4.0		-47.8	190	342	07 14 36	
07 18 45	J1530+3758	11 26 59	46.1	84.8	-4.1		-49.3	20	342	07 18 45	
07 20 15	=1528+381	11 28 29	46.4	85.1	-4.0		-49.3	90	354	07 18 46	
07 20 15	IRAS15250	11 28 29	45.5	87.8	-4.0		-47.8	-20	354	No stop	
07 23 45	---	11 32 00	46.1	88.5	-3.9		-47.8	190	381	07 20 16	
07 23 45	J1530+3758	11 32 00	46.9	85.7	-4.0		-49.4	-20	381	No stop	
07 25 15	=1528+381	11 33 30	47.1	86.0	-4.0		-49.4	70	392	07 23 46	
07 25 15	IRAS15250	11 33 30	46.3	88.8	-3.9		-47.8	-20	392	No stop	
07 28 45	---	11 37 00	46.8	89.5	-3.8		-47.9	190	419	07 25 16	
07 29 25	J1530+3758	11 37 41	47.7	86.8	-3.9		-49.5	20	419	07 29 25	
07 30 55	=1528+381	11 39 11	48.0	87.1	-3.9		-49.5	90	431	07 29 26	
07 30 55	IRAS15250	11 39 11	47.1	89.9	-3.8		-47.9	-20	431	No stop	
07 34 25	---	11 42 41	47.7	90.6	-3.7		-47.9	190	458	07 30 56	
07 34 25	J1530+3758	11 42 41	48.5	87.8	-3.8		-49.5	-20	458	No stop	
07 35 55	=1528+381	11 44 12	48.7	88.0	-3.8		-49.5	70	469	07 34 26	
07 35 55	IRAS15250	11 44 12	47.9	90.9	-3.7		-47.8	-20	469	No stop	
07 39 25	---	11 47 42	48.4	91.7	-3.7		-47.8	190	496	07 35 56	
07 40 05	J1530+3758	11 48 22	49.4	88.9	-3.7		-49.6	20	496	07 40 05	
07 41 35	=1528+381	11 49 53	49.6	89.2	-3.7		-49.6	90	508	07 40 06	
07 41 35	IRAS15250	11 49 53	48.7	92.1	-3.6		-47.8	-21	508	No stop	
07 45 05	---	11 53 23	49.3	92.8	-3.6		-47.8	189	535	07 41 36	
07 45 05	J1530+3758	11 53 23	50.1	89.9	-3.6		-49.6	-20	535	No stop	
07 46 35	=1528+381	11 54 53	50.3	90.2	-3.6		-49.6	70	546	07 45 06	

Schedule for TORUN (Code Tr)

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EP111C

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Start UT	Source	Start / Stop					Early	Disk	TPStart	
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC
--- Sun 4 Nov 2018 Day 308 ---										
07 46 35	IRAS15250	11 54 53	49.5	93.2	-3.5		-47.8	-21	546	No stop
07 50 05	---	11 58 24	50.0	93.9	-3.5		-47.7	189	573	07 46 36
07 50 45	J1530+3758	11 59 04	51.0	91.0	-3.5		-49.6	20	573	07 50 45
07 52 15	=1528+381	12 00 34	51.2	91.3	-3.5		-49.5	90	585	07 50 46
07 52 15	IRAS15250	12 00 34	50.4	94.4	-3.5		-47.7	-21	585	No stop
07 55 45	---	12 04 05	50.9	95.1	-3.4		-47.6	189	612	07 52 16
07 55 45	J1530+3758	12 04 05	51.7	92.0	-3.4		-49.5	-21	612	No stop
07 57 15	=1528+381	12 05 35	51.9	92.3	-3.4		-49.5	69	623	07 55 46
07 57 15	IRAS15250	12 05 35	51.1	95.4	-3.4		-47.6	-21	623	No stop
08 00 45	---	12 09 06	51.6	96.2	-3.3		-47.5	189	650	07 57 16
08 01 25	J1530+3758	12 09 46	52.6	93.2	-3.4		-49.5	19	650	08 01 25
08 02 55	=1528+381	12 11 16	52.8	93.5	-3.3		-49.4	90	662	08 01 26
08 02 55	IRAS15250	12 11 16	51.9	96.7	-3.3		-47.4	-21	662	No stop
08 06 25	---	12 14 47	52.5	97.5	-3.2		-47.3	189	688	08 02 56
08 06 25	J1530+3758	12 14 47	53.3	94.3	-3.3		-49.4	-21	688	No stop
08 07 55	=1528+381	12 16 17	53.5	94.6	-3.2		-49.3	69	700	08 06 26
08 07 55	IRAS15250	12 16 17	52.7	97.8	-3.2		-47.3	-21	700	No stop
08 11 25	---	12 19 47	53.2	98.6	-3.1		-47.1	189	727	08 07 56
08 12 05	J1530+3758	12 20 28	54.2	95.5	-3.2		-49.3	19	727	08 12 05
08 13 35	=1528+381	12 21 58	54.4	95.8	-3.1		-49.2	90	738	08 12 06
08 13 35	IRAS15250	12 21 58	53.5	99.1	-3.1		-47.1	-21	738	No stop
08 17 05	---	12 25 28	54.1	99.9	-3.0		-46.9	189	765	08 13 36
08 17 05	J1530+3758	12 25 28	54.9	96.6	-3.1		-49.1	-21	765	No stop
08 18 35	=1528+381	12 26 59	55.1	97.0	-3.1		-49.1	69	777	08 17 06
08 18 35	IRAS15250	12 26 59	54.3	100.3	-3.0		-46.8	-21	777	No stop
08 22 05	---	12 30 29	54.8	101.1	-3.0		-46.7	189	804	08 18 36
08 22 45	J1530+3758	12 31 09	55.8	97.9	-3.0		-48.9	19	804	08 22 45
08 24 15	=1528+381	12 32 40	56.0	98.3	-3.0		-48.9	90	815	08 22 46
08 24 15	IRAS15250	12 32 40	55.1	101.7	-2.9		-46.6	-22	815	No stop
08 27 45	---	12 36 10	55.6	102.5	-2.9		-46.4	188	842	08 24 16

Schedule for TORUN (Code Tr)

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EP111C

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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 4 Nov 2018 Day 308 ---										
08 27 45	J1530+3758	12 36 10	56.5	99.1	-2.9		-48.7	-21	842	No stop
08 29 15	=1528+381	12 37 40	56.7	99.4	-2.9		-48.7	69	854	08 27 46
08 29 15	IRAS15250	12 37 40	55.9	102.9	-2.8		-46.3	-22	854	No stop
08 32 45	---	12 41 11	56.4	103.8	-2.8		-46.1	188	881	08 29 16
08 33 25	J1530+3758	12 41 51	57.3	100.4	-2.8		-48.5	18	881	08 33 25
08 34 55	=1528+381	12 43 21	57.6	100.8	-2.8		-48.4	90	892	08 33 26
08 34 55	IRAS15250	12 43 21	56.7	104.3	-2.7		-45.9	-22	892	No stop
08 38 25	---	12 46 52	57.2	105.2	-2.7		-45.7	188	919	08 34 56
08 38 25	J1530+3758	12 46 52	58.1	101.7	-2.7		-48.2	-22	919	No stop
08 39 55	=1528+381	12 48 22	58.3	102.1	-2.7		-48.1	68	931	08 38 26
08 39 55	IRAS15250	12 48 22	57.4	105.6	-2.7		-45.6	-22	931	No stop
08 43 25	---	12 51 53	57.9	106.6	-2.6		-45.3	188	958	08 39 56
08 44 05	J1530+3758	12 52 33	58.9	103.1	-2.6		-47.8	18	958	08 44 05
08 45 35	=1528+381	12 54 03	59.1	103.5	-2.6		-47.7	90	969	08 44 06
08 45 35	IRAS15250	12 54 03	58.2	107.1	-2.6		-45.1	-22	969	No stop
08 49 05	---	12 57 34	58.7	108.1	-2.5		-44.8	188	996	08 45 36
08 49 05	J1530+3758	12 57 34	59.6	104.4	-2.6		-47.5	-22	996	No stop
08 50 35	=1528+381	12 59 04	59.9	104.8	-2.5		-47.4	68	1008	08 49 06
08 50 35	IRAS15250	12 59 04	58.9	108.5	-2.5		-44.7	-22	1008	No stop
08 54 05	---	13 02 34	59.4	109.5	-2.4		-44.3	188	1035	08 50 36
08 54 45	J1530+3758	13 03 15	60.5	105.9	-2.5		-47.0	18	1035	08 54 45
08 56 15	=1528+381	13 04 45	60.7	106.3	-2.4		-46.9	90	1046	08 54 46
08 57 50	3C345	13 06 20	51.3	87.6	-3.6		-51.3	42	1046	08 57 50
09 01 50	---	13 10 21	51.9	88.4	-3.6		-51.4	240	1077	08 57 51
09 03 25	J1530+3758	13 11 56	61.7	108.4	-2.3		-46.2	41	1077	09 03 25
09 05 25	=1528+381	13 13 56	62.0	109.0	-2.3		-46.0	120	1092	09 03 26
09 05 25	IRAS15250	13 13 56	61.0	112.9	-2.2		-43.1	-23	1092	No stop
09 08 55	---	13 17 27	61.5	114.0	-2.2		-42.7	187	1119	09 05 26
09 08 55	J1530+3758	13 17 27	62.5	110.0	-2.2		-45.7	-23	1119	No stop
09 10 25	=1528+381	13 18 57	62.7	110.4	-2.2		-45.5	67	1131	09 08 56

Schedule for TORUN (Code Tr)

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EP111C

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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 4 Nov 2018 Day 308 ---										
09 10 25	IRAS15250	13 18 57	61.7	114.4	-2.1		-42.5	-23	1131	No stop
09 13 55	---	13 22 28	62.2	115.5	-2.1		-42.0	187	1158	09 10 26
09 14 40	J1530+3758	13 23 13	63.3	111.7	-2.1		-45.0	22	1158	09 14 40
09 16 10	=1528+381	13 24 43	63.5	112.2	-2.1		-44.8	90	1169	09 14 41
09 16 10	IRAS15250	13 24 43	62.5	116.3	-2.0		-41.7	-23	1169	No stop
09 19 40	---	13 28 14	63.0	117.4	-2.0		-41.2	187	1196	09 16 11
09 19 40	J1530+3758	13 28 14	64.0	113.3	-2.0		-44.3	-23	1196	No stop
09 21 10	=1528+381	13 29 44	64.2	113.8	-2.0		-44.1	67	1208	09 19 41
09 21 10	IRAS15250	13 29 44	63.2	117.9	-2.0		-40.9	-23	1208	No stop
09 24 40	---	13 33 14	63.6	119.2	-1.9		-40.4	187	1235	09 21 11
09 25 25	J1530+3758	13 34 00	64.8	115.2	-1.9		-43.5	22	1235	09 25 25
09 26 55	=1528+381	13 35 30	65.0	115.7	-1.9		-43.3	90	1246	09 25 26
09 26 55	IRAS15250	13 35 30	63.9	119.9	-1.9		-40.0	-24	1246	No stop
09 30 25	---	13 39 00	64.4	121.2	-1.8		-39.4	186	1273	09 26 56
09 30 25	J1530+3758	13 39 00	65.5	116.9	-1.9		-42.7	-23	1273	No stop
09 31 55	=1528+381	13 40 31	65.7	117.5	-1.8		-42.5	67	1285	09 30 26
09 31 55	IRAS15250	13 40 31	64.6	121.7	-1.8		-39.1	-24	1285	No stop
09 35 25	---	13 44 01	65.0	123.0	-1.7		-38.4	186	1312	09 31 56
09 36 10	J1530+3758	13 44 46	66.2	119.0	-1.8		-41.7	22	1312	09 36 10
09 37 40	=1528+381	13 46 17	66.4	119.5	-1.7		-41.5	90	1323	09 36 11
09 37 40	IRAS15250	13 46 17	65.3	123.9	-1.7		-38.0	-24	1323	No stop
09 41 10	---	13 49 47	65.7	125.3	-1.6		-37.3	186	1350	09 37 41
09 41 10	J1530+3758	13 49 47	66.9	120.9	-1.7		-40.8	-23	1350	No stop
09 42 40	=1528+381	13 51 17	67.1	121.4	-1.7		-40.5	67	1362	09 41 11
09 42 40	IRAS15250	13 51 17	65.9	125.9	-1.6		-36.9	-24	1362	No stop
09 46 10	---	13 54 48	66.3	127.3	-1.5		-36.2	186	1388	09 42 41
09 46 55	J1530+3758	13 55 33	67.6	123.1	-1.6		-39.6	21	1388	09 46 55
09 48 25	=1528+381	13 57 03	67.8	123.7	-1.6		-39.3	90	1400	09 46 56
09 48 25	IRAS15250	13 57 03	66.6	128.2	-1.5		-35.6	-24	1400	No stop
09 51 55	---	14 00 34	67.0	129.7	-1.5		-34.8	186	1427	09 48 26

Schedule for TORUN (Code Tr)

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EP111C

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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 4 Nov 2018 Day 308 ---										
09 51 55	J1530+3758	14 00 34	68.2	125.2	-1.5		-38.5	-24	1427	No stop
09 53 25	=1528+381	14 02 04	68.4	125.8	-1.5		-38.1	66	1438	09 51 56
09 53 25	IRAS15250	14 02 04	67.2	130.3	-1.4		-34.4	-24	1438	No stop
09 56 55	---	14 05 35	67.6	131.8	-1.4		-33.5	186	1465	09 53 26
09 57 40	J1530+3758	14 06 20	68.9	127.6	-1.4		-37.1	21	1465	09 57 40
09 59 10	=1528+381	14 07 50	69.1	128.3	-1.4		-36.7	90	1477	09 57 41
09 59 10	IRAS15250	14 07 50	67.8	132.9	-1.3		-32.9	-24	1477	No stop
10 02 40	---	14 11 21	68.2	134.5	-1.3		-32.0	186	1504	09 59 11
10 02 40	J1530+3758	14 11 21	69.5	129.9	-1.3		-35.8	-24	1504	No stop
10 04 10	=1528+381	14 12 51	69.7	130.6	-1.3		-35.3	66	1515	10 02 41
10 04 10	IRAS15250	14 12 51	68.4	135.2	-1.2		-31.5	-24	1515	No stop
10 07 40	---	14 16 22	68.8	136.8	-1.2		-30.5	186	1542	10 04 11
10 08 25	J1530+3758	14 17 07	70.2	132.6	-1.2		-34.1	21	1542	10 08 25
10 09 55	=1528+381	14 18 37	70.3	133.3	-1.2		-33.6	90	1554	10 08 26
10 09 55	IRAS15250	14 18 37	69.0	137.9	-1.2		-29.8	-25	1554	No stop
10 13 25	---	14 22 07	69.3	139.7	-1.1		-28.7	185	1581	10 09 56
10 13 25	J1530+3758	14 22 07	70.7	135.0	-1.1		-32.5	-24	1581	No stop
10 14 55	=1528+381	14 23 38	70.9	135.8	-1.1		-32.0	66	1592	10 13 26
10 14 55	IRAS15250	14 23 38	69.5	140.4	-1.1		-28.2	-25	1592	No stop
10 18 25	---	14 27 08	69.8	142.2	-1.0		-27.0	185	1619	10 14 56
10 19 10	J1530+3758	14 27 53	71.3	138.0	-1.1		-30.6	21	1619	10 19 10
10 20 40	=1528+381	14 29 24	71.5	138.8	-1.0		-30.1	90	1631	10 19 11
10 20 40	IRAS15250	14 29 24	70.0	143.4	-1.0		-26.2	-25	1631	No stop
10 24 10	---	14 32 54	70.3	145.3	-0.9		-25.0	185	1658	10 20 41
10 24 10	J1530+3758	14 32 54	71.8	140.7	-1.0		-28.8	-24	1658	No stop
10 25 40	=1528+381	14 34 24	71.9	141.6	-0.9		-28.2	66	1669	10 24 11
10 25 40	IRAS15250	14 34 24	70.4	146.1	-0.9		-24.4	-24	1669	No stop
10 29 10	---	14 37 55	70.7	148.1	-0.8		-23.1	186	1696	10 25 41
10 29 55	J1530+3758	14 38 40	72.3	144.0	-0.9		-26.6	21	1696	10 29 55
10 31 25	=1528+381	14 40 10	72.5	144.9	-0.8		-26.0	90	1708	10 29 56

Schedule for TORUN (Code Tr)

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EP111C

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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	4 Nov 2018	Day 308	---						
10 31 25	IRAS15250	14 40 10	70.9	149.4	-0.8		-22.2	-24	1708	No stop
10 34 55	---	14 43 41	71.2	151.4	-0.7		-20.8	186	1735	10 31 26
10 34 55	J1530+3758	14 43 41	72.8	147.0	-0.8		-24.5	-23	1735	No stop
10 36 25	=1528+381	14 45 11	72.9	147.9	-0.8		-23.9	67	1746	10 34 56
10 36 25	IRAS15250	14 45 11	71.3	152.3	-0.7		-20.2	-24	1746	No stop
10 39 55	---	14 48 42	71.5	154.4	-0.6		-18.7	186	1773	10 36 26
10 40 40	J1530+3758	14 49 27	73.2	150.6	-0.7		-22.0	22	1773	10 40 40
10 42 10	=1528+381	14 50 57	73.3	151.5	-0.7		-21.3	90	1785	10 40 41
10 42 10	IRAS15250	14 50 57	71.7	155.8	-0.6		-17.7	-24	1785	No stop
10 45 40	---	14 54 28	71.9	157.9	-0.6		-16.2	186	1812	10 42 11
10 45 40	J1530+3758	14 54 28	73.6	153.8	-0.6		-19.6	-23	1812	No stop
10 47 10	=1528+381	14 55 58	73.7	154.8	-0.6		-18.9	67	1823	10 45 41
10 47 10	IRAS15250	14 55 58	71.9	158.9	-0.5		-15.5	-24	1823	No stop
10 50 40	---	14 59 29	72.1	161.1	-0.5		-13.9	186	1850	10 47 11
10 51 25	J1530+3758	15 00 14	73.9	157.6	-0.5		-16.8	23	1850	10 51 25
10 52 55	=1528+381	15 01 44	74.0	158.7	-0.5		-16.1	90	1862	10 51 26
10 52 55	IRAS15250	15 01 44	72.2	162.6	-0.4		-12.8	-23	1862	No stop
10 56 25	---	15 05 15	72.4	164.8	-0.4		-11.2	187	1888	10 52 56
10 56 25	J1530+3758	15 05 15	74.2	161.1	-0.4		-14.3	-22	1888	No stop
10 57 55	=1528+381	15 06 45	74.3	162.2	-0.4		-13.5	68	1900	10 56 26
10 57 55	IRAS15250	15 06 45	72.4	165.8	-0.3		-10.5	-23	1900	No stop
11 01 25	---	15 10 15	72.6	168.2	-0.3		-8.7	187	1927	10 57 56
11 02 10	J1530+3758	15 11 00	74.4	165.2	-0.3		-11.2	24	1927	11 02 10
11 03 40	=1528+381	15 12 31	74.5	166.3	-0.3		-10.4	90	1938	11 02 11
11 03 40	IRAS15250	15 12 31	72.6	169.7	-0.3		-7.6	-22	1938	No stop
11 07 10	---	15 16 01	72.7	172.0	-0.2		-5.9	188	1965	11 03 41
11 07 10	J1530+3758	15 16 01	74.6	168.9	-0.2		-8.5	-21	1965	No stop
11 08 40	=1528+381	15 17 32	74.6	170.0	-0.2		-7.6	69	1977	11 07 11
11 08 40	IRAS15250	15 17 32	72.7	173.1	-0.2		-5.1	-21	1977	No stop
11 12 10	---	15 21 02	72.8	175.5	-0.1		-3.4	189	2004	11 08 41

Schedule for TORUN (Code Tr)

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EP111C

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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 4 Nov 2018 Day 308 ---										
11 12 55	J1530+3758	15 21 47	74.7	173.1	-0.2		-5.2	24	2004	11 12 55
11 14 25	=1528+381	15 23 17	74.8	174.3	-0.1		-4.4	90	2015	11 12 56
11 14 25	IRAS15250	15 23 17	72.8	177.0	-0.1		-2.2	-21	2015	No stop
11 17 55	---	15 26 48	72.8	179.4	-0.0		-0.4	189	2042	11 14 26
11 17 55	J1530+3758	15 26 48	74.8	176.9	-0.1		-2.4	-21	2042	No stop
11 19 25	=1528+381	15 28 18	74.8	178.0	-0.0		-1.5	69	2054	11 17 56
11 19 25	IRAS15250	15 28 18	72.8	180.4	0.0		0.3	-21	2054	No stop
11 22 55	---	15 31 49	72.8	182.8	0.1		2.1	189	2081	11 19 26
11 23 40	J1530+3758	15 32 34	74.8	181.2	0.0		0.9	24	2081	11 23 40
11 25 10	=1528+381	15 34 04	74.8	182.4	0.1		1.8	90	2092	11 23 41
11 27 25	3C345	15 36 20	72.4	132.5	-1.1		-35.1	20	2092	11 27 25
11 31 25	---	15 40 20	72.9	134.7	-1.1		-33.8	240	2123	11 27 26
11 33 55	J1530+3758	15 42 51	74.7	188.9	0.2		6.8	27	2123	11 33 55
11 35 35	=1528+381	15 44 31	74.6	190.2	0.2		7.7	100	2136	11 33 56
11 35 35	IRAS15250	15 44 31	72.6	191.4	0.3		8.5	-22	2136	No stop
11 39 05	---	15 48 02	72.5	193.8	0.3		10.2	188	2163	11 35 36
11 39 05	J1530+3758	15 48 02	74.5	192.7	0.3		9.7	-22	2163	No stop
11 40 35	=1528+381	15 49 32	74.5	193.8	0.3		10.5	68	2174	11 39 06
11 40 35	IRAS15250	15 49 32	72.4	194.8	0.4		10.9	-22	2174	No stop
11 44 05	---	15 53 02	72.3	197.1	0.4		12.6	188	2201	11 40 36
11 44 50	J1530+3758	15 53 47	74.3	196.9	0.4		12.8	23	2201	11 44 50
11 46 20	=1528+381	15 55 18	74.2	198.0	0.4		13.6	90	2213	11 44 51
11 46 20	IRAS15250	15 55 18	72.1	198.5	0.5		13.6	-22	2213	No stop
11 49 50	---	15 58 48	72.0	200.8	0.5		15.2	188	2240	11 46 21
11 49 50	J1530+3758	15 58 48	74.1	200.4	0.5		15.4	-22	2240	No stop
11 51 20	=1528+381	16 00 19	74.0	201.4	0.5		16.2	68	2251	11 49 51
11 51 20	IRAS15250	16 00 19	71.9	201.7	0.5		15.9	-22	2251	No stop
11 54 50	---	16 03 49	71.7	203.9	0.6		17.5	188	2278	11 51 21
11 55 35	J1530+3758	16 04 34	73.7	204.3	0.6		18.3	23	2278	11 55 35
11 57 05	=1528+381	16 06 04	73.6	205.3	0.6		19.0	90	2290	11 55 36

Schedule for TORUN (Code Tr)

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EP111C

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

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Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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 4 Nov 2018 Day 308 ---										
11 57 05	IRAS15250	16 06 04	71.5	205.3	0.6		18.4	-22	2290	No stop
12 00 35	---	16 09 35	71.3	207.4	0.7		19.9	188	2317	11 57 06
12 00 35	J1530+3758	16 09 35	73.4	207.6	0.6		20.7	-22	2317	No stop
12 02 05	=1528+381	16 11 05	73.3	208.6	0.7		21.4	68	2328	12 00 36
12 02 05	IRAS15250	16 11 05	71.2	208.3	0.7		20.5	-22	2328	No stop
12 05 35	---	16 14 36	70.9	210.3	0.8		22.0	188	2355	12 02 06
12 06 20	J1530+3758	16 15 21	73.0	211.3	0.7		23.3	23	2355	12 06 20
12 07 50	=1528+381	16 16 51	72.9	212.2	0.8		23.9	90	2367	12 06 21
12 07 50	IRAS15250	16 16 51	70.8	211.6	0.8		22.9	-22	2367	No stop
12 11 20	---	16 20 22	70.5	213.5	0.9		24.2	188	2394	12 07 51
12 11 20	J1530+3758	16 20 22	72.6	214.3	0.8		25.4	-22	2394	No stop
12 12 50	=1528+381	16 21 52	72.5	215.2	0.8		26.0	68	2405	12 11 21
12 12 50	IRAS15250	16 21 52	70.4	214.4	0.9		24.7	-22	2405	No stop
12 16 20	---	16 25 23	70.1	216.3	1.0		26.0	188	2432	12 12 51
12 17 05	J1530+3758	16 26 08	72.1	217.7	0.9		27.7	23	2432	12 17 05
12 18 35	=1528+381	16 27 38	71.9	218.5	0.9		28.3	90	2444	12 17 06
12 18 35	IRAS15250	16 27 38	69.9	217.5	1.0		26.8	-22	2444	No stop
12 22 05	---	16 31 09	69.5	219.3	1.1		28.0	188	2471	12 18 36
12 22 05	J1530+3758	16 31 09	71.6	220.5	1.0		29.6	-21	2471	No stop
12 23 35	=1528+381	16 32 39	71.4	221.3	1.0		30.1	69	2482	12 22 06
12 23 35	IRAS15250	16 32 39	69.4	220.0	1.1		28.5	-22	2482	No stop
12 27 05	---	16 36 09	69.0	221.8	1.1		29.6	188	2509	12 23 36
12 27 45	J1530+3758	16 36 50	71.0	223.5	1.1		31.6	19	2509	12 27 45
12 29 15	=1528+381	16 38 20	70.9	224.2	1.1		32.1	90	2521	12 27 46
12 29 15	IRAS15250	16 38 20	68.8	222.9	1.2		30.3	-22	2521	No stop
12 32 45	---	16 41 50	68.5	224.5	1.2		31.3	188	2547	12 29 16
12 32 45	J1530+3758	16 41 50	70.5	226.0	1.2		33.2	-21	2547	No stop
12 34 15	=1528+381	16 43 21	70.3	226.7	1.2		33.7	69	2559	12 32 46
12 34 15	IRAS15250	16 43 21	68.3	225.2	1.3		31.8	-22	2559	No stop
12 37 45	---	16 46 51	67.9	226.9	1.3		32.7	188	2586	12 34 16

Schedule for TORUN (Code Tr)

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EP111C

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

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Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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 4 Nov 2018 Day 308 ---										
12 38 25	J1530+3758	16 47 31	69.9	228.7	1.3		34.9	19	2586	12 38 25
12 39 55	=1528+381	16 49 02	69.7	229.4	1.3		35.3	90	2597	12 38 26
12 39 55	IRAS15250	16 49 02	67.7	227.8	1.4		33.3	-22	2597	No stop
12 43 25	---	16 52 32	67.3	229.4	1.4		34.2	188	2624	12 39 56
12 43 25	J1530+3758	16 52 32	69.3	231.1	1.4		36.3	-21	2624	No stop
12 44 55	=1528+381	16 54 02	69.1	231.7	1.4		36.7	69	2636	12 43 26
12 44 55	IRAS15250	16 54 02	67.1	230.0	1.4		34.6	-21	2636	No stop
12 48 25	---	16 57 33	66.7	231.5	1.5		35.5	189	2663	12 44 56
12 49 05	J1530+3758	16 58 13	68.6	233.5	1.5		37.7	19	2663	12 49 05
12 50 35	=1528+381	16 59 43	68.4	234.2	1.5		38.1	90	2674	12 49 06
12 50 35	IRAS15250	16 59 43	66.4	232.4	1.5		36.0	-21	2674	No stop
12 54 05	---	17 03 14	66.0	233.8	1.6		36.8	189	2701	12 50 36
12 54 05	J1530+3758	17 03 14	68.0	235.6	1.5		38.9	-21	2701	No stop
12 55 35	=1528+381	17 04 44	67.8	236.3	1.6		39.3	69	2713	12 54 06
12 55 35	IRAS15250	17 04 44	65.8	234.4	1.6		37.1	-21	2713	No stop
12 59 05	---	17 08 15	65.4	235.8	1.7		37.8	189	2740	12 55 36
12 59 45	J1530+3758	17 08 55	67.3	237.9	1.6		40.2	19	2740	12 59 45
13 01 15	=1528+381	17 10 25	67.1	238.5	1.7		40.5	90	2751	12 59 46
13 01 15	IRAS15250	17 10 25	65.1	236.6	1.7		38.2	-21	2751	No stop
13 04 45	---	17 13 56	64.7	237.9	1.8		38.9	189	2778	13 01 16
13 04 45	J1530+3758	17 13 56	66.6	239.8	1.7		41.2	-21	2778	No stop
13 06 15	=1528+381	17 15 26	66.5	240.4	1.7		41.4	69	2790	13 04 46
13 06 15	IRAS15250	17 15 26	64.5	238.5	1.8		39.2	-21	2790	No stop
13 09 45	---	17 18 56	64.1	239.7	1.9		39.8	189	2817	13 06 16
13 10 25	J1530+3758	17 19 37	65.9	241.9	1.8		42.2	19	2817	13 10 25
13 11 55	=1528+381	17 21 07	65.7	242.4	1.8		42.4	90	2828	13 10 26
13 11 55	IRAS15250	17 21 07	63.8	240.5	1.9		40.2	-21	2828	No stop
13 15 25	---	17 24 37	63.3	241.7	1.9		40.8	189	2855	13 11 56
13 15 25	J1530+3758	17 24 37	65.2	243.7	1.9		43.0	-21	2855	No stop
13 16 55	=1528+381	17 26 08	65.0	244.2	1.9		43.3	69	2867	13 15 26

Schedule for TORUN (Code Tr)

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UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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	4 Nov 2018	Day 308		---					
13 16 55	IRAS15250	17 26 08	63.1	242.2	2.0		41.0	-21	2867	No stop
13 20 25	---	17 29 38	62.6	243.4	2.0		41.5	189	2894	13 16 56
13 21 05	J1530+3758	17 30 18	64.5	245.6	2.0		43.9	19	2894	13 21 05
13 22 35	=1528+381	17 31 49	64.3	246.1	2.0		44.1	90	2905	13 21 06
13 22 35	IRAS15250	17 31 49	62.3	244.1	2.1		41.8	-21	2905	No stop
13 26 05	---	17 35 19	61.9	245.2	2.1		42.3	189	2932	13 22 36
13 26 05	J1530+3758	17 35 19	63.8	247.2	2.1		44.6	-21	2932	No stop
13 27 35	=1528+381	17 36 49	63.6	247.7	2.1		44.8	69	2944	13 26 06
13 27 35	IRAS15250	17 36 49	61.7	245.7	2.2		42.5	-21	2944	No stop
13 31 05	---	17 40 20	61.2	246.8	2.2		43.0	189	2971	13 27 36
13 31 45	J1530+3758	17 41 00	63.0	249.0	2.2		45.3	19	2971	13 31 45
13 33 15	=1528+381	17 42 30	62.8	249.4	2.2		45.5	90	2982	13 31 46
13 33 15	IRAS15250	17 42 30	60.9	247.5	2.2		43.2	-21	2982	No stop
13 36 45	---	17 46 01	60.4	248.5	2.3		43.6	189	3009	13 33 16
13 36 45	J1530+3758	17 46 01	62.3	250.5	2.3		45.8	-21	3009	No stop
13 38 15	=1528+381	17 47 31	62.1	250.9	2.3		46.0	69	3021	13 36 46
13 38 15	IRAS15250	17 47 31	60.2	249.0	2.3		43.8	-21	3021	No stop
13 41 45	---	17 51 02	59.7	250.0	2.4		44.2	189	3047	13 38 16
13 42 25	J1530+3758	17 51 42	61.5	252.1	2.3		46.4	19	3047	13 42 25
13 43 55	=1528+381	17 53 12	61.3	252.6	2.4		46.6	90	3059	13 42 26
13 43 55	IRAS15250	17 53 12	59.4	250.6	2.4		44.4	-21	3059	No stop
13 47 25	---	17 56 43	58.9	251.6	2.5		44.7	189	3086	13 43 56
13 47 25	J1530+3758	17 56 43	60.7	253.5	2.4		46.9	-21	3086	No stop
13 48 55	=1528+381	17 58 13	60.5	254.0	2.5		47.0	69	3097	13 47 26
13 48 55	IRAS15250	17 58 13	58.7	252.0	2.5		44.8	-21	3097	No stop
13 52 25	---	18 01 43	58.2	253.0	2.6		45.1	189	3124	13 48 56
13 53 05	J1530+3758	18 02 24	59.9	255.1	2.5		47.3	19	3124	13 53 05
13 54 35	=1528+381	18 03 54	59.7	255.5	2.5		47.5	90	3136	13 53 06
13 54 35	IRAS15250	18 03 54	57.9	253.6	2.6		45.3	-21	3136	No stop
13 58 05	---	18 07 24	57.3	254.5	2.7		45.6	189	3163	13 54 36

Schedule for TORUN (Code Tr)

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UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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 4 Nov 2018 Day 308 ---										
13 58 05	J1530+3758	18 07 24	59.2	256.4	2.6		47.7	-21	3163	No stop
13 59 35	=1528+381	18 08 55	59.0	256.8	2.6		47.8	69	3174	13 58 06
13 59 35	IRAS15250	18 08 55	57.1	254.9	2.7		45.7	-21	3174	No stop
14 03 05	---	18 12 25	56.6	255.8	2.7		46.0	189	3201	13 59 36
14 03 45	J1530+3758	18 13 05	58.4	257.8	2.7		48.1	19	3201	14 03 45
14 05 15	=1528+381	18 14 36	58.1	258.2	2.7		48.2	90	3213	14 03 46
14 08 30	3C345	18 17 51	69.2	239.8	1.6		42.5	139	3213	14 08 30
14 12 00	---	18 21 22	68.7	241.1	1.6		43.2	210	3240	14 08 31
14 15 20	J1530+3758	18 24 42	56.7	260.7	2.9		48.7	142	3240	14 15 20
14 17 00	=1528+381	18 26 22	56.4	261.1	2.9		48.8	100	3253	14 15 21
14 17 00	IRAS15250	18 26 22	54.6	259.2	3.0		46.8	-21	3253	No stop
14 20 30	---	18 29 53	54.1	260.1	3.0		46.9	189	3279	14 17 01
14 20 30	J1530+3758	18 29 53	55.9	261.9	3.0		48.9	-20	3279	No stop
14 22 00	=1528+381	18 31 23	55.7	262.2	3.0		49.0	70	3291	14 20 31
14 22 00	IRAS15250	18 31 23	53.8	260.4	3.1		47.0	-21	3291	No stop
14 25 30	---	18 34 54	53.3	261.2	3.1		47.1	189	3318	14 22 01
14 26 10	J1530+3758	18 35 34	55.0	263.2	3.1		49.1	20	3318	14 26 10
14 27 40	=1528+381	18 37 04	54.8	263.5	3.1		49.1	90	3329	14 26 11
14 27 40	IRAS15250	18 37 04	53.0	261.7	3.2		47.2	-21	3329	No stop
14 31 10	---	18 40 35	52.5	262.5	3.2		47.3	189	3356	14 27 41
14 31 10	J1530+3758	18 40 35	54.3	264.3	3.2		49.2	-20	3356	No stop
14 32 40	=1528+381	18 42 05	54.1	264.6	3.2		49.3	70	3368	14 31 11
14 32 40	IRAS15250	18 42 05	52.2	262.9	3.2		47.4	-21	3368	No stop
14 36 10	---	18 45 36	51.7	263.6	3.3		47.5	189	3395	14 32 41
14 36 50	J1530+3758	18 46 16	53.4	265.5	3.3		49.4	20	3395	14 36 50
14 38 20	=1528+381	18 47 46	53.2	265.9	3.3		49.4	90	3406	14 36 51
14 38 20	IRAS15250	18 47 46	51.4	264.1	3.3		47.5	-21	3406	No stop
14 41 50	---	18 51 17	50.9	264.9	3.4		47.6	189	3433	14 38 21
14 41 50	J1530+3758	18 51 17	52.7	266.6	3.3		49.4	-20	3433	No stop
14 43 20	=1528+381	18 52 47	52.5	266.9	3.4		49.5	70	3445	14 41 51

Schedule for TORUN (Code Tr)
EP111C

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UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are L0 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 4 Nov 2018 Day 308 ---										
14 43 20	IRAS15250	18 52 47	50.7	265.2	3.4		47.6	-21	3445	No stop
14 46 50	---	18 56 17	50.1	266.0	3.5		47.7	189	3472	14 43 21
14 47 30	J1530+3758	18 56 57	51.8	267.8	3.4		49.5	20	3472	14 47 30
14 49 00	=1528+381	18 58 28	51.6	268.1	3.5		49.5	90	3483	14 47 31
14 49 00	IRAS15250	18 58 28	49.8	266.4	3.5		47.7	-21	3483	No stop
14 52 30	---	19 01 58	49.3	267.2	3.6		47.8	189	3510	14 49 01
14 52 30	J1530+3758	19 01 58	51.1	268.8	3.5		49.6	-20	3510	No stop
14 54 00	=1528+381	19 03 29	50.9	269.1	3.5		49.6	70	3522	14 52 31
14 54 00	IRAS15250	19 03 29	49.0	267.5	3.6		47.8	-21	3522	No stop
14 57 30	---	19 06 59	48.5	268.2	3.7		47.8	189	3549	14 54 01
14 58 10	J1530+3758	19 07 39	50.2	270.0	3.6		49.6	20	3549	14 58 10
14 59 40	=1528+381	19 09 09	50.0	270.3	3.6		49.6	90	3560	14 58 11
14 59 40	IRAS15250	19 09 09	48.2	268.6	3.7		47.8	-21	3560	No stop
15 03 10	---	19 12 40	47.7	269.4	3.7		47.9	189	3587	14 59 41
15 03 10	J1530+3758	19 12 40	49.5	271.0	3.7		49.6	-20	3587	No stop
15 04 40	=1528+381	19 14 10	49.3	271.3	3.7		49.5	70	3599	15 03 11
15 04 40	IRAS15250	19 14 10	47.4	269.7	3.8		47.9	-21	3599	No stop
15 08 10	---	19 17 41	46.9	270.4	3.8		47.9	189	3626	15 04 41
15 08 45	J1530+3758	19 18 16	48.6	272.1	3.8		49.5	15	3626	15 08 45
15 10 15	=1528+381	19 19 46	48.4	272.4	3.8		49.5	90	3637	15 08 46
15 10 15	IRAS15250	19 19 46	46.6	270.8	3.9		47.8	-21	3637	No stop
15 13 45	---	19 23 17	46.1	271.5	3.9		47.8	189	3664	15 10 16
15 13 45	J1530+3758	19 23 17	47.9	273.0	3.9		49.5	-20	3664	No stop
15 15 15	=1528+381	19 24 47	47.7	273.3	3.9		49.5	70	3676	15 13 46
15 15 15	IRAS15250	19 24 47	45.9	271.8	4.0		47.8	-21	3676	No stop
15 18 45	---	19 28 18	45.3	272.4	4.0		47.8	189	3703	15 15 16
15 19 20	J1530+3758	19 28 53	47.0	274.1	4.0		49.4	15	3703	15 19 20
15 20 50	=1528+381	19 30 23	46.8	274.4	4.0		49.4	90	3714	15 19 21
15 20 50	IRAS15250	19 30 23	45.0	272.8	4.0		47.8	-21	3714	No stop
15 24 20	---	19 33 54	44.5	273.5	4.1		47.7	189	3741	15 20 51

Schedule for TORUN (Code Tr)
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UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are L0 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 4 Nov 2018 Day 308 ---										
15 24 20	J1530+3758	19 33 54	46.3	275.0	4.0		49.3	-20	3741	No stop
15 25 50	=1528+381	19 35 24	46.1	275.3	4.1		49.3	70	3753	15 24 21
15 25 50	IRAS15250	19 35 24	44.3	273.8	4.1		47.7	-21	3753	No stop
15 29 20	---	19 38 54	43.7	274.5	4.2		47.7	189	3779	15 25 51
15 29 55	J1530+3758	19 39 29	45.5	276.1	4.1		49.2	15	3779	15 29 55
15 31 25	=1528+381	19 41 00	45.2	276.3	4.2		49.2	90	3791	15 29 56
15 31 25	IRAS15250	19 41 00	43.4	274.9	4.2		47.6	-21	3791	No stop
15 34 55	---	19 44 30	42.9	275.5	4.3		47.6	189	3818	15 31 26
15 34 55	J1530+3758	19 44 30	44.7	277.0	4.2		49.1	-20	3818	No stop
15 36 25	=1528+381	19 46 01	44.5	277.3	4.3		49.0	70	3829	15 34 56
15 36 25	IRAS15250	19 46 01	42.7	275.8	4.3		47.5	-21	3829	No stop
15 39 55	---	19 49 31	42.1	276.4	4.4		47.5	189	3856	15 36 26
15 40 30	J1530+3758	19 50 06	43.9	278.0	4.3		48.9	15	3856	15 40 30
15 42 00	=1528+381	19 51 36	43.7	278.3	4.3		48.9	90	3868	15 40 31
15 42 00	IRAS15250	19 51 36	41.8	276.8	4.4		47.4	-21	3868	No stop
15 45 30	---	19 55 07	41.3	277.5	4.5		47.3	189	3895	15 42 01
15 45 30	J1530+3758	19 55 07	43.1	278.9	4.4		48.8	-20	3895	No stop
15 47 00	=1528+381	19 56 37	42.9	279.2	4.4		48.7	70	3906	15 45 31
15 47 00	IRAS15250	19 56 37	41.1	277.8	4.5		47.3	-21	3906	No stop
15 50 30	---	20 00 08	40.6	278.4	4.5		47.2	189	3933	15 47 01
15 51 05	J1530+3758	20 00 43	42.3	279.9	4.5		48.6	15	3933	15 51 05
15 52 35	=1528+381	20 02 13	42.1	280.2	4.5		48.5	90	3945	15 51 06
15 52 35	IRAS15250	20 02 13	40.3	278.8	4.6		47.1	-21	3945	No stop
15 56 05	---	20 05 44	39.7	279.4	4.6		47.0	189	3972	15 52 36
15 56 05	J1530+3758	20 05 44	41.6	280.8	4.6		48.4	-20	3972	No stop
15 57 35	=1528+381	20 07 14	41.3	281.0	4.6		48.3	70	3983	15 56 06
15 57 35	IRAS15250	20 07 14	39.5	279.7	4.7		47.0	-21	3983	No stop
16 01 05	---	20 10 45	39.0	280.3	4.7		46.8	189	4010	15 57 36
16 01 40	J1530+3758	20 11 20	40.7	281.7	4.7		48.2	15	4010	16 01 40
16 03 10	=1528+381	20 12 50	40.5	282.0	4.7		48.1	90	4022	16 01 41

Schedule for TORUN (Code Tr)
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UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are L0 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 4 Nov 2018 Day 308 ---										
16 03 10	IRAS15250	20 12 50	38.7	280.7	4.8		46.8	-21	4022	No stop
16 06 40	---	20 16 20	38.2	281.3	4.8		46.6	189	4049	16 03 11
16 06 40	J1530+3758	20 16 20	40.0	282.6	4.8		48.0	-20	4049	No stop
16 08 10	=1528+381	20 17 51	39.8	282.9	4.8		47.9	70	4060	16 06 41
16 08 10	IRAS15250	20 17 51	37.9	281.6	4.8		46.6	-21	4060	No stop
16 11 40	---	20 21 21	37.4	282.2	4.9		46.5	189	4087	16 08 11
16 12 15	J1530+3758	20 21 56	39.2	283.6	4.9		47.7	15	4087	16 12 15
16 13 45	=1528+381	20 23 27	39.0	283.8	4.9		47.7	90	4099	16 12 16
16 13 45	IRAS15250	20 23 27	37.1	282.5	4.9		46.4	-21	4099	No stop
16 17 15	---	20 26 57	36.6	283.2	5.0		46.2	189	4126	16 13 46
16 17 15	J1530+3758	20 26 57	38.5	284.4	4.9		47.5	-21	4126	No stop
16 18 45	=1528+381	20 28 27	38.2	284.7	5.0		47.4	69	4137	16 17 16
16 18 45	IRAS15250	20 28 27	36.4	283.4	5.0		46.2	-21	4137	No stop
16 22 15	---	20 31 58	35.9	284.0	5.1		46.0	189	4164	16 18 46
16 22 50	J1530+3758	20 32 33	37.6	285.4	5.0		47.2	14	4164	16 22 50
16 24 20	=1528+381	20 34 03	37.4	285.6	5.1		47.1	90	4176	16 22 51
16 24 20	IRAS15250	20 34 03	35.6	284.4	5.1		45.9	-21	4176	No stop
16 27 50	---	20 37 34	35.1	285.0	5.2		45.7	189	4203	16 24 21
16 27 50	J1530+3758	20 37 34	36.9	286.2	5.1		47.0	-21	4203	No stop
16 29 20	=1528+381	20 39 04	36.7	286.5	5.1		46.9	69	4214	16 27 51
16 29 20	IRAS15250	20 39 04	34.9	285.3	5.2		45.7	-21	4214	No stop
16 32 50	---	20 42 35	34.3	285.9	5.2		45.5	189	4241	16 29 21
16 33 25	J1530+3758	20 43 10	36.1	287.2	5.2		46.7	14	4241	16 33 25
16 34 55	=1528+381	20 44 40	35.9	287.4	5.2		46.6	90	4253	16 33 26
16 34 55	IRAS15250	20 44 40	34.0	286.2	5.3		45.4	-21	4253	No stop
16 38 25	---	20 48 11	33.5	286.8	5.3		45.2	189	4279	16 34 56
16 38 25	J1530+3758	20 48 11	35.4	288.0	5.3		46.4	-21	4279	No stop
16 39 55	=1528+381	20 49 41	35.2	288.3	5.3		46.3	69	4291	16 38 26
16 39 55	IRAS15250	20 49 41	33.3	287.1	5.4		45.1	-21	4291	No stop
16 43 25	---	20 53 12	32.8	287.7	5.4		44.9	189	4318	16 39 56

Schedule for TORUN (Code Tr)
EP111C

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UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are L0 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 4 Nov 2018 Day 308 ---										
16 44 00	J1530+3758	20 53 47	34.6	288.9	5.4		46.0	14	4318	16 44 00
16 45 30	=1528+381	20 55 17	34.4	289.2	5.4		46.0	90	4329	16 44 01
16 45 30	IRAS15250	20 55 17	32.5	288.0	5.5		44.8	-21	4329	No stop
16 49 00	---	20 58 47	32.0	288.6	5.5		44.6	189	4356	16 45 31
16 49 00	J1530+3758	20 58 47	33.9	289.8	5.5		45.7	-21	4356	No stop
16 50 30	=1528+381	21 00 18	33.7	290.0	5.5		45.7	69	4368	16 49 01
16 50 30	IRAS15250	21 00 18	31.8	288.9	5.5		44.6	-21	4368	No stop
16 54 00	---	21 03 48	31.3	289.5	5.6		44.3	189	4395	16 50 31
16 54 35	J1530+3758	21 04 23	33.1	290.7	5.6		45.4	14	4395	16 54 35
16 56 05	=1528+381	21 05 54	32.9	290.9	5.6		45.3	90	4406	16 54 36
16 56 05	IRAS15250	21 05 54	31.0	289.8	5.6		44.2	-21	4406	No stop
16 59 35	---	21 09 24	30.5	290.4	5.7		44.0	189	4433	16 56 06
16 59 35	J1530+3758	21 09 24	32.4	291.5	5.6		45.1	-21	4433	No stop
17 01 05	=1528+381	21 10 54	32.2	291.8	5.7		45.0	69	4445	16 59 36
17 01 05	IRAS15250	21 10 54	30.3	290.7	5.7		43.9	-21	4445	No stop
17 04 35	---	21 14 25	29.8	291.3	5.8		43.7	189	4472	17 01 06
17 05 10	J1530+3758	21 15 00	31.6	292.4	5.7		44.7	14	4472	17 05 10
17 06 40	=1528+381	21 16 30	31.4	292.7	5.8		44.6	90	4483	17 05 11
17 06 40	IRAS15250	21 16 30	29.5	291.6	5.8		43.6	-21	4483	No stop
17 10 10	---	21 20 01	29.0	292.2	5.9		43.3	189	4510	17 06 41
17 10 10	J1530+3758	21 20 01	30.9	293.3	5.8		44.4	-21	4510	No stop
17 11 40	=1528+381	21 21 31	30.7	293.5	5.8		44.3	69	4522	17 10 11
17 11 40	IRAS15250	21 21 31	28.8	292.5	5.9		43.2	-21	4522	No stop
17 15 10	---	21 25 02	28.3	293.1	6.0		43.0	189	4549	17 11 41
17 15 45	J1530+3758	21 25 37	30.2	294.2	5.9		44.0	14	4549	17 15 45
17 17 15	=1528+381	21 27 07	30.0	294.4	5.9		43.9	90	4560	17 15 46
17 19 05	3C345	21 28 57	41.2	284.5	4.8		49.2	53	4560	17 19 05
17 22 50	---	21 32 43	40.7	285.1	4.8		49.0	225	4589	17 19 06
17 24 45	J1530+3758	21 34 38	28.9	295.7	6.1		43.3	58	4589	17 24 45
17 26 30	=1528+381	21 36 24	28.7	296.0	6.1		43.2	105	4603	17 24 46

Schedule for TORUN (Code Tr)
EP111C

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UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are L0 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 4 Nov 2018 Day 308 ---										
17 26 30	IRAS15250	21 36 24	26.8	295.0	6.1		42.2	-21	4603	No stop
17 30 00	---	21 39 54	26.3	295.6	6.2		42.0	189	4629	17 26 31
17 30 00	J1530+3758	21 39 54	28.2	296.5	6.1		42.9	-21	4629	No stop
17 31 30	=1528+381	21 41 24	28.0	296.8	6.2		42.8	69	4641	17 30 01
17 31 30	IRAS15250	21 41 24	26.1	295.8	6.2		41.9	-21	4641	No stop
17 35 00	---	21 44 55	25.6	296.4	6.3		41.6	189	4668	17 31 31
17 35 35	J1530+3758	21 45 30	27.5	297.5	6.2		42.5	14	4668	17 35 35
17 37 05	=1528+381	21 47 00	27.3	297.7	6.3		42.4	90	4679	17 35 36
17 37 05	IRAS15250	21 47 00	25.3	296.8	6.3		41.5	-21	4679	No stop
17 40 35	---	21 50 31	24.9	297.3	6.4		41.2	189	4706	17 37 06
17 40 35	J1530+3758	21 50 31	26.8	298.3	6.3		42.1	-21	4706	No stop
17 42 05	=1528+381	21 52 01	26.6	298.5	6.4		42.0	69	4718	17 40 36
17 42 05	IRAS15250	21 52 01	24.7	297.6	6.4		41.1	-21	4718	No stop
17 45 35	---	21 55 32	24.2	298.2	6.5		40.8	189	4745	17 42 06
17 46 10	J1530+3758	21 56 07	26.1	299.2	6.4		41.6	14	4745	17 46 10
17 47 40	=1528+381	21 57 37	25.9	299.4	6.4		41.5	90	4756	17 46 11
17 47 40	IRAS15250	21 57 37	23.9	298.5	6.5		40.6	-21	4756	No stop
17 51 10	---	22 01 08	23.5	299.1	6.6		40.4	189	4783	17 47 41
17 51 10	J1530+3758	22 01 08	25.4	300.0	6.5		41.2	-21	4783	No stop
17 52 40	=1528+381	22 02 38	25.2	300.3	6.5		41.1	69	4795	17 51 11
17 52 40	IRAS15250	22 02 38	23.3	299.4	6.6		40.2	-21	4795	No stop
17 56 10	---	22 06 08	22.8	300.0	6.6		40.0	189	4822	17 52 41
17 56 45	J1530+3758	22 06 44	24.7	300.9	6.6		40.8	14	4822	17 56 45
17 58 15	=1528+381	22 08 14	24.5	301.2	6.6		40.6	90	4833	17 56 46
17 58 15	IRAS15250	22 08 14	22.5	300.3	6.7		39.8	-21	4833	No stop
18 01 45	---	22 11 44	22.1	300.9	6.7		39.5	189	4860	17 58 16
18 01 45	J1530+3758	22 11 44	24.0	301.8	6.7		40.3	-21	4860	No stop
18 03 15	=1528+381	22 13 15	23.9	302.0	6.7		40.2	69	4872	18 01 46
18 03 15	IRAS15250	22 13 15	21.9	301.2	6.8		39.4	-21	4872	No stop
18 06 45	---	22 16 45	21.5	301.8	6.8		39.1	189	4899	18 03 16

Schedule for TORUN (Code Tr)
EP111C

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UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are L0 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 4 Nov 2018 Day 308 ---

18 07 20	J1530+3758	22 17 20	23.3	302.7	6.8	39.8	14	4899	18 07 20
18 08 50	=1528+381	22 18 51	23.1	302.9	6.8	39.7	90	4910	18 07 21
18 08 50	IRAS15250	22 18 51	21.2	302.1	6.9	38.9	-21	4910	No stop
18 12 20	---	22 22 21	20.7	302.7	6.9	38.6	189	4937	18 08 51
18 12 20	J1530+3758	22 22 21	22.7	303.5	6.9	39.4	-21	4937	No stop
18 13 50	=1528+381	22 23 51	22.5	303.8	6.9	39.3	69	4949	18 12 21
18 13 50	IRAS15250	22 23 51	20.6	303.0	6.9	38.5	-21	4949	No stop
18 17 20	---	22 27 22	20.1	303.6	7.0	38.2	189	4976	18 13 51
18 17 55	J1530+3758	22 27 57	22.0	304.4	7.0	38.9	14	4976	18 17 55
18 19 25	=1528+381	22 29 27	21.8	304.7	7.0	38.7	90	4987	18 17 56
18 19 25	IRAS15250	22 29 27	19.8	303.9	7.0	38.0	-21	4987	No stop
18 22 55	---	22 32 58	19.4	304.5	7.1	37.7	189	5014	18 19 26
18 22 55	J1530+3758	22 32 58	21.4	305.3	7.0	38.4	-21	5014	No stop
18 24 25	=1528+381	22 34 28	21.2	305.5	7.1	38.3	69	5026	18 22 56
18 24 25	IRAS15250	22 34 28	19.2	304.8	7.1	37.5	-21	5026	No stop
18 27 55	---	22 37 59	18.8	305.4	7.2	37.2	189	5053	18 24 26
18 28 30	J1530+3758	22 38 34	20.7	306.2	7.1	37.9	14	5053	18 28 30
18 30 00	=1528+381	22 40 04	20.5	306.5	7.2	37.8	90	5064	18 28 31

SETUP FILE INFORMATION:

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

==== Setup file: sess318.L1024_111c

Setup group: 8	Station: TORUN	Total bit rate: 1024
Format: MARK5B	Bits per sample: 2	Sample rate: 32.000
Number of channels: 16	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	2300.00
	2300.00	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	
	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	L	L
Pol. =	RCP	LCP	RCP	LCP	RCP	LCP	RCP	LCP	
	RCP	LCP	RCP	LCP	RCP	LCP	RCP	LCP	
BBC =	1	5	1	5	2	6	2	6	
	3	7	3	7	4	8	4	8	
BBC SB=	U	U	L	L	U	U	L	L	L
	U	U	L	L	U	U	L	L	L
IF =	A1	B1	A1	B1	A1	B1	A1	B1	B1
	A1	B1	A1	B1	A1	B1	A1	B1	B1

The following frequency sets based on these setups were used.

Frequency Set: 3 Setup file default. Used with PCAL = off

LO sum=	1586.89	1586.89	1586.89	1586.89	1618.89	1618.89	1618.89	1618.89
	1650.89	1650.89	1650.89	1650.89	1682.89	1682.89	1682.89	1682.89
BBC fr=	713.11	713.11	713.11	713.11	681.11	681.11	681.11	681.11
	649.11	649.11	649.11	649.11	617.11	617.11	617.11	617.11
Bandwd=	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00
	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00

Matching frequency sets: 3

Track assignments are:

track1= 2, 10, 18, 26, 4, 12, 20, 28, 6, 14, 22, 30, 8, 16, 24, 32

barrel=roll_off

POSITIONS OF SOURCES USED IN RECORDING SCANS

Source	Source position (RA/Dec) (B1950)	(J2000)	(Date)	Error (mas)
* IRAS15250	15 25 03.700294	* 15 26 59.404000	15 27 40.483131	0.00
	36 09 01.10678	* 35 58 37.53000	35 54 58.07675	0.00
1528+381	15 28 23.875812	* 15 30 16.252182	15 30 56.052778	0.17
* J1530+3758	38 08 43.35122	* 37 58 31.16659	37 54 56.04908	0.19
	/home/guest/rmc/SCHED/sched11.5/catalogs/sources.gsfc			
	GSFC 2016a X/S astro solution, 114 observations.			
* 3C345	16 41 17.606229	* 16 42 58.809967	16 43 34.653985	0.79
J1642+3948	39 54 10.81492	* 39 48 36.99399	39 46 49.52092	0.59
1641+399	/home/guest/rmc/SCHED/sched11.5/catalogs/sources.gsfc			
J1642+39	GSFC 2016a X/S astro solution, 53724 observations.			

em133ctr

EM133C
PI: Marcote

Address: JIVE

Observing mode: evn

Schedule for TORUN (Code Tr)

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EM133C

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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 5 Nov 2018 Day 309 ---										
Next scan frequencies: 1610.49 1610.49 1610.49 1610.49 1642.49 1642.49 1642.49 1642.49										
1674.49 1674.49 1674.49 1674.49 1706.49 1706.49 1706.49 1706.49										
Next BBC frequencies: 689.51 689.51 689.51 689.51 657.51 657.51 657.51 657.51										
625.51 625.51 625.51 625.51 593.51 593.51 593.51 593.51										
Next scan bandwidths: 16.00 16.00 16.00 16.00 16.00 16.00 16.00 16.00										
16.00 16.00 16.00 16.00 16.00 16.00 16.00 16.00										

01 00 00	J0815+3635	05 11 08	54.0	98.4	-3.1	-47.7	0	0	01 00 00	
01 03 00	=0812+367	05 14 09	54.4	99.1	-3.0	-47.5	180	23	01 00 01	
01 03 00	MRK622	05 14 09	57.2	97.7	-2.9	-49.9	-24	23	No stop	
01 07 00	---	05 18 09	57.8	98.6	-2.8	-49.8	216	54	01 03 01	
01 07 00	J0815+3635	05 18 09	55.0	100.0	-3.0	-47.4	-24	54	No stop	
01 08 30	=0812+367	05 19 39	55.2	100.4	-2.9	-47.3	66	65	01 07 01	
01 08 30	MRK622	05 19 39	58.0	98.9	-2.8	-49.7	-24	65	No stop	
01 12 30	---	05 23 40	58.6	99.9	-2.8	-49.5	216	96	01 08 31	
01 13 20	J0815+3635	05 24 30	56.0	101.6	-2.9	-47.1	26	96	01 13 20	
01 14 50	=0812+367	05 26 01	56.2	101.9	-2.8	-47.0	90	108	01 13 21	
01 14 50	MRK622	05 26 01	58.9	100.5	-2.7	-49.4	-24	108	No stop	
01 18 50	---	05 30 01	59.5	101.5	-2.6	-49.2	216	138	01 14 51	
01 18 50	J0815+3635	05 30 01	56.8	102.9	-2.8	-46.7	-24	138	No stop	
01 20 20	=0812+367	05 31 31	57.0	103.3	-2.8	-46.6	66	150	01 18 51	
01 20 20	MRK622	05 31 31	59.7	101.8	-2.6	-49.1	-24	150	No stop	
01 24 20	---	05 35 32	60.3	102.9	-2.6	-48.8	216	181	01 20 21	
01 25 10	J0815+3635	05 36 22	57.7	104.6	-2.7	-46.3	26	181	01 25 10	
01 26 40	=0812+367	05 37 52	57.9	105.0	-2.6	-46.2	90	192	01 25 11	
01 26 40	J0927+3902	05 37 52	48.9	86.2	-3.8	-50.4	-52	192	No stop	
01 30 40	=4C39.25	05 41 53	49.5	86.9	-3.8	-50.4	188	223	01 26 41	
01 32 10	J0815+3635	05 43 23	58.7	106.4	-2.6	-45.8	36	223	01 32 10	
01 34 10	=0812+367	05 45 24	59.0	107.0	-2.5	-45.6	120	238	01 32 11	
01 34 10	MRK622	05 45 24	61.8	105.5	-2.4	-48.1	-24	238	No stop	
01 38 10	---	05 49 24	62.3	106.6	-2.3	-47.7	216	269	01 34 11	

Schedule for TORUN (Code Tr)

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EM133C

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes 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	5 Nov 2018	Day 309			---					
01 38 10	J0815+3635	05 49 24	59.6	108.1	-2.5		-45.3	-24	269	No stop	
01 39 40	=0812+367	05 50 55	59.8	108.5	-2.4		-45.1	66	281	01 38 11	
01 39 40	MRK622	05 50 55	62.6	107.0	-2.3		-47.6	-24	281	No stop	
01 43 40	---	05 54 55	63.1	108.2	-2.2		-47.2	216	312	01 39 41	
01 44 30	J0815+3635	05 55 45	60.5	109.9	-2.3		-44.6	26	312	01 44 30	
01 46 00	=0812+367	05 57 16	60.7	110.3	-2.3		-44.5	90	323	01 44 31	
01 46 00	MRK622	05 57 16	63.5	108.9	-2.2		-46.9	-24	323	No stop	
01 50 00	---	06 01 16	64.0	110.1	-2.1		-46.5	216	354	01 46 01	
01 50 00	J0815+3635	06 01 16	61.3	111.5	-2.3		-44.0	-24	354	No stop	
01 51 30	=0812+367	06 02 47	61.5	112.0	-2.2		-43.9	66	365	01 50 01	
01 51 30	MRK622	06 02 47	64.2	110.6	-2.1		-46.3	-25	365	No stop	
01 55 30	---	06 06 47	64.8	111.8	-2.0		-45.8	215	396	01 51 31	
01 56 20	J0815+3635	06 07 37	62.1	113.4	-2.2		-43.3	26	396	01 56 20	
01 57 50	=0812+367	06 09 08	62.3	113.9	-2.1		-43.1	90	408	01 56 21	
01 57 50	MRK622	06 09 08	65.1	112.6	-2.0		-45.5	-25	408	No stop	
02 01 50	---	06 13 08	65.7	113.9	-1.9		-44.9	215	438	01 57 51	
02 01 50	J0815+3635	06 13 08	62.9	115.2	-2.1		-42.5	-24	438	No stop	
02 03 20	=0812+367	06 14 39	63.1	115.7	-2.0		-42.3	66	450	02 01 51	
02 03 20	MRK622	06 14 39	65.9	114.4	-1.9		-44.7	-25	450	No stop	
02 07 20	---	06 18 39	66.4	115.8	-1.8		-44.0	215	481	02 03 21	
02 08 10	J0815+3635	06 19 29	63.7	117.3	-2.0		-41.6	26	481	02 08 10	
02 09 40	=0812+367	06 21 00	63.9	117.8	-1.9		-41.4	90	492	02 08 11	
02 09 40	MRK622	06 21 00	66.8	116.6	-1.8		-43.7	-25	492	No stop	
02 13 40	---	06 25 00	67.3	118.1	-1.7		-42.9	215	523	02 09 41	
02 13 40	J0815+3635	06 25 00	64.5	119.2	-1.9		-40.7	-24	523	No stop	
02 15 10	=0812+367	06 26 30	64.7	119.8	-1.8		-40.4	66	535	02 13 41	
02 15 10	MRK622	06 26 30	67.5	118.6	-1.7		-42.7	-25	535	No stop	
02 19 10	---	06 30 31	68.0	120.1	-1.6		-41.9	215	565	02 15 11	
02 20 00	J0815+3635	06 31 21	65.3	121.5	-1.8		-39.6	26	565	02 20 00	
02 21 30	=0812+367	06 32 51	65.5	122.1	-1.7		-39.3	90	577	02 20 01	
02 21 30	MRK622	06 32 51	68.3	121.1	-1.6		-41.4	-25	577	No stop	
02 25 30	---	06 36 52	68.8	122.7	-1.5		-40.5	215	608	02 21 31	

Schedule for TORUN (Code Tr)

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EM133C

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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 5 Nov 2018 Day 309 ---										
02 25 30	J0815+3635	06 36 52	66.0	123.6	-1.7		-38.5	-24	608	No stop
02 27 00	=0812+367	06 38 22	66.2	124.2	-1.6		-38.2	66	619	02 25 31
02 27 00	MRK622	06 38 22	69.0	123.3	-1.5		-40.2	-25	619	No stop
02 31 00	---	06 42 23	69.5	125.0	-1.4		-39.2	215	650	02 27 01
02 31 50	J0815+3635	06 43 13	66.8	126.1	-1.6		-37.1	26	650	02 31 50
02 33 20	=0812+367	06 44 43	67.0	126.7	-1.5		-36.8	90	662	02 31 51
02 33 20	MRK622	06 44 43	69.8	126.0	-1.4		-38.7	-25	662	No stop
02 37 20	---	06 48 44	70.3	127.8	-1.3		-37.6	215	692	02 33 21
02 37 20	J0815+3635	06 48 44	67.4	128.4	-1.5		-35.8	-24	692	No stop
02 38 50	=0812+367	06 50 14	67.6	129.1	-1.4		-35.5	66	704	02 37 21
02 38 50	MRK622	06 50 14	70.5	128.5	-1.3		-37.2	-25	704	No stop
02 42 50	---	06 54 15	70.9	130.4	-1.2		-36.0	215	735	02 38 51
02 43 40	J0815+3635	06 55 05	68.2	131.2	-1.4		-34.2	26	735	02 43 40
02 45 10	=0812+367	06 56 35	68.3	131.9	-1.3		-33.8	90	746	02 43 41
02 45 10	MRK622	06 56 35	71.2	131.5	-1.2		-35.3	-25	746	No stop
02 49 10	---	07 00 36	71.6	133.5	-1.1		-34.0	215	777	02 45 11
02 49 10	J0815+3635	07 00 36	68.8	133.7	-1.3		-32.7	-24	777	No stop
02 50 40	=0812+367	07 02 06	68.9	134.4	-1.2		-32.3	66	788	02 49 11
02 50 40	MRK622	07 02 06	71.8	134.3	-1.1		-33.5	-25	788	No stop
02 54 40	---	07 06 07	72.2	136.4	-1.0		-32.2	215	819	02 50 41
02 55 30	J0815+3635	07 06 57	69.4	136.7	-1.2		-30.8	26	819	02 55 30
02 57 00	=0812+367	07 08 27	69.6	137.5	-1.1		-30.3	90	831	02 55 31
02 57 00	MRK622	07 08 27	72.5	137.7	-1.0		-31.3	-25	831	No stop
03 01 00	---	07 12 28	72.9	140.0	-0.9		-29.8	215	862	02 57 01
03 01 00	J0815+3635	07 12 28	70.0	139.5	-1.1		-29.0	-24	862	No stop
03 02 30	=0812+367	07 13 58	70.1	140.3	-1.0		-28.5	66	873	03 01 01
03 02 30	MRK622	07 13 58	73.0	140.8	-0.9		-29.2	-25	873	No stop
03 06 30	---	07 17 59	73.4	143.2	-0.8		-27.6	215	904	03 02 31
03 07 20	J0815+3635	07 18 49	70.6	142.9	-1.0		-26.8	26	904	03 07 20
03 08 50	=0812+367	07 20 19	70.7	143.7	-0.9		-26.3	90	915	03 07 21

Schedule for TORUN (Code Tr)

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EM133C

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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	5 Nov 2018	Day 309		---					
03 08 50	MRK622	07 20 19	73.6	144.6	-0.8		-26.6	-25	915	No stop
03 12 50	---	07 24 20	73.9	147.1	-0.7		-24.8	215	946	03 08 51
03 12 50	J0815+3635	07 24 20	71.1	145.9	-0.9		-24.8	-24	946	No stop
03 14 20	=0812+367	07 25 50	71.2	146.7	-0.8		-24.2	66	958	03 12 51
03 14 20	MRK622	07 25 50	74.0	148.1	-0.7		-24.1	-25	958	No stop
03 18 20	---	07 29 51	74.3	150.7	-0.7		-22.2	215	988	03 14 21
03 19 10	J0815+3635	07 30 41	71.6	149.6	-0.8		-22.3	26	988	03 19 10
03 20 40	=0812+367	07 32 11	71.7	150.4	-0.7		-21.6	90	1000	03 19 11
03 20 40	MRK622	07 32 11	74.5	152.3	-0.6		-21.0	-25	1000	No stop
03 24 40	---	07 36 12	74.8	155.1	-0.5		-19.0	215	1031	03 20 41
03 24 40	J0815+3635	07 36 12	72.0	152.9	-0.7		-19.9	-24	1031	No stop
03 26 10	=0812+367	07 37 42	72.1	153.8	-0.6		-19.3	66	1042	03 24 41
03 26 10	MRK622	07 37 42	74.9	156.1	-0.5		-18.2	-24	1042	No stop
03 30 10	---	07 41 43	75.1	159.0	-0.5		-16.1	216	1073	03 26 11
03 31 00	J0815+3635	07 42 33	72.4	156.8	-0.6		-17.1	26	1073	03 31 00
03 32 30	=0812+367	07 44 03	72.5	157.8	-0.5		-16.4	90	1085	03 31 01
03 32 30	MRK622	07 44 03	75.2	160.7	-0.4		-14.8	-24	1085	No stop
03 36 30	---	07 48 04	75.4	163.7	-0.3		-12.5	216	1115	03 32 31
03 36 30	J0815+3635	07 48 04	72.7	160.4	-0.5		-14.5	-24	1115	No stop
03 38 00	=0812+367	07 49 34	72.8	161.4	-0.5		-13.8	66	1127	03 36 31
03 38 00	MRK622	07 49 34	75.5	164.8	-0.3		-11.6	-24	1127	No stop
03 42 00	---	07 53 35	75.6	167.9	-0.3		-9.3	216	1158	03 38 01
03 42 50	J0815+3635	07 54 25	73.0	164.6	-0.4		-11.5	26	1158	03 42 50
03 44 20	=0812+367	07 55 55	73.0	165.6	-0.3		-10.7	90	1169	03 42 51
03 44 20	MRK622	07 55 55	75.7	169.7	-0.2		-7.9	-24	1169	No stop
03 48 20	---	07 59 56	75.8	172.9	-0.1		-5.5	216	1200	03 44 21
03 48 20	J0815+3635	07 59 56	73.2	168.3	-0.3		-8.7	-24	1200	No stop
03 49 50	=0812+367	08 01 26	73.2	169.4	-0.3		-7.9	66	1212	03 48 21
03 49 50	MRK622	08 01 26	75.8	174.1	-0.1		-4.6	-25	1212	No stop
03 53 50	---	08 05 27	75.8	177.2	-0.1		-2.1	215	1242	03 49 51

Schedule for TORUN (Code Tr)

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EM133C

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

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Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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	5 Nov 2018	Day 309		---					
03 54 40	J0815+3635	08 06 17	73.3	172.7	-0.2		-5.4	25	1242	03 54 40
03 56 10	=0812+367	08 07 47	73.4	173.8	-0.1		-4.6	90	1254	03 54 41
03 56 10	MRK622	08 07 47	75.8	179.1	-0.0		-0.7	-26	1254	No stop
04 00 10	---	08 11 48	75.8	182.3	0.0		1.8	214	1285	03 56 11
04 00 10	J0815+3635	08 11 48	73.4	176.6	-0.1		-2.5	-26	1285	No stop
04 01 40	=0812+367	08 13 18	73.4	177.6	-0.1		-1.8	64	1296	04 00 11
04 01 40	MRK622	08 13 18	75.8	183.5	0.1		2.7	-27	1296	No stop
04 05 40	---	08 17 19	75.8	186.7	0.1		5.1	213	1327	04 01 41
04 06 30	J0815+3635	08 18 09	73.4	181.1	0.0		0.8	23	1327	04 06 30
04 08 00	=0812+367	08 19 39	73.4	182.1	0.1		1.6	90	1338	04 06 31
04 08 00	MRK622	08 19 39	75.7	188.5	0.2		6.5	-28	1338	No stop
04 12 00	---	08 23 40	75.6	191.6	0.2		8.9	212	1369	04 08 01
04 12 00	J0815+3635	08 23 40	73.4	184.9	0.1		3.7	-28	1369	No stop
04 13 30	=0812+367	08 25 10	73.4	186.0	0.1		4.5	62	1381	04 12 01
04 13 30	MRK622	08 25 10	75.6	192.8	0.3		9.8	-29	1381	No stop
04 17 30	---	08 29 11	75.4	195.8	0.3		12.2	211	1412	04 13 31
04 18 20	J0815+3635	08 30 01	73.3	189.4	0.2		7.0	21	1412	04 18 20
04 19 50	=0812+367	08 31 31	73.2	190.4	0.2		7.8	90	1423	04 18 21
04 19 50	MRK622	08 31 31	75.3	197.6	0.4		13.5	-30	1423	No stop
04 23 50	---	08 35 32	75.1	200.6	0.4		15.7	210	1454	04 19 51
04 23 50	J0815+3635	08 35 32	73.1	193.2	0.3		9.8	-29	1454	No stop
04 25 20	=0812+367	08 37 02	73.1	194.2	0.3		10.5	61	1465	04 23 51
04 25 20	MRK622	08 37 02	75.1	201.6	0.5		16.5	-31	1465	No stop
04 29 20	---	08 41 02	74.8	204.5	0.5		18.7	209	1496	04 25 21
04 30 10	J0815+3635	08 41 53	72.9	197.4	0.4		12.9	20	1496	04 30 10
04 31 40	=0812+367	08 43 23	72.8	198.4	0.4		13.7	90	1508	04 30 11
04 31 40	MRK622	08 43 23	74.7	206.1	0.6		19.9	-31	1508	No stop
04 35 40	---	08 47 24	74.4	208.9	0.6		21.9	209	1538	04 31 41
04 35 40	J0815+3635	08 47 24	72.6	201.0	0.5		15.6	-30	1538	No stop
04 37 10	=0812+367	08 48 54	72.5	202.0	0.5		16.3	60	1550	04 35 41

Schedule for TORUN (Code Tr)

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EM133C

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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 5 Nov 2018 Day 309 ---										
04 37 10	MRK622	08 48 54	74.3	209.9	0.7		22.6	-31	1550	No stop
04 41 10	---	08 52 54	74.0	212.5	0.7		24.5	209	1581	04 37 11
04 42 00	J0815+3635	08 53 45	72.2	205.1	0.6		18.5	20	1581	04 42 00
04 43 30	=0812+367	08 55 15	72.1	206.0	0.6		19.1	90	1592	04 42 01
04 45 00	J0927+3902	08 56 45	74.9	156.0	-0.5		-18.3	-25	1592	04 45 00
04 49 00	=4C39.25	09 00 46	75.1	158.8	-0.5		-16.2	215	1623	04 45 01
04 50 40	J0815+3635	09 02 26	71.6	210.4	0.8		22.2	-18	1623	04 50 40
04 52 40	=0812+367	09 04 26	71.4	211.5	0.8		23.0	102	1638	04 50 41
04 52 40	MRK622	09 04 26	72.9	219.5	0.9		29.4	-31	1638	No stop
04 56 40	---	09 08 27	72.6	221.8	1.0		31.0	209	1669	04 52 41
04 56 40	J0815+3635	09 08 27	71.1	213.8	0.9		24.6	-30	1669	No stop
04 58 10	=0812+367	09 09 57	71.0	214.7	0.9		25.2	60	1681	04 56 41
04 58 10	MRK622	09 09 57	72.4	222.6	1.0		31.5	-31	1681	No stop
05 02 10	---	09 13 58	72.0	224.8	1.1		32.9	209	1712	04 58 11
05 03 00	J0815+3635	09 14 48	70.6	217.3	1.0		26.9	20	1712	05 03 00
05 04 30	=0812+367	09 16 18	70.4	218.1	1.0		27.5	90	1723	05 03 01
05 04 30	MRK622	09 16 18	71.7	226.0	1.1		33.7	-31	1723	No stop
05 08 30	---	09 20 19	71.3	228.0	1.2		35.0	209	1754	05 04 31
05 08 30	J0815+3635	09 20 19	70.0	220.2	1.1		28.9	-30	1754	No stop
05 10 00	=0812+367	09 21 49	69.9	221.0	1.1		29.4	60	1765	05 08 31
05 10 00	MRK622	09 21 49	71.1	228.8	1.2		35.5	-31	1765	No stop
05 14 00	---	09 25 50	70.7	230.7	1.3		36.7	209	1796	05 10 01
05 14 50	J0815+3635	09 26 40	69.4	223.4	1.2		30.9	20	1796	05 14 50
05 16 20	=0812+367	09 28 10	69.3	224.2	1.2		31.4	90	1808	05 14 51
05 16 20	MRK622	09 28 10	70.4	231.8	1.3		37.3	-31	1808	No stop
05 20 20	---	09 32 11	69.9	233.6	1.4		38.4	209	1838	05 16 21
05 20 20	J0815+3635	09 32 11	68.8	226.1	1.3		32.6	-30	1838	No stop
05 21 50	=0812+367	09 33 41	68.7	226.8	1.3		33.0	60	1850	05 20 21
05 21 50	MRK622	09 33 41	69.7	234.3	1.4		38.8	-30	1850	No stop
05 25 50	---	09 37 42	69.2	236.0	1.5		39.8	210	1881	05 21 51

Schedule for TORUN (Code Tr)

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EM133C

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Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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 5 Nov 2018 Day 309 ---										
05 26 40	J0815+3635	09 38 32	68.1	229.0	1.4		34.3	21	1881	05 26 40
05 28 10	=0812+367	09 40 02	68.0	229.6	1.4		34.7	90	1892	05 26 41
05 28 10	MRK622	09 40 02	68.9	236.9	1.5		40.3	-30	1892	No stop
05 32 10	---	09 44 03	68.4	238.6	1.6		41.2	210	1923	05 28 11
05 32 10	J0815+3635	09 44 03	67.5	231.4	1.5		35.7	-29	1923	No stop
05 33 40	=0812+367	09 45 33	67.3	232.0	1.5		36.1	61	1935	05 32 11
05 33 40	MRK622	09 45 33	68.2	239.2	1.6		41.5	-30	1935	No stop
05 37 40	---	09 49 34	67.7	240.7	1.7		42.3	210	1965	05 33 41
05 38 30	J0815+3635	09 50 24	66.7	234.0	1.6		37.2	21	1965	05 38 30
05 40 00	=0812+367	09 51 54	66.5	234.6	1.6		37.5	90	1977	05 38 31
05 40 00	MRK622	09 51 54	67.4	241.6	1.7		42.8	-29	1977	No stop
05 44 00	---	09 55 55	66.9	243.1	1.8		43.5	211	2008	05 40 01
05 44 00	J0815+3635	09 55 55	66.1	236.2	1.7		38.4	-28	2008	No stop
05 45 30	=0812+367	09 57 25	65.9	236.8	1.7		38.7	62	2019	05 44 01
05 45 30	MRK622	09 57 25	66.7	243.6	1.8		43.8	-29	2019	No stop
05 49 30	---	10 01 26	66.1	245.0	1.9		44.4	211	2050	05 45 31
05 50 20	J0815+3635	10 02 16	65.2	238.6	1.8		39.6	22	2050	05 50 20
05 51 50	=0812+367	10 03 46	65.1	239.2	1.8		39.9	90	2062	05 50 21
05 51 50	MRK622	10 03 46	65.8	245.8	1.9		44.8	-29	2062	No stop
05 55 50	---	10 07 47	65.3	247.1	2.0		45.3	211	2092	05 51 51
05 55 50	J0815+3635	10 07 47	64.5	240.6	1.9		40.6	-28	2092	No stop
05 57 20	=0812+367	10 09 17	64.3	241.1	1.9		40.9	62	2104	05 55 51
05 57 20	MRK622	10 09 17	65.1	247.6	2.0		45.6	-28	2104	No stop
06 01 20	---	10 13 18	64.5	248.9	2.1		46.1	212	2135	05 57 21
06 02 10	J0815+3635	10 14 08	63.7	242.8	2.0		41.7	23	2135	06 02 10
06 03 40	=0812+367	10 15 38	63.5	243.3	2.0		41.9	90	2146	06 02 11
06 03 40	MRK622	10 15 38	64.2	249.6	2.1		46.4	-28	2146	No stop
06 07 40	---	10 19 39	63.6	250.8	2.2		46.8	212	2177	06 03 41
06 07 40	J0815+3635	10 19 39	63.0	244.6	2.1		42.5	-27	2177	No stop
06 09 10	=0812+367	10 21 09	62.7	245.1	2.1		42.7	63	2188	06 07 41

Schedule for TORUN (Code Tr)

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EM133C

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Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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 5 Nov 2018 Day 309 ---										
06 09 10	MRK622	10 21 09	63.4	251.3	2.2		47.0	-28	2188	No stop
06 13 10	---	10 25 10	62.8	252.4	2.3		47.4	212	2219	06 09 11
06 14 00	J0815+3635	10 26 00	62.1	246.7	2.2		43.3	23	2219	06 14 00
06 15 30	=0812+367	10 27 30	61.9	247.1	2.2		43.5	90	2231	06 14 01
06 15 30	MRK622	10 27 30	62.5	253.1	2.3		47.6	-27	2231	No stop
06 19 30	---	10 31 31	61.9	254.2	2.4		48.0	213	2262	06 15 31
06 19 30	J0815+3635	10 31 31	61.3	248.3	2.2		44.0	-27	2262	No stop
06 21 00	=0812+367	10 33 01	61.1	248.8	2.3		44.2	63	2273	06 19 31
06 21 00	MRK622	10 33 01	61.7	254.7	2.4		48.1	-27	2273	No stop
06 25 00	---	10 37 01	61.1	255.7	2.5		48.4	213	2304	06 21 01
06 25 50	J0815+3635	10 37 52	60.4	250.2	2.4		44.7	24	2304	06 25 50
06 27 20	=0812+367	10 39 22	60.2	250.7	2.4		44.8	90	2315	06 25 51
06 27 20	MRK622	10 39 22	60.8	256.4	2.5		48.6	-27	2315	No stop
06 31 20	---	10 43 23	60.2	257.4	2.6		48.9	213	2346	06 27 21
06 31 20	J0815+3635	10 43 23	59.6	251.8	2.4		45.2	-26	2346	No stop
06 32 50	=0812+367	10 44 53	59.4	252.2	2.5		45.4	64	2358	06 31 21
06 32 50	MRK622	10 44 53	60.0	257.8	2.6		49.0	-26	2358	No stop
06 36 50	---	10 48 53	59.4	258.8	2.7		49.2	214	2388	06 32 51
06 37 40	J0815+3635	10 49 44	58.7	253.5	2.6		45.8	24	2388	06 37 40
06 39 10	=0812+367	10 51 14	58.5	253.9	2.6		45.9	90	2400	06 37 41
06 39 10	MRK622	10 51 14	59.0	259.4	2.7		49.4	-26	2400	No stop
06 43 10	---	10 55 14	58.4	260.4	2.8		49.6	214	2431	06 39 11
06 43 10	J0815+3635	10 55 14	57.9	255.0	2.6		46.2	-26	2431	No stop
06 44 40	=0812+367	10 56 45	57.7	255.4	2.7		46.3	64	2442	06 43 11
06 44 40	MRK622	10 56 45	58.2	260.7	2.8		49.6	-26	2442	No stop
06 48 40	---	11 00 45	57.6	261.7	2.9		49.8	214	2473	06 44 41
06 49 30	J0815+3635	11 01 36	57.0	256.6	2.7		46.6	25	2473	06 49 30
06 51 00	=0812+367	11 03 06	56.8	257.0	2.8		46.7	90	2485	06 49 31
06 51 00	MRK622	11 03 06	57.3	262.2	2.9		49.9	-26	2485	No stop
06 55 00	---	11 07 06	56.7	263.1	3.0		50.0	214	2515	06 51 01

Schedule for TORUN (Code Tr)

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EM133C

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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 5 Nov 2018 Day 309 ---										
06 55 00	J0815+3635	11 07 06	56.2	258.0	2.8		47.0	-25	2515	No stop
06 56 30	=0812+367	11 08 37	56.0	258.4	2.9		47.1	65	2527	06 55 01
06 56 30	MRK622	11 08 37	56.4	263.5	3.0		50.1	-25	2527	No stop
07 00 30	---	11 12 37	55.8	264.4	3.1		50.2	215	2558	06 56 31
07 01 20	J0815+3635	11 13 27	55.3	259.6	2.9		47.3	25	2558	07 01 20
07 02 50	=0812+367	11 14 58	55.0	259.9	3.0		47.4	90	2569	07 01 21
07 02 50	MRK622	11 14 58	55.5	264.9	3.1		50.3	-25	2569	No stop
07 06 50	---	11 18 58	54.9	265.8	3.2		50.4	215	2600	07 02 51
07 06 50	J0815+3635	11 18 58	54.5	260.9	3.0		47.5	-25	2600	No stop
07 08 20	=0812+367	11 20 29	54.2	261.2	3.1		47.6	65	2612	07 06 51
07 08 20	MRK622	11 20 29	54.7	266.1	3.2		50.4	-25	2612	No stop
07 12 20	---	11 24 29	54.1	266.9	3.3		50.4	215	2642	07 08 21
07 13 10	J0815+3635	11 25 19	53.5	262.3	3.1		47.8	26	2642	07 13 10
07 14 40	=0812+367	11 26 50	53.3	262.7	3.2		47.8	90	2654	07 13 11
07 14 40	MRK622	11 26 50	53.7	267.4	3.3		50.5	-25	2654	No stop
07 18 40	---	11 30 50	53.1	268.3	3.4		50.5	215	2685	07 14 41
07 18 40	J0815+3635	11 30 50	52.7	263.6	3.2		47.9	-24	2685	No stop
07 20 10	=0812+367	11 32 21	52.5	263.9	3.3		48.0	66	2696	07 18 41
07 20 10	MRK622	11 32 21	52.9	268.6	3.4		50.5	-24	2696	No stop
07 24 10	---	11 36 21	52.3	269.4	3.5		50.5	216	2727	07 20 11
07 25 00	J0815+3635	11 37 11	51.7	265.0	3.3		48.1	26	2727	07 25 00
07 26 30	=0812+367	11 38 42	51.5	265.3	3.4		48.1	90	2738	07 25 01
07 26 30	MRK622	11 38 42	51.9	269.8	3.5		50.5	-24	2738	No stop
07 30 30	---	11 42 42	51.3	270.6	3.6		50.5	216	2769	07 26 31
07 30 30	J0815+3635	11 42 42	50.9	266.1	3.4		48.2	-24	2769	No stop
07 32 00	=0812+367	11 44 12	50.7	266.5	3.5		48.2	66	2781	07 30 31
07 32 00	MRK622	11 44 12	51.1	270.9	3.6		50.5	-24	2781	No stop
07 36 00	---	11 48 13	50.5	271.7	3.7		50.5	216	2812	07 32 01
07 36 50	J0815+3635	11 49 03	50.0	267.5	3.5		48.3	26	2812	07 36 50
07 38 20	=0812+367	11 50 34	49.7	267.8	3.6		48.3	90	2823	07 36 51

Schedule for TORUN (Code Tr)

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EM133C

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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 5 Nov 2018 Day 309 ---

```
07 38 20 MRK622          11 50 34 50.2 272.2 3.7      50.5  -24   2823  No stop
07 42 20 ---          11 54 34 49.6 273.0 3.8      50.4   216   2854  07 38 21

07 42 20 J0815+3635   11 54 34 49.1 268.6 3.6      48.3  -24   2854  No stop
07 43 50 =0812+367       11 56 04 48.9 268.9 3.7      48.3   66   2865  07 42 21

07 43 50 MRK622          11 56 04 49.3 273.2 3.8      50.4  -24   2865  No stop
07 47 50 ---          12 00 05 48.7 274.0 3.9      50.4   216   2896  07 43 51

07 48 40 J0815+3635   12 00 55 48.2 269.9 3.7      48.4   27   2896  07 48 40
07 50 10 =0812+367       12 02 25 48.0 270.2 3.8      48.4   90   2908  07 48 41

07 50 10 MRK622          12 02 25 48.4 274.4 3.9      50.3  -24   2908  No stop
07 54 10 ---          12 06 26 47.8 275.2 4.0      50.3   216   2938  07 50 11

07 55 00 J0815+3635   12 07 16 47.2 271.2 3.8      48.3   27   2938  07 55 00
07 56 00 =0812+367       12 08 16 47.1 271.3 3.9      48.3   60   2946  07 55 01

07 56 00 J0927+3902   12 08 16 59.4 258.8 2.7      49.3  -59   2946  No stop
08 00 00 =4C39.25      12 12 17 58.8 259.8 2.7      49.5  181   2977  07 56 01
```

SETUP FILE INFORMATION:

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

==== Setup file: sess318.L1024

```
Setup group: 10          Station: TORUN          Total bit rate: 1024
Format: MARK5B         Bits per sample: 2      Sample rate: 32.000
Number of channels: 16  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	2300.00
	2300.00	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	
	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	L	L
Pol. =	RCP	LCP	RCP	LCP	RCP	LCP	RCP	LCP	
	RCP	LCP	RCP	LCP	RCP	LCP	RCP	LCP	
BBC =	1	5	1	5	2	6	2	6	
	3	7	3	7	4	8	4	8	
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=	1610.49	1610.49	1610.49	1610.49	1642.49	1642.49	1642.49	1642.49
	1674.49	1674.49	1674.49	1674.49	1706.49	1706.49	1706.49	1706.49
BBC fr=	689.51	689.51	689.51	689.51	657.51	657.51	657.51	657.51
	625.51	625.51	625.51	625.51	593.51	593.51	593.51	593.51
Bandwd=	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00
	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00
Matching frequency sets:	8							

Track assignments are:

track1= 2, 10, 18, 26, 4, 12, 20, 28, 6, 14, 22, 30, 8, 16, 24, 32

barrel=roll_off

POSITIONS OF SOURCES USED IN RECORDING SCANS

Source	Source position (RA/Dec) (B1950)	(J2000)	(Date)	Error (mas)
* MRK622	08 04 21.006998	* 08 07 40.998000	08 08 55.162398	0.00
	39 08 58.81346	* 39 00 15.23500	38 56 46.92025	0.00
0812+367	08 12 10.710943	* 08 15 25.944861	08 16 38.293046	0.01
* J0815+3635	36 44 27.45314	* 36 35 15.14879	36 31 37.12988	0.02
J0815+36	/home/guest/rmc/SCHED/sched11.5/catalogs/sources.gsfc GSFC 2016a X/S astro solution, 3671 observations.			
4C39.25	09 23 55.319216	* 09 27 03.013937	09 28 11.930663	0.31
* J0927+3902	39 15 23.56644	* 39 02 20.85185	38 57 18.30860	0.16
0923+392	/home/guest/rmc/SCHED/sched11.5/catalogs/sources.gsfc			
J0927+39	GSFC 2016a X/S astro solution, 250526 observations.			

n18k3tr

NETWORK MONITORING EXPERIMENT
PI: Katharina Immer

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.

Table with columns: Start UT, Stop UT, Source, LST, EL, AZ, HA, UP, ParA, Dwell, Early, Disk, GBytes, TPStart, SYNC. Includes scan frequencies, BBC frequencies, and bandwidths for various time slots.

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 L0 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   5 Nov 2018   Day 309 ---
14 35 00  J2148+0657  18 48 22  31.2 124.6 -3.0   -29.9  173    915   14 35 00
14 47 00  =2145+067   19 00 24  32.7 127.7 -2.8   -28.6  720   1008   14 35 01

14 50 00  J2148+0657  19 03 24  33.0 128.5 -2.8   -28.3  173   1008   14 50 00
15 00 00  =2145+067   19 13 26  34.2 131.1 -2.6   -27.1  600   1085   14 50 01
-----
```

SETUP FILE INFORMATION:

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

==== Setup file: sess318.K1024

```
Setup group:   11          Station: TORUN          Total bit rate: 1024
Format: MARK5B          Bits per sample: 2      Sample rate: 32.000
Number of channels: 16   DBE type: DBBC_DDC   Speedup factor: 1.00
```

Disk used to record data.

1st LO=	21500.00	21500.00	21500.00	21500.00	21500.00	21500.00	21500.00	21500.00	21500.00
	21500.00	21500.00	21500.00	21500.00	21500.00	21500.00	21500.00	21500.00	21500.00
Net SB=	L	L	U	U	L	L	U	U	U
	L	L	U	U	L	L	U	U	U
IF SB =	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	LCP
	RCP	LCP	RCP	LCP	RCP	LCP	RCP	LCP	LCP
BBC =	1	5	1	5	2	6	2	6	6
	3	7	3	7	4	8	4	8	8
BBC SB=	L	L	U	U	L	L	U	U	U
	L	L	U	U	L	L	U	U	U
IF =	A1	B1	A1	B1	A1	B1	A1	B1	B1
	A1	B1	A1	B1	A1	B1	A1	B1	B1

The following frequency sets based on these setups were used.

```

Frequency Set: 8 Setup file default. Used with PCAL = off
LO sum= 22187.49 22187.49 22187.49 22187.49 22219.49 22219.49 22219.49 22219.49
        22251.49 22251.49 22251.49 22251.49 22283.49 22283.49 22283.49 22283.49
BBC fr= 687.49 687.49 687.49 687.49 719.49 719.49 719.49 719.49
        751.49 751.49 751.49 751.49 783.49 783.49 783.49 783.49
Bandwd= 16.00 16.00 16.00 16.00 16.00 16.00 16.00 16.00
        16.00 16.00 16.00 16.00 16.00 16.00 16.00 16.00
Matching frequency sets: 8

```

Track assignments are:

```

track1= 18, 26, 2, 10, 20, 28, 4, 12, 22, 30, 6, 14, 24, 32, 8, 16
barrel=roll_off

```

POSITIONS OF SOURCES USED IN RECORDING SCANS

Source	Source position (RA/Dec) (B1950)	(Date)	Error (mas)	
* 3C345	16 41 17.606229	* 16 42 58.809967	16 43 34.635953	0.79
J1642+3948	39 54 10.81492	* 39 48 36.99399	39 46 49.20894	0.59
1641+399	/home/guest/rmc/SCHED/sched11.5/catalogs/sources.gsfc			
J1642+39	GSFC 2016a X/S astro solution, 53724 observations.			
2121+053	21 21 14.801995	* 21 23 44.517402	21 24 40.054579	0.29
* J2123+0535	05 22 27.44220	* 05 35 22.09301	05 40 21.37939	0.31
J2123+05	/home/guest/rmc/SCHED/sched11.5/catalogs/sources.gsfc			
	GSFC 2016a X/S astro solution, 51937 observations.			
2145+067	21 45 36.078473	* 21 48 05.458671	21 49 01.027918	0.26
* J2148+0657	06 43 40.90456	* 06 57 38.60416	07 03 01.03070	0.25
J2148+06	/home/guest/rmc/SCHED/sched11.5/catalogs/sources.gsfc			
	GSFC 2016a X/S astro solution, 110505 observations.			

THE ORIGIN OF THE RADIO JETS IN THE YOUNG RADIO GALAXY 4C 52.37
 PI: Robert Schulz

Address: ASTRON

Observing mode: Continuum

Schedule for TORUN (Code Tr)

Page 2

The origin of the radio jets in the young radio galaxy 4C 52.37

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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 6 Nov 2018 Day 310 ---											
Next scan frequencies:		22187.49	22187.49	22187.49	22187.49	22187.49	22187.49	22219.49	22219.49	22219.49	22219.49
		22251.49	22251.49	22251.49	22251.49	22251.49	22251.49	22283.49	22283.49	22283.49	22283.49
Next BBC frequencies:		687.49	687.49	687.49	687.49	687.49	687.49	719.49	719.49	719.49	719.49
		751.49	751.49	751.49	751.49	751.49	751.49	783.49	783.49	783.49	783.49
Next scan bandwidths:		16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00
		16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00

04 00 00	J1549+5038	08 15 34	27.7	41.1	-7.6		-38.5	0	0	04 00 00	
04 01 00	=1547+507	08 16 34	27.8	41.3	-7.6		-38.6	60	8	04 00 01	
04 01 40	4C52.37	08 17 15	28.3	38.0	-7.8		-37.6	19	8	04 01 40	
04 02 40	---	08 18 15	28.4	38.2	-7.7		-37.7	60	15	04 01 41	
04 03 20	J1549+5038	08 18 55	28.1	41.6	-7.5		-38.9	19	15	04 03 20	
04 04 20	=1547+507	08 19 55	28.2	41.7	-7.5		-39.0	60	23	04 03 21	
04 05 00	4C52.37	08 20 35	28.6	38.5	-7.7		-38.1	19	23	04 05 00	
04 06 00	---	08 21 35	28.7	38.6	-7.7		-38.2	60	31	04 05 01	
04 06 40	J1549+5038	08 22 15	28.4	42.1	-7.5		-39.3	19	31	04 06 40	
04 07 40	=1547+507	08 23 15	28.5	42.2	-7.4		-39.4	60	38	04 06 41	
04 08 20	4C52.37	08 23 56	28.9	38.9	-7.7		-38.5	19	38	04 08 20	
04 09 20	---	08 24 56	29.0	39.1	-7.6		-38.6	60	46	04 08 21	
04 10 00	J1549+5038	08 25 36	28.7	42.5	-7.4		-39.7	19	46	04 10 00	
04 11 00	=1547+507	08 26 36	28.8	42.7	-7.4		-39.9	60	54	04 10 01	
04 11 40	4C52.37	08 27 16	29.2	39.4	-7.6		-38.9	19	54	04 11 40	
04 12 40	---	08 28 16	29.3	39.5	-7.6		-39.1	60	62	04 11 41	
04 13 20	J1549+5038	08 28 56	29.1	43.0	-7.3		-40.2	18	62	04 13 20	
04 14 20	=1547+507	08 29 57	29.2	43.1	-7.3		-40.3	60	69	04 13 21	
04 15 00	4C52.37	08 30 37	29.5	39.8	-7.5		-39.4	19	69	04 15 00	
04 16 00	---	08 31 37	29.6	40.0	-7.5		-39.5	60	77	04 15 01	
04 16 40	J1549+5038	08 32 17	29.4	43.4	-7.3		-40.6	18	77	04 16 40	
04 17 40	=1547+507	08 33 17	29.5	43.6	-7.3		-40.7	60	85	04 16 41	
04 18 20	4C52.37	08 33 57	29.9	40.3	-7.5		-39.8	19	85	04 18 20	
04 19 20	---	08 34 57	29.9	40.4	-7.5		-40.0	60	92	04 18 21	

Schedule for TORUN (Code Tr)

Page 3

The origin of the radio jets in the young radio galaxy 4C 52.37

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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 6 Nov 2018	Day 310					---				
04 20 00	J1549+5038	08 35 38	29.8	43.9	-7.2		-41.0	18	92	04 20 00	
04 21 00	=1547+507	08 36 38	29.9	44.1	-7.2		-41.1	60	100	04 20 01	
04 21 40	4C52.37	08 37 18	30.2	40.7	-7.4		-40.3	19	100	04 21 40	
04 22 40	---	08 38 18	30.3	40.9	-7.4		-40.4	60	108	04 21 41	
04 23 20	J1549+5038	08 38 58	30.1	44.4	-7.2		-41.4	18	108	04 23 20	
04 24 20	=1547+507	08 39 58	30.2	44.5	-7.2		-41.5	60	115	04 23 21	
04 25 00	4C52.37	08 40 38	30.5	41.2	-7.4		-40.7	19	115	04 25 00	
04 26 00	---	08 41 38	30.6	41.3	-7.4		-40.8	60	123	04 25 01	
04 26 40	J1549+5038	08 42 19	30.5	44.8	-7.1		-41.8	18	123	04 26 40	
04 27 40	=1547+507	08 43 19	30.6	45.0	-7.1		-41.9	60	131	04 26 41	
04 28 20	4C52.37	08 43 59	30.8	41.6	-7.3		-41.1	19	131	04 28 20	
04 29 20	---	08 44 59	30.9	41.8	-7.3		-41.3	60	138	04 28 21	
04 30 00	J1549+5038	08 45 39	30.8	45.3	-7.1		-42.2	18	138	04 30 00	
04 31 00	=1547+507	08 46 39	30.9	45.4	-7.1		-42.4	60	146	04 30 01	
04 31 40	4C52.37	08 47 19	31.2	42.1	-7.3		-41.6	18	146	04 31 40	
04 32 40	---	08 48 20	31.3	42.2	-7.2		-41.7	60	154	04 31 41	
04 33 20	J1549+5038	08 49 00	31.2	45.7	-7.0		-42.6	18	154	04 33 20	
04 34 20	=1547+507	08 50 00	31.3	45.9	-7.0		-42.8	60	162	04 33 21	
04 35 00	4C52.37	08 50 40	31.5	42.5	-7.2		-42.0	18	162	04 35 00	
04 36 00	---	08 51 40	31.6	42.6	-7.2		-42.1	60	169	04 35 01	
04 36 40	J1549+5038	08 52 20	31.5	46.2	-7.0		-43.0	18	169	04 36 40	
04 37 40	=1547+507	08 53 20	31.7	46.3	-6.9		-43.2	60	177	04 36 41	
04 38 20	4C52.37	08 54 01	31.9	43.0	-7.2		-42.5	18	177	04 38 20	
04 39 20	---	08 55 01	32.0	43.1	-7.1		-42.6	60	185	04 38 21	
04 40 00	J1549+5038	08 55 41	31.9	46.7	-6.9		-43.5	18	185	04 40 00	
04 41 00	=1547+507	08 56 41	32.0	46.8	-6.9		-43.6	60	192	04 40 01	
04 41 40	4C52.37	08 57 21	32.2	43.4	-7.1		-42.9	18	192	04 41 40	
04 42 40	---	08 58 21	32.3	43.5	-7.1		-43.0	60	200	04 41 41	
04 43 20	J1549+5038	08 59 01	32.3	47.1	-6.8		-43.9	18	200	04 43 20	
04 44 20	=1547+507	09 00 02	32.4	47.2	-6.8		-44.0	60	208	04 43 21	
04 45 00	4C52.37	09 00 42	32.5	43.8	-7.0		-43.3	18	208	04 45 00	
04 46 00	---	09 01 42	32.6	44.0	-7.0		-43.4	60	215	04 45 01	

Schedule for TORUN (Code Tr)

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The origin of the radio jets in the young radio galaxy 4C 52.37

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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 6 Nov 2018 Day 310 ---										
04 46 40	J1549+5038	09 02 22	32.6	47.6	-6.8		-44.3	18	215	04 46 40
04 47 40	=1547+507	09 03 22	32.8	47.7	-6.8		-44.4	60	223	04 46 41
04 48 20	4C52.37	09 04 02	32.9	44.3	-7.0		-43.7	18	223	04 48 20
04 49 20	---	09 05 02	33.0	44.4	-7.0		-43.9	60	231	04 48 21
04 50 00	J1549+5038	09 05 42	33.0	48.0	-6.7		-44.7	18	231	04 50 00
04 51 00	=1547+507	09 06 43	33.1	48.1	-6.7		-44.8	60	238	04 50 01
04 51 40	4C52.37	09 07 23	33.2	44.7	-6.9		-44.2	18	238	04 51 40
04 52 40	---	09 08 23	33.3	44.8	-6.9		-44.3	60	246	04 51 41
04 53 20	J1549+5038	09 09 03	33.4	48.5	-6.7		-45.1	18	246	04 53 20
04 54 20	=1547+507	09 10 03	33.5	48.6	-6.7		-45.2	60	254	04 53 21
04 55 00	4C52.37	09 10 43	33.6	45.1	-6.9		-44.6	18	254	04 55 00
04 56 00	---	09 11 43	33.7	45.3	-6.9		-44.7	60	262	04 55 01
04 56 40	J1549+5038	09 12 24	33.8	48.9	-6.6		-45.5	18	262	04 56 40
04 57 40	=1547+507	09 13 24	33.9	49.0	-6.6		-45.6	60	269	04 56 41
04 58 20	4C52.37	09 14 04	34.0	45.6	-6.8		-45.0	18	269	04 58 20
04 59 20	---	09 15 04	34.1	45.7	-6.8		-45.1	60	277	04 58 21
05 00 00	J1549+5038	09 15 44	34.1	49.4	-6.6		-45.9	18	277	05 00 00
05 01 00	=1547+507	09 16 44	34.3	49.5	-6.6		-46.0	60	285	05 00 01
05 01 40	4C52.37	09 17 24	34.3	46.0	-6.8		-45.4	18	285	05 01 40
05 02 40	---	09 18 25	34.4	46.1	-6.7		-45.6	60	292	05 01 41
05 03 20	J1549+5038	09 19 05	34.5	49.8	-6.5		-46.2	18	292	05 03 20
05 04 20	=1547+507	09 20 05	34.6	49.9	-6.5		-46.4	60	300	05 03 21
05 05 00	4C52.37	09 20 45	34.7	46.4	-6.7		-45.9	18	300	05 05 00
05 06 00	---	09 21 45	34.8	46.6	-6.7		-46.0	60	308	05 05 01
05 06 40	J1549+5038	09 22 25	34.9	50.2	-6.5		-46.6	18	308	05 06 40
05 07 40	=1547+507	09 23 25	35.0	50.4	-6.4		-46.8	60	315	05 06 41
05 08 20	4C52.37	09 24 05	35.0	46.9	-6.7		-46.3	18	315	05 08 20
05 09 20	---	09 25 06	35.1	47.0	-6.6		-46.4	60	323	05 08 21
05 10 00	J1549+5038	09 25 46	35.3	50.7	-6.4		-47.0	18	323	05 10 00
05 11 00	=1547+507	09 26 46	35.4	50.8	-6.4		-47.1	60	331	05 10 01

Schedule for TORUN (Code Tr)

Page 5

The origin of the radio jets in the young radio galaxy 4C 52.37

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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 6 Nov 2018 Day 310 ---										
05 11 40	4C52.37	09 27 26	35.4	47.3	-6.6		-46.7	18	331	05 11 40
05 12 40	---	09 28 26	35.5	47.4	-6.6		-46.8	60	338	05 11 41
05 13 20	J1549+5038	09 29 06	35.7	51.1	-6.3		-47.4	18	338	05 13 20
05 14 20	=1547+507	09 30 06	35.8	51.3	-6.3		-47.5	60	346	05 13 21
05 15 00	4C52.37	09 30 47	35.8	47.7	-6.5		-47.1	18	346	05 15 00
05 16 00	---	09 31 47	35.9	47.8	-6.5		-47.2	60	354	05 15 01
05 16 40	J1549+5038	09 32 27	36.1	51.6	-6.3		-47.8	18	354	05 16 40
05 17 40	=1547+507	09 33 27	36.2	51.7	-6.3		-47.9	60	362	05 16 41
05 18 20	4C52.37	09 34 07	36.1	48.1	-6.5		-47.5	18	362	05 18 20
05 19 20	---	09 35 07	36.3	48.3	-6.5		-47.7	60	369	05 18 21
05 20 00	J1549+5038	09 35 47	36.5	52.0	-6.2		-48.2	18	369	05 20 00
05 21 00	=1547+507	09 36 48	36.6	52.1	-6.2		-48.3	60	377	05 20 01
05 21 40	4C52.37	09 37 28	36.5	48.6	-6.4		-47.9	18	377	05 21 40
05 22 40	---	09 38 28	36.6	48.7	-6.4		-48.1	60	385	05 21 41
05 23 20	J1549+5038	09 39 08	36.9	52.5	-6.2		-48.6	18	385	05 23 20
05 24 20	=1547+507	09 40 08	37.0	52.6	-6.2		-48.7	60	392	05 23 21
05 25 00	4C52.37	09 40 48	36.9	49.0	-6.4		-48.4	18	392	05 25 00
05 26 00	---	09 41 48	37.0	49.1	-6.4		-48.5	60	400	05 25 01
05 26 40	J1549+5038	09 42 28	37.3	52.9	-6.1		-49.0	18	400	05 26 40
05 27 40	=1547+507	09 43 29	37.4	53.0	-6.1		-49.1	60	408	05 26 41
05 28 20	4C52.37	09 44 09	37.3	49.4	-6.3		-48.8	18	408	05 28 20
05 29 20	---	09 45 09	37.4	49.5	-6.3		-48.9	60	415	05 28 21
05 30 00	J1549+5038	09 45 49	37.7	53.3	-6.1		-49.3	18	415	05 30 00
05 31 00	=1547+507	09 46 49	37.8	53.5	-6.0		-49.4	60	423	05 30 01
05 31 40	4C52.37	09 47 29	37.7	49.8	-6.3		-49.2	18	423	05 31 40
05 32 40	---	09 48 29	37.8	49.9	-6.2		-49.3	60	431	05 31 41
05 33 20	J1549+5038	09 49 10	38.1	53.8	-6.0		-49.7	18	431	05 33 20
05 34 20	=1547+507	09 50 10	38.2	53.9	-6.0		-49.8	60	438	05 33 21
05 35 00	4C52.37	09 50 50	38.0	50.2	-6.2		-49.6	18	438	05 35 00
05 36 00	---	09 51 50	38.2	50.4	-6.2		-49.7	60	446	05 35 01

Schedule for TORUN (Code Tr)

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The origin of the radio jets in the young radio galaxy 4C 52.37

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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 6 Nov 2018 Day 310 ---										
05 36 40	J1549+5038	09 52 30	38.5	54.2	-6.0		-50.1	18	446	05 36 40
05 37 40	=1547+507	09 53 30	38.6	54.3	-5.9		-50.2	60	454	05 36 41
05 38 20	4C52.37	09 54 10	38.4	50.6	-6.2		-50.0	18	454	05 38 20
05 39 20	---	09 55 11	38.6	50.8	-6.1		-50.1	60	462	05 38 21
05 40 00	J1549+5038	09 55 51	38.9	54.6	-5.9		-50.5	18	462	05 40 00
05 41 00	=1547+507	09 56 51	39.0	54.8	-5.9		-50.6	60	469	05 40 01
05 41 40	4C52.37	09 57 31	38.8	51.1	-6.1		-50.4	18	469	05 41 40
05 42 40	---	09 58 31	38.9	51.2	-6.1		-50.5	60	477	05 41 41
05 43 20	J1549+5038	09 59 11	39.3	55.1	-5.8		-50.8	17	477	05 43 20
05 44 20	=1547+507	10 00 11	39.4	55.2	-5.8		-50.9	60	485	05 43 21
05 45 00	4C52.37	10 00 51	39.2	51.5	-6.0		-50.8	18	485	05 45 00
05 46 00	---	10 01 52	39.3	51.6	-6.0		-50.9	60	492	05 45 01
05 46 40	J1549+5038	10 02 32	39.7	55.5	-5.8		-51.2	17	492	05 46 40
05 47 40	=1547+507	10 03 32	39.8	55.6	-5.8		-51.3	60	500	05 46 41
05 48 20	4C52.37	10 04 12	39.6	51.9	-6.0		-51.2	18	500	05 48 20
05 49 20	---	10 05 12	39.7	52.0	-6.0		-51.3	60	508	05 48 21
05 50 00	J1549+5038	10 05 52	40.1	55.9	-5.7		-51.6	17	508	05 50 00
05 51 00	=1547+507	10 06 52	40.3	56.1	-5.7		-51.7	60	515	05 50 01
05 51 40	4C52.37	10 07 33	40.0	52.3	-5.9		-51.6	18	515	05 51 40
05 52 40	---	10 08 33	40.1	52.4	-5.9		-51.7	60	523	05 51 41
05 53 20	J1549+5038	10 09 13	40.5	56.4	-5.7		-51.9	17	523	05 53 20
05 54 20	=1547+507	10 10 13	40.7	56.5	-5.7		-52.1	60	531	05 53 21
05 55 00	4C52.37	10 10 53	40.4	52.7	-5.9		-52.0	17	531	05 55 00
05 56 00	---	10 11 53	40.5	52.8	-5.9		-52.1	60	538	05 55 01
05 56 40	J1549+5038	10 12 33	41.0	56.8	-5.6		-52.3	17	538	05 56 40
05 57 40	=1547+507	10 13 34	41.1	56.9	-5.6		-52.4	60	546	05 56 41
05 58 20	4C52.37	10 14 14	40.8	53.1	-5.8		-52.4	17	546	05 58 20
05 59 20	---	10 15 14	40.9	53.2	-5.8		-52.5	60	554	05 58 21
06 00 00	J1549+5038	10 15 54	41.4	57.2	-5.6		-52.7	17	554	06 00 00
06 01 00	=1547+507	10 16 54	41.5	57.4	-5.5		-52.8	60	562	06 00 01

Schedule for TORUN (Code Tr)

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The origin of the radio jets in the young radio galaxy 4C 52.37

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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 6 Nov 2018 Day 310 ---										
06 01 40	4C52.37	10 17 34	41.2	53.5	-5.8		-52.8	17	562	06 01 40
06 02 40	---	10 18 34	41.3	53.6	-5.7		-52.9	60	569	06 01 41
06 03 20	J1549+5038	10 19 14	41.8	57.7	-5.5		-53.0	17	569	06 03 20
06 04 20	=1547+507	10 20 15	41.9	57.8	-5.5		-53.1	60	577	06 03 21
06 05 00	4C52.37	10 20 55	41.6	53.9	-5.7		-53.2	17	577	06 05 00
06 06 00	---	10 21 55	41.7	54.1	-5.7		-53.3	60	585	06 05 01
06 06 40	J1549+5038	10 22 35	42.2	58.1	-5.5		-53.4	17	585	06 06 40
06 07 40	=1547+507	10 23 35	42.4	58.2	-5.4		-53.5	60	592	06 06 41
06 08 20	4C52.37	10 24 15	42.0	54.3	-5.6		-53.6	17	592	06 08 20
06 09 20	---	10 25 15	42.1	54.5	-5.6		-53.7	60	600	06 08 21
06 10 00	J1549+5038	10 25 56	42.7	58.5	-5.4		-53.7	17	600	06 10 00
06 11 00	=1547+507	10 26 56	42.8	58.6	-5.4		-53.9	60	608	06 10 01
06 11 40	4C52.37	10 27 36	42.4	54.7	-5.6		-54.0	17	608	06 11 40
06 12 40	---	10 28 36	42.5	54.9	-5.6		-54.1	60	615	06 11 41
06 13 20	J1549+5038	10 29 16	43.1	58.9	-5.3		-54.1	17	615	06 13 20
06 14 20	=1547+507	10 30 16	43.2	59.1	-5.3		-54.2	60	623	06 13 21
06 15 00	4C52.37	10 30 56	42.8	55.1	-5.5		-54.4	17	623	06 15 00
06 16 00	---	10 31 57	43.0	55.3	-5.5		-54.5	60	631	06 15 01
06 16 40	J1549+5038	10 32 37	43.5	59.4	-5.3		-54.5	17	631	06 16 40
06 17 40	=1547+507	10 33 37	43.6	59.5	-5.3		-54.6	60	638	06 16 41
06 18 20	4C52.37	10 34 17	43.2	55.5	-5.5		-54.8	17	638	06 18 20
06 19 20	---	10 35 17	43.4	55.7	-5.5		-54.9	60	646	06 18 21
06 20 00	J1549+5038	10 35 57	44.0	59.8	-5.2		-54.8	17	646	06 20 00
06 21 00	=1547+507	10 36 57	44.1	59.9	-5.2		-54.9	60	654	06 20 01
06 21 40	4C52.37	10 37 37	43.7	55.9	-5.4		-55.2	17	654	06 21 40
06 22 40	---	10 38 38	43.8	56.1	-5.4		-55.3	60	662	06 21 41
06 23 20	J1549+5038	10 39 18	44.4	60.2	-5.2		-55.2	17	662	06 23 20
06 24 20	=1547+507	10 40 18	44.5	60.3	-5.2		-55.3	60	669	06 23 21
06 25 00	4C52.37	10 40 58	44.1	56.3	-5.4		-55.5	17	669	06 25 00
06 26 00	---	10 41 58	44.2	56.5	-5.4		-55.7	60	677	06 25 01

Schedule for TORUN (Code Tr)

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The origin of the radio jets in the young radio galaxy 4C 52.37

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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 6 Nov 2018 Day 310 ---										
06 26 40	J1549+5038	10 42 38	44.8	60.6	-5.1		-55.5	17	677	06 26 40
06 27 40	=1547+507	10 43 38	45.0	60.8	-5.1		-55.6	60	685	06 26 41
06 28 20	4C52.37	10 44 19	44.5	56.7	-5.3		-55.9	17	685	06 28 20
06 29 20	---	10 45 19	44.6	56.9	-5.3		-56.0	60	692	06 28 21
06 30 00	J1549+5038	10 45 59	45.3	61.1	-5.1		-55.9	17	692	06 30 00
06 31 00	=1547+507	10 46 59	45.4	61.2	-5.0		-56.0	60	700	06 30 01
06 31 40	4C52.37	10 47 39	44.9	57.1	-5.3		-56.3	17	700	06 31 40
06 32 40	---	10 48 39	45.0	57.3	-5.2		-56.4	60	708	06 31 41
06 33 20	J1549+5038	10 49 19	45.7	61.5	-5.0		-56.2	17	708	06 33 20
06 34 20	=1547+507	10 50 20	45.8	61.6	-5.0		-56.3	60	715	06 33 21
06 35 00	4C52.37	10 51 00	45.3	57.5	-5.2		-56.7	17	715	06 35 00
06 36 00	---	10 52 00	45.5	57.7	-5.2		-56.8	60	723	06 35 01
06 36 40	J1549+5038	10 52 40	46.1	61.9	-5.0		-56.5	17	723	06 36 40
06 37 40	=1547+507	10 53 40	46.3	62.0	-4.9		-56.6	60	731	06 36 41
06 38 20	4C52.37	10 54 20	45.8	57.9	-5.1		-57.1	17	731	06 38 20
06 39 20	---	10 55 20	45.9	58.1	-5.1		-57.2	60	738	06 38 21
06 40 00	J1549+5038	10 56 01	46.6	62.3	-4.9		-56.9	17	738	06 40 00
06 41 00	=1547+507	10 57 01	46.7	62.5	-4.9		-57.0	60	746	06 40 01
06 41 40	4C52.37	10 57 41	46.2	58.3	-5.1		-57.5	17	746	06 41 40
06 42 40	---	10 58 41	46.3	58.4	-5.1		-57.6	60	754	06 41 41
06 43 20	J1549+5038	10 59 21	47.0	62.7	-4.8		-57.2	17	754	06 43 20
06 44 20	=1547+507	11 00 21	47.2	62.9	-4.8		-57.3	60	762	06 43 21
06 45 00	4C52.37	11 01 01	46.6	58.7	-5.0		-57.8	17	762	06 45 00
06 46 00	---	11 02 01	46.7	58.8	-5.0		-58.0	60	769	06 45 01
06 46 40	J1549+5038	11 02 42	47.5	63.2	-4.8		-57.6	16	769	06 46 40
06 47 40	=1547+507	11 03 42	47.6	63.3	-4.8		-57.7	60	777	06 46 41
06 48 20	J1638+5720	11 04 22	45.2	49.6	-5.6		-57.8	-2	777	06 48 20
06 53 50	=1637+574	11 09 53	45.8	50.2	-5.5		-58.6	328	819	06 48 21
06 54 30	4C52.37	11 10 33	47.8	59.8	-4.9		-58.9	6	819	06 54 30
06 55 30	---	11 11 33	48.0	60.0	-4.9		-59.0	60	827	06 54 31

Schedule for TORUN (Code Tr)

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The origin of the radio jets in the young radio galaxy 4C 52.37

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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 6 Nov 2018 Day 310 ---										
06 56 10	J1549+5038	11 12 13	48.8	64.4	-4.6		-58.5	16	827	06 56 10
06 57 10	=1547+507	11 13 13	48.9	64.5	-4.6		-58.6	60	835	06 56 11
06 57 50	4C52.37	11 13 53	48.3	60.2	-4.8		-59.3	16	835	06 57 50
06 58 50	---	11 14 54	48.4	60.3	-4.8		-59.4	60	842	06 57 51
06 59 30	J1549+5038	11 15 34	49.2	64.8	-4.6		-58.8	16	842	06 59 30
07 00 30	=1547+507	11 16 34	49.4	64.9	-4.6		-58.9	60	850	06 59 31
07 01 10	4C52.37	11 17 14	48.7	60.6	-4.8		-59.7	16	850	07 01 10
07 02 10	---	11 18 14	48.9	60.7	-4.7		-59.8	60	858	07 01 11
07 02 50	J1549+5038	11 18 54	49.7	65.2	-4.5		-59.2	16	858	07 02 50
07 03 50	=1547+507	11 19 54	49.8	65.3	-4.5		-59.2	60	865	07 02 51
07 04 30	4C52.37	11 20 35	49.2	61.0	-4.7		-60.0	16	865	07 04 30
07 05 30	---	11 21 35	49.3	61.1	-4.7		-60.2	60	873	07 04 31
07 06 10	J1549+5038	11 22 15	50.1	65.6	-4.5		-59.5	16	873	07 06 10
07 07 10	=1547+507	11 23 15	50.3	65.8	-4.4		-59.6	60	881	07 06 11
07 07 50	4C52.37	11 23 55	49.6	61.4	-4.7		-60.4	16	881	07 07 50
07 08 50	---	11 24 55	49.7	61.5	-4.6		-60.5	60	888	07 07 51
07 09 30	J1549+5038	11 25 35	50.6	66.0	-4.4		-59.8	16	888	07 09 30
07 10 30	=1547+507	11 26 36	50.7	66.2	-4.4		-59.9	60	896	07 09 31
07 11 10	4C52.37	11 27 16	50.0	61.8	-4.6		-60.8	16	896	07 11 10
07 12 10	---	11 28 16	50.2	61.9	-4.6		-60.9	60	904	07 11 11
07 12 50	J1549+5038	11 28 56	51.0	66.5	-4.3		-60.1	16	904	07 12 50
07 13 50	=1547+507	11 29 56	51.2	66.6	-4.3		-60.2	60	912	07 12 51
07 14 30	4C52.37	11 30 36	50.5	62.2	-4.5		-61.2	16	912	07 14 30
07 15 30	---	11 31 36	50.6	62.3	-4.5		-61.3	60	919	07 14 31
07 16 10	J1549+5038	11 32 16	51.5	66.9	-4.3		-60.4	16	919	07 16 10
07 17 10	=1547+507	11 33 17	51.6	67.0	-4.3		-60.5	60	927	07 16 11
07 17 50	4C52.37	11 33 57	50.9	62.5	-4.5		-61.5	16	927	07 17 50
07 18 50	---	11 34 57	51.1	62.7	-4.5		-61.6	60	935	07 17 51
07 19 30	J1549+5038	11 35 37	52.0	67.3	-4.2		-60.8	16	935	07 19 30
07 20 30	=1547+507	11 36 37	52.1	67.4	-4.2		-60.8	60	942	07 19 31

Schedule for TORUN (Code Tr)

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The origin of the radio jets in the young radio galaxy 4C 52.37

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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 6 Nov 2018 Day 310 ---										
07 21 10	4C52.37	11 37 17	51.4	62.9	-4.4		-61.9	16	942	07 21 10
07 22 10	---	11 38 17	51.5	63.0	-4.4		-62.0	60	950	07 21 11
07 22 50	J1549+5038	11 38 58	52.4	67.7	-4.2		-61.1	16	950	07 22 50
07 23 50	=1547+507	11 39 58	52.6	67.9	-4.2		-61.2	60	958	07 22 51
07 24 30	4C52.37	11 40 38	51.8	63.3	-4.4		-62.3	16	958	07 24 30
07 25 30	---	11 41 38	52.0	63.4	-4.4		-62.4	60	965	07 24 31
07 26 10	J1549+5038	11 42 18	52.9	68.2	-4.1		-61.4	16	965	07 26 10
07 27 10	=1547+507	11 43 18	53.0	68.3	-4.1		-61.5	60	973	07 26 11
07 27 50	4C52.37	11 43 58	52.3	63.7	-4.3		-62.6	16	973	07 27 50
07 28 50	---	11 44 59	52.4	63.8	-4.3		-62.7	60	981	07 27 51
07 29 30	J1549+5038	11 45 39	53.4	68.6	-4.1		-61.7	16	981	07 29 30
07 30 30	=1547+507	11 46 39	53.5	68.7	-4.1		-61.8	60	988	07 29 31
07 31 10	4C52.37	11 47 19	52.7	64.1	-4.3		-63.0	16	988	07 31 10
07 32 10	---	11 48 19	52.9	64.2	-4.2		-63.1	60	996	07 31 11
07 32 50	J1549+5038	11 48 59	53.8	69.0	-4.0		-62.0	15	996	07 32 50
07 33 50	=1547+507	11 49 59	54.0	69.1	-4.0		-62.1	60	1004	07 32 51
07 34 30	4C52.37	11 50 39	53.2	64.4	-4.2		-63.3	16	1004	07 34 30
07 35 30	---	11 51 40	53.3	64.6	-4.2		-63.4	60	1012	07 34 31
07 36 10	J1549+5038	11 52 20	54.3	69.4	-4.0		-62.3	15	1012	07 36 10
07 37 10	=1547+507	11 53 20	54.4	69.5	-3.9		-62.4	60	1019	07 36 11
07 37 50	4C52.37	11 54 00	53.6	64.8	-4.2		-63.7	15	1019	07 37 50
07 38 50	---	11 55 00	53.8	64.9	-4.1		-63.8	60	1027	07 37 51
07 39 30	J1549+5038	11 55 40	54.8	69.8	-3.9		-62.6	15	1027	07 39 30
07 40 30	=1547+507	11 56 40	54.9	70.0	-3.9		-62.7	60	1035	07 39 31
07 41 10	4C52.37	11 57 21	54.1	65.2	-4.1		-64.1	15	1035	07 41 10
07 42 10	---	11 58 21	54.2	65.3	-4.1		-64.2	60	1042	07 41 11
07 42 50	J1549+5038	11 59 01	55.2	70.3	-3.8		-62.9	15	1042	07 42 50
07 43 50	=1547+507	12 00 01	55.4	70.4	-3.8		-63.0	60	1050	07 42 51
07 44 30	4C52.37	12 00 41	54.5	65.6	-4.0		-64.4	15	1050	07 44 30
07 45 30	---	12 01 41	54.7	65.7	-4.0		-64.5	60	1058	07 44 31

Schedule for TORUN (Code Tr)

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The origin of the radio jets in the young radio galaxy 4C 52.37

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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 6 Nov 2018 Day 310 ---										
07 46 10	J1549+5038	12 02 21	55.7	70.7	-3.8		-63.2	15	1058	07 46 10
07 47 10	=1547+507	12 03 22	55.9	70.8	-3.8		-63.3	60	1065	07 46 11
07 47 50	4C52.37	12 04 02	55.0	66.0	-4.0		-64.8	15	1065	07 47 50
07 48 50	---	12 05 02	55.1	66.1	-4.0		-64.9	60	1073	07 47 51
07 49 30	J1549+5038	12 05 42	56.2	71.1	-3.7		-63.5	15	1073	07 49 30
07 50 30	=1547+507	12 06 42	56.3	71.2	-3.7		-63.6	60	1081	07 49 31
07 51 10	4C52.37	12 07 22	55.5	66.3	-3.9		-65.1	15	1081	07 51 10
07 52 10	---	12 08 22	55.6	66.4	-3.9		-65.2	60	1088	07 51 11
07 52 50	J1549+5038	12 09 02	56.7	71.5	-3.7		-63.8	15	1088	07 52 50
07 53 50	=1547+507	12 10 03	56.8	71.7	-3.7		-63.9	60	1096	07 52 51
07 54 30	4C52.37	12 10 43	55.9	66.7	-3.9		-65.5	15	1096	07 54 30
07 55 30	---	12 11 43	56.1	66.8	-3.9		-65.6	60	1104	07 54 31
07 56 10	J1549+5038	12 12 23	57.1	72.0	-3.6		-64.1	15	1104	07 56 10
07 57 10	=1547+507	12 13 23	57.3	72.1	-3.6		-64.1	60	1112	07 56 11
07 57 50	4C52.37	12 14 03	56.4	67.1	-3.8		-65.8	15	1112	07 57 50
07 58 50	---	12 15 03	56.5	67.2	-3.8		-65.9	60	1119	07 57 51
07 59 30	J1549+5038	12 15 44	57.6	72.4	-3.6		-64.3	15	1119	07 59 30
08 00 30	=1547+507	12 16 44	57.8	72.5	-3.6		-64.4	60	1127	07 59 31
08 01 10	4C52.37	12 17 24	56.8	67.5	-3.8		-66.2	15	1127	08 01 10
08 02 10	---	12 18 24	57.0	67.6	-3.7		-66.3	60	1135	08 01 11
08 02 50	J1549+5038	12 19 04	58.1	72.8	-3.5		-64.6	15	1135	08 02 50
08 03 50	=1547+507	12 20 04	58.2	73.0	-3.5		-64.7	60	1142	08 02 51
08 04 30	4C52.37	12 20 44	57.3	67.8	-3.7		-66.5	15	1142	08 04 30
08 05 30	---	12 21 45	57.4	67.9	-3.7		-66.6	60	1150	08 04 31
08 06 10	J1549+5038	12 22 25	58.6	73.3	-3.5		-64.9	14	1150	08 06 10
08 07 10	=1547+507	12 23 25	58.7	73.4	-3.4		-65.0	60	1158	08 06 11
08 07 50	4C52.37	12 24 05	57.8	68.2	-3.7		-66.9	15	1158	08 07 50
08 08 50	---	12 25 05	57.9	68.3	-3.6		-67.0	60	1165	08 07 51
08 09 30	J1549+5038	12 25 45	59.1	73.7	-3.4		-65.2	14	1165	08 09 30
08 10 30	=1547+507	12 26 45	59.2	73.8	-3.4		-65.3	60	1173	08 09 31

Schedule for TORUN (Code Tr)

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The origin of the radio jets in the young radio galaxy 4C 52.37

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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 6 Nov 2018 Day 310 ---										
08 11 10	4C52.37	12 27 25	58.2	68.6	-3.6		-67.2	14	1173	08 11 10
08 12 10	---	12 28 26	58.4	68.7	-3.6		-67.3	60	1181	08 11 11
08 12 50	J1549+5038	12 29 06	59.5	74.1	-3.3		-65.5	14	1181	08 12 50
08 13 50	=1547+507	12 30 06	59.7	74.3	-3.3		-65.5	60	1188	08 12 51
08 14 30	4C52.37	12 30 46	58.7	68.9	-3.5		-67.6	14	1188	08 14 30
08 15 30	---	12 31 46	58.8	69.1	-3.5		-67.7	60	1196	08 14 31
08 16 10	J1549+5038	12 32 26	60.0	74.6	-3.3		-65.7	14	1196	08 16 10
08 17 10	=1547+507	12 33 26	60.2	74.7	-3.3		-65.8	60	1204	08 16 11
08 17 50	4C52.37	12 34 07	59.2	69.3	-3.5		-67.9	14	1204	08 17 50
08 18 50	---	12 35 07	59.3	69.4	-3.5		-68.0	60	1212	08 17 51
08 19 30	J1549+5038	12 35 47	60.5	75.0	-3.2		-66.0	14	1212	08 19 30
08 20 30	=1547+507	12 36 47	60.7	75.1	-3.2		-66.1	60	1219	08 19 31
08 21 10	4C52.37	12 37 27	59.6	69.7	-3.4		-68.3	14	1219	08 21 10
08 22 10	---	12 38 27	59.8	69.8	-3.4		-68.4	60	1227	08 21 11
08 22 50	J1549+5038	12 39 07	61.0	75.4	-3.2		-66.2	14	1227	08 22 50
08 23 50	=1547+507	12 40 08	61.1	75.6	-3.2		-66.3	60	1235	08 22 51
08 24 30	4C52.37	12 40 48	60.1	70.1	-3.4		-68.6	14	1235	08 24 30
08 25 30	---	12 41 48	60.3	70.2	-3.4		-68.7	60	1242	08 24 31
08 26 10	J1549+5038	12 42 28	61.5	75.9	-3.1		-66.5	14	1242	08 26 10
08 27 10	=1547+507	12 43 28	61.6	76.0	-3.1		-66.6	60	1250	08 26 11
08 27 50	4C52.37	12 44 08	60.6	70.4	-3.3		-69.0	14	1250	08 27 50
08 28 50	---	12 45 08	60.7	70.5	-3.3		-69.1	60	1258	08 27 51
08 29 30	J1549+5038	12 45 48	62.0	76.3	-3.1		-66.8	14	1258	08 29 30
08 30 30	=1547+507	12 46 49	62.1	76.5	-3.0		-66.8	60	1265	08 29 31
08 31 10	4C52.37	12 47 29	61.1	70.8	-3.3		-69.3	14	1265	08 31 10
08 32 10	---	12 48 29	61.2	70.9	-3.2		-69.4	60	1273	08 31 11
08 32 50	J1549+5038	12 49 09	62.5	76.8	-3.0		-67.0	13	1273	08 32 50
08 33 50	=1547+507	12 50 09	62.6	76.9	-3.0		-67.1	60	1281	08 32 51
08 34 30	4C52.37	12 50 49	61.5	71.2	-3.2		-69.6	13	1281	08 34 30
08 35 30	---	12 51 49	61.7	71.3	-3.2		-69.8	60	1288	08 34 31

Schedule for TORUN (Code Tr)

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The origin of the radio jets in the young radio galaxy 4C 52.37

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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 6 Nov 2018 Day 310 ---										
08 36 10	J1549+5038	12 52 30	62.9	77.2	-3.0		-67.3	13	1288	08 36 10
08 37 10	=1547+507	12 53 30	63.1	77.4	-2.9		-67.3	60	1296	08 36 11
08 37 50	4C52.37	12 54 10	62.0	71.5	-3.2		-70.0	13	1296	08 37 50
08 38 50	---	12 55 10	62.1	71.7	-3.1		-70.1	60	1304	08 37 51
08 39 30	J1549+5038	12 55 50	63.4	77.7	-2.9		-67.5	13	1304	08 39 30
08 40 30	=1547+507	12 56 50	63.6	77.8	-2.9		-67.6	60	1312	08 39 31
08 41 10	4C52.37	12 57 30	62.5	71.9	-3.1		-70.3	13	1312	08 41 10
08 42 10	---	12 58 31	62.6	72.0	-3.1		-70.4	60	1319	08 41 11
08 42 50	J1549+5038	12 59 11	63.9	78.1	-2.8		-67.7	13	1319	08 42 50
08 43 50	=1547+507	13 00 11	64.1	78.3	-2.8		-67.8	60	1327	08 42 51
08 44 30	4C52.37	13 00 51	63.0	72.3	-3.0		-70.7	13	1327	08 44 30
08 45 30	---	13 01 51	63.1	72.4	-3.0		-70.8	60	1335	08 44 31
08 46 10	J1549+5038	13 02 31	64.4	78.6	-2.8		-68.0	13	1335	08 46 10
08 47 10	=1547+507	13 03 31	64.6	78.7	-2.8		-68.0	60	1342	08 46 11
08 47 50	4C52.37	13 04 12	63.4	72.6	-3.0		-71.0	13	1342	08 47 50
08 48 50	---	13 05 12	63.6	72.8	-3.0		-71.1	60	1350	08 47 51
08 49 30	J1549+5038	13 05 52	64.9	79.0	-2.7		-68.2	13	1350	08 49 30
08 50 30	=1547+507	13 06 52	65.1	79.2	-2.7		-68.3	60	1358	08 49 31
08 51 10	4C52.37	13 07 32	63.9	73.0	-2.9		-71.3	13	1358	08 51 10
08 52 10	---	13 08 32	64.1	73.1	-2.9		-71.4	60	1365	08 51 11
08 52 50	J1549+5038	13 09 12	65.4	79.5	-2.7		-68.4	12	1365	08 52 50
08 53 50	=1547+507	13 10 12	65.5	79.7	-2.7		-68.5	60	1373	08 52 51
08 54 30	4C52.37	13 10 53	64.4	73.4	-2.9		-71.7	12	1373	08 54 30
08 55 30	---	13 11 53	64.5	73.5	-2.9		-71.8	60	1381	08 54 31
08 56 10	J1549+5038	13 12 33	65.9	80.0	-2.6		-68.6	12	1381	08 56 10
08 57 10	=1547+507	13 13 33	66.0	80.1	-2.6		-68.7	60	1388	08 56 11
08 57 50	4C52.37	13 14 13	64.9	73.8	-2.8		-72.0	12	1388	08 57 50
08 58 50	---	13 15 13	65.0	73.9	-2.8		-72.1	60	1396	08 57 51
08 59 30	J1549+5038	13 15 53	66.4	80.5	-2.6		-68.8	12	1396	08 59 30
09 00 30	=1547+507	13 16 54	66.5	80.6	-2.5		-68.9	60	1404	08 59 31

Schedule for TORUN (Code Tr)

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The origin of the radio jets in the young radio galaxy 4C 52.37

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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 6 Nov 2018 Day 310 ---										
09 01 10	4C52.37	13 17 34	65.4	74.1	-2.8		-72.3	12	1404	09 01 10
09 02 10	---	13 18 34	65.5	74.2	-2.7		-72.4	60	1412	09 01 11
09 02 50	J1549+5038	13 19 14	66.9	80.9	-2.5		-69.1	12	1412	09 02 50
09 03 50	=1547+507	13 20 14	67.0	81.1	-2.5		-69.1	60	1419	09 02 51
09 04 30	4C52.37	13 20 54	65.8	74.5	-2.7		-72.7	12	1419	09 04 30
09 05 30	---	13 21 54	66.0	74.6	-2.7		-72.8	60	1427	09 04 31
09 06 10	J1549+5038	13 22 35	67.4	81.4	-2.5		-69.2	11	1427	09 06 10
09 07 10	=1547+507	13 23 35	67.5	81.6	-2.4		-69.3	60	1435	09 06 11
09 07 50	4C52.37	13 24 15	66.3	74.9	-2.6		-73.0	12	1435	09 07 50
09 08 50	---	13 25 15	66.5	75.0	-2.6		-73.1	60	1442	09 07 51
09 09 30	J1549+5038	13 25 55	67.9	81.9	-2.4		-69.4	11	1442	09 09 30
09 10 30	=1547+507	13 26 55	68.0	82.1	-2.4		-69.5	60	1450	09 09 31
09 11 10	4C52.37	13 27 35	66.8	75.2	-2.6		-73.3	11	1450	09 11 10
09 12 10	---	13 28 36	67.0	75.3	-2.6		-73.4	60	1458	09 11 11
09 12 50	J1549+5038	13 29 16	68.4	82.4	-2.3		-69.6	11	1458	09 12 50
09 13 50	=1547+507	13 30 16	68.5	82.6	-2.3		-69.7	60	1465	09 12 51
09 14 30	4C52.37	13 30 56	67.3	75.6	-2.5		-73.6	11	1465	09 14 30
09 15 30	---	13 31 56	67.4	75.7	-2.5		-73.7	60	1473	09 14 31
09 16 10	J1549+5038	13 32 36	68.9	82.9	-2.3		-69.8	11	1473	09 16 10
09 17 10	=1547+507	13 33 36	69.0	83.1	-2.3		-69.8	60	1481	09 16 11
09 17 50	4C52.37	13 34 16	67.8	76.0	-2.5		-74.0	11	1481	09 17 50
09 18 50	---	13 35 17	67.9	76.1	-2.5		-74.1	60	1488	09 17 51
09 19 30	J1549+5038	13 35 57	69.4	83.4	-2.2		-70.0	10	1488	09 19 30
09 20 30	=1547+507	13 36 57	69.5	83.6	-2.2		-70.0	60	1496	09 19 31
09 21 10	4C52.37	13 37 37	68.3	76.3	-2.4		-74.3	10	1496	09 21 10
09 22 10	---	13 38 37	68.4	76.5	-2.4		-74.4	60	1504	09 21 11
09 22 50	J1549+5038	13 39 17	69.9	84.0	-2.2		-70.1	10	1504	09 22 50
09 23 50	=1547+507	13 40 17	70.0	84.1	-2.2		-70.2	60	1512	09 22 51
09 24 30	4C52.37	13 40 58	68.8	76.7	-2.4		-74.6	10	1512	09 24 30
09 25 30	---	13 41 58	68.9	76.8	-2.4		-74.7	60	1519	09 24 31

Schedule for TORUN (Code Tr)

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The origin of the radio jets in the young radio galaxy 4C 52.37

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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 6 Nov 2018 Day 310 ---										
09 26 10	J1549+5038	13 42 38	70.4	84.5	-2.1		-70.3	10	1519	09 26 10
09 27 10	=1547+507	13 43 38	70.5	84.6	-2.1		-70.3	60	1527	09 26 11
09 27 50	4C52.37	13 44 18	69.2	77.1	-2.3		-74.9	10	1527	09 27 50
09 28 50	---	13 45 18	69.4	77.2	-2.3		-75.0	60	1535	09 27 51
09 29 30	J1549+5038	13 45 58	70.9	85.0	-2.1		-70.4	9	1535	09 29 30
09 30 30	=1547+507	13 46 59	71.0	85.2	-2.0		-70.4	60	1542	09 29 31
09 31 10	4C52.37	13 47 39	69.7	77.5	-2.3		-75.2	9	1542	09 31 10
09 32 10	---	13 48 39	69.9	77.6	-2.2		-75.3	60	1550	09 31 11
09 32 50	J1549+5038	13 49 19	71.4	85.6	-2.0		-70.5	9	1550	09 32 50
09 33 50	=1547+507	13 50 19	71.5	85.7	-2.0		-70.6	60	1558	09 32 51
09 34 30	4C52.37	13 50 59	70.2	77.8	-2.2		-75.5	9	1558	09 34 30
09 35 30	---	13 51 59	70.4	77.9	-2.2		-75.6	60	1565	09 34 31
09 36 10	J1549+5038	13 52 39	71.9	86.1	-2.0		-70.7	9	1565	09 36 10
09 37 10	=1547+507	13 53 40	72.0	86.3	-1.9		-70.7	60	1573	09 36 11
09 37 50	4C52.37	13 54 20	70.7	78.2	-2.1		-75.9	9	1573	09 37 50
09 38 50	---	13 55 20	70.9	78.3	-2.1		-75.9	60	1581	09 37 51
09 39 30	J1549+5038	13 56 00	72.4	86.7	-1.9		-70.8	8	1581	09 39 30
09 40 30	=1547+507	13 57 00	72.5	86.9	-1.9		-70.8	60	1588	09 39 31
09 41 10	4C52.37	13 57 40	71.2	78.6	-2.1		-76.2	8	1588	09 41 10
09 42 10	---	13 58 40	71.4	78.7	-2.1		-76.3	60	1596	09 41 11
09 42 50	J1549+5038	13 59 21	72.9	87.3	-1.8		-70.8	8	1596	09 42 50
09 43 50	=1547+507	14 00 21	73.0	87.5	-1.8		-70.9	60	1604	09 42 51
09 44 30	4C52.37	14 01 01	71.7	79.0	-2.0		-76.5	8	1604	09 44 30
09 45 30	---	14 02 01	71.9	79.1	-2.0		-76.6	60	1612	09 44 31
09 46 10	J1549+5038	14 02 41	73.4	87.9	-1.8		-70.9	7	1612	09 46 10
09 47 10	=1547+507	14 03 41	73.5	88.1	-1.8		-70.9	60	1619	09 46 11
09 47 50	4C52.37	14 04 21	72.2	79.3	-2.0		-76.8	7	1619	09 47 50
09 48 50	---	14 05 22	72.3	79.4	-2.0		-76.9	60	1627	09 47 51
09 49 30	J1549+5038	14 06 02	73.9	88.5	-1.7		-71.0	7	1627	09 49 30
09 50 30	=1547+507	14 07 02	74.0	88.7	-1.7		-71.0	60	1635	09 49 31

Schedule for TORUN (Code Tr)

Page 16

The origin of the radio jets in the young radio galaxy 4C 52.37

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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 6 Nov 2018 Day 310 ---										
09 51 10	4C52.37	14 07 42	72.7	79.7	-1.9		-77.1	7	1635	09 51 10
09 52 10	---	14 08 42	72.8	79.8	-1.9		-77.2	60	1642	09 51 11
09 52 50	J1549+5038	14 09 22	74.4	89.1	-1.7		-71.0	6	1642	09 52 50
09 53 50	=1547+507	14 10 22	74.5	89.3	-1.7		-71.0	60	1650	09 52 51
09 54 30	4C52.37	14 11 02	73.2	80.1	-1.9		-77.4	7	1650	09 54 30
09 55 30	---	14 12 03	73.3	80.2	-1.9		-77.5	60	1658	09 54 31
09 56 10	J1549+5038	14 12 43	74.9	89.8	-1.6		-71.0	6	1658	09 56 10
09 57 10	=1547+507	14 13 43	75.0	90.0	-1.6		-71.0	60	1665	09 56 11
09 57 50	4C52.37	14 14 23	73.7	80.5	-1.8		-77.7	6	1665	09 57 50
09 58 50	---	14 15 23	73.8	80.6	-1.8		-77.8	60	1673	09 57 51
09 59 30	J1549+5038	14 16 03	75.4	90.4	-1.6		-71.0	5	1673	09 59 30
10 00 30	=1547+507	14 17 03	75.5	90.7	-1.5		-71.0	60	1681	09 59 31
10 01 10	4C52.37	14 17 44	74.2	80.9	-1.8		-78.0	5	1681	10 01 10
10 02 10	---	14 18 44	74.3	81.0	-1.7		-78.1	60	1688	10 01 11
10 02 50	J1549+5038	14 19 24	75.9	91.1	-1.5		-71.0	5	1688	10 02 50
10 03 50	=1547+507	14 20 24	76.0	91.4	-1.5		-71.0	60	1696	10 02 51
10 04 30	4C52.37	14 21 04	74.7	81.3	-1.7		-78.3	5	1696	10 04 30
10 05 30	---	14 22 04	74.8	81.4	-1.7		-78.3	60	1704	10 04 31
10 06 10	J1549+5038	14 22 44	76.4	91.9	-1.5		-70.9	4	1704	10 06 10
10 07 10	=1547+507	14 23 45	76.5	92.1	-1.4		-70.9	60	1712	10 06 11
10 07 50	4C52.37	14 24 25	75.2	81.6	-1.6		-78.5	4	1712	10 07 50
10 08 50	---	14 25 25	75.3	81.8	-1.6		-78.6	60	1719	10 07 51
10 09 30	J1549+5038	14 26 05	76.9	92.6	-1.4		-70.9	3	1719	10 09 30
10 10 30	=1547+507	14 27 05	77.0	92.8	-1.4		-70.8	60	1727	10 09 31
10 11 10	4C52.37	14 27 45	75.7	82.0	-1.6		-78.8	3	1727	10 11 10
10 12 10	---	14 28 45	75.8	82.2	-1.6		-78.9	60	1735	10 11 11
10 12 50	J1549+5038	14 29 25	77.4	93.4	-1.3		-70.7	3	1735	10 12 50
10 13 50	=1547+507	14 30 26	77.5	93.6	-1.3		-70.7	60	1742	10 12 51
10 14 30	4C52.37	14 31 06	76.2	82.4	-1.5		-79.1	3	1742	10 14 30
10 15 30	---	14 32 06	76.3	82.6	-1.5		-79.2	60	1750	10 14 31

Schedule for TORUN (Code Tr)

Page 17

The origin of the radio jets in the young radio galaxy 4C 52.37

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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 6 Nov 2018 Day 310 ---										
10 16 10	J1549+5038	14 32 46	77.9	94.2	-1.3		-70.6	2	1750	10 16 10
10 17 10	=1547+507	14 33 46	78.0	94.5	-1.3		-70.5	60	1758	10 16 11
10 17 50	4C52.37	14 34 26	76.7	82.8	-1.5		-79.4	2	1758	10 17 50
10 18 50	---	14 35 26	76.8	83.0	-1.5		-79.5	60	1765	10 17 51
10 19 30	J1549+5038	14 36 07	78.4	95.1	-1.2		-70.4	1	1765	10 19 30
10 20 30	=1547+507	14 37 07	78.5	95.3	-1.2		-70.3	60	1773	10 19 31
10 21 10	4C52.37	14 37 47	77.2	83.2	-1.4		-79.6	1	1773	10 21 10
10 22 10	---	14 38 47	77.3	83.4	-1.4		-79.7	60	1781	10 21 11
10 22 50	J1549+5038	14 39 27	78.9	96.0	-1.2		-70.1	0	1781	10 22 50
10 23 50	=1547+507	14 40 27	79.0	96.3	-1.2		-70.1	60	1788	10 22 51
10 24 30	4C52.37	14 41 07	77.7	83.7	-1.4		-79.9	0	1788	10 24 30
10 25 30	---	14 42 08	77.8	83.8	-1.4		-80.0	60	1796	10 24 31
10 26 10	J1549+5038	14 42 48	79.4	97.0	-1.1		-69.8	-1	1796	10 26 10
10 27 10	=1547+507	14 43 48	79.5	97.3	-1.1		-69.7	59	1804	10 26 11
10 27 50	4C52.37	14 44 28	78.2	84.1	-1.3		-80.2	-1	1804	10 27 50
10 28 50	---	14 45 28	78.3	84.2	-1.3		-80.2	59	1812	10 27 51
10 29 30	J1549+5038	14 46 08	79.9	98.0	-1.1		-69.5	-3	1812	10 29 30
10 30 30	=1547+507	14 47 08	80.0	98.3	-1.0		-69.4	57	1819	10 29 31
10 31 10	4C52.37	14 47 48	78.7	84.5	-1.3		-80.4	-3	1819	10 31 10
10 32 10	---	14 48 49	78.8	84.6	-1.2		-80.5	57	1827	10 31 11
10 32 50	J1549+5038	14 49 29	80.4	99.1	-1.0		-69.0	-4	1827	10 32 50
10 33 50	=1547+507	14 50 29	80.5	99.4	-1.0		-68.9	56	1835	10 32 51
10 34 30	4C52.37	14 51 09	79.2	84.9	-1.2		-80.7	-4	1835	10 34 30
10 35 30	---	14 52 09	79.3	85.1	-1.2		-80.7	56	1842	10 34 31
10 36 10	J1549+5038	14 52 49	80.9	100.3	-0.9		-68.5	-5	1842	10 36 10
10 37 10	=1547+507	14 53 49	81.0	100.6	-0.9		-68.4	55	1850	10 36 11
10 37 50	4C52.37	14 54 30	79.7	85.4	-1.1		-80.9	-5	1850	10 37 50
10 38 50	---	14 55 30	79.8	85.5	-1.1		-81.0	55	1858	10 37 51
10 39 30	J1549+5038	14 56 10	81.4	101.5	-0.9		-67.9	-7	1858	10 39 30
10 40 30	=1547+507	14 57 10	81.5	101.9	-0.9		-67.7	53	1865	10 39 31

Schedule for TORUN (Code Tr)

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The origin of the radio jets in the young radio galaxy 4C 52.37

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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	6 Nov 2018	Day 310	---						
10 41 10	4C52.37	14 57 50	80.2	85.8	-1.1		-81.1	-7	1865	10 41 10
10 42 10	---	14 58 50	80.3	86.0	-1.1		-81.2	53	1873	10 41 11
10 42 50	J1549+5038	14 59 30	81.9	102.9	-0.8		-67.2	-9	1873	10 42 50
10 43 50	=1547+507	15 00 31	82.0	103.4	-0.8		-66.9	51	1881	10 42 51
10 44 30	4C52.37	15 01 11	80.7	86.3	-1.0		-81.3	-9	1881	10 44 30
10 45 30	---	15 02 11	80.8	86.4	-1.0		-81.4	51	1888	10 44 31
10 46 10	J1549+5038	15 02 51	82.3	104.4	-0.8		-66.3	-11	1888	10 46 10
10 47 10	=1547+507	15 03 51	82.5	104.9	-0.8		-66.0	49	1896	10 46 11
10 47 50	4C52.37	15 04 31	81.2	86.8	-1.0		-81.5	-11	1896	10 47 50
10 48 50	---	15 05 31	81.3	86.9	-1.0		-81.6	49	1904	10 47 51
10 49 30	J1549+5038	15 06 11	82.8	106.1	-0.7		-65.3	-14	1904	10 49 30
10 50 30	=1547+507	15 07 12	83.0	106.7	-0.7		-65.0	46	1912	10 49 31
10 51 10	4C52.37	15 07 52	81.7	87.3	-0.9		-81.7	-14	1912	10 51 10
10 52 10	---	15 08 52	81.8	87.4	-0.9		-81.7	46	1919	10 51 11
10 52 50	J1549+5038	15 09 32	83.3	108.0	-0.7		-64.1	-16	1919	10 52 50
10 53 50	=1547+507	15 10 32	83.4	108.6	-0.7		-63.7	44	1927	10 52 51
10 54 30	4C52.37	15 11 12	82.2	87.8	-0.9		-81.8	-17	1927	10 54 30
10 55 30	---	15 12 12	82.3	87.9	-0.9		-81.9	43	1935	10 54 31
10 56 10	J1549+5038	15 12 53	83.8	110.1	-0.6		-62.6	-20	1935	10 56 10
10 57 10	=1547+507	15 13 53	83.9	110.8	-0.6		-62.1	40	1942	10 56 11
10 57 50	4C52.37	15 14 33	82.7	88.3	-0.8		-82.0	-20	1942	10 57 50
10 58 50	---	15 15 33	82.8	88.5	-0.8		-82.0	40	1950	10 57 51
10 59 30	J1549+5038	15 16 13	84.2	112.5	-0.6		-60.9	-24	1950	10 59 30
11 00 30	=1547+507	15 17 13	84.4	113.3	-0.5		-60.3	36	1958	10 59 31
11 01 10	4C52.37	15 17 53	83.2	88.9	-0.8		-82.1	-24	1958	11 01 10
11 02 10	---	15 18 54	83.3	89.1	-0.7		-82.1	36	1965	11 01 11
11 02 50	J1549+5038	15 19 34	84.7	115.3	-0.5		-58.8	-28	1965	11 02 50
11 03 50	=1547+507	15 20 34	84.8	116.2	-0.5		-58.0	32	1973	11 02 51
11 04 30	4C52.37	15 21 14	83.7	89.5	-0.7		-82.1	-28	1973	11 04 30
11 05 30	---	15 22 14	83.8	89.7	-0.7		-82.1	32	1981	11 04 31

Schedule for TORUN (Code Tr)

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The origin of the radio jets in the young radio galaxy 4C 52.37

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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 6 Nov 2018 Day 310 ---										
11 06 10	J1549+5038	15 22 54	85.1	118.5	-0.4		-56.2	-34	1981	11 06 10
11 07 10	=1547+507	15 23 54	85.3	119.6	-0.4		-55.3	26	1988	11 06 11
11 07 50	4C52.37	15 24 35	84.2	90.2	-0.6		-82.1	-34	1988	11 07 50
11 08 50	---	15 25 35	84.3	90.4	-0.6		-82.1	26	1996	11 07 51
11 09 30	J1549+5038	15 26 15	85.6	122.3	-0.4		-53.1	-40	1996	11 09 30
11 10 30	=1547+507	15 27 15	85.7	123.6	-0.4		-52.0	20	2004	11 09 31
11 11 10	4C52.37	15 27 55	84.7	90.9	-0.6		-82.1	-40	2004	11 11 10
11 12 10	---	15 28 55	84.8	91.1	-0.6		-82.1	20	2012	11 11 11
11 12 50	J1549+5038	15 29 35	86.0	126.9	-0.3		-49.2	-49	2012	11 12 50
11 13 50	=1547+507	15 30 35	86.1	128.4	-0.3		-47.8	11	2019	11 12 51
11 14 30	4C52.37	15 31 16	85.2	91.7	-0.5		-82.0	-48	2019	11 14 30
11 15 30	---	15 32 16	85.3	91.9	-0.5		-81.9	12	2027	11 14 31
11 16 10	J1549+5038	15 32 56	86.4	132.3	-0.3		-44.4	-59	2027	11 16 10
11 17 10	=1547+507	15 33 56	86.5	134.2	-0.3		-42.7	1	2035	11 16 11
11 17 50	4C52.37	15 34 36	85.7	92.6	-0.5		-81.7	-58	2035	11 17 50
11 18 50	---	15 35 36	85.8	92.9	-0.5		-81.6	2	2042	11 17 51
11 21 10	4C52.37	15 37 57	86.2	93.6	-0.4		-81.4	133	2042	11 21 10
11 22 10	---	15 38 57	86.3	94.0	-0.4		-81.2	60	2050	11 21 11
11 24 30	4C52.37	15 41 17	86.7	94.9	-0.4		-80.8	133	2050	11 24 30
11 25 30	---	15 42 17	86.8	95.3	-0.3		-80.5	60	2058	11 24 31
11 27 50	4C52.37	15 44 38	87.2	96.5	-0.3		-79.8	133	2058	11 27 50
11 28 50	---	15 45 38	87.3	97.0	-0.3		-79.5	60	2065	11 27 51
11 31 10	4C52.37	15 47 58	87.7	98.6	-0.3		-78.4	132	2065	11 31 10
11 32 10	---	15 48 59	87.8	99.4	-0.2		-77.8	60	2073	11 31 11
11 34 30	4C52.37	15 51 19	88.2	101.7	-0.2		-76.0	131	2073	11 34 30
11 35 30	---	15 52 19	88.3	102.9	-0.2		-74.9	60	2081	11 34 31
11 37 50	4C52.37	15 54 39	88.6	106.8	-0.1		-71.5	129	2081	11 37 50
11 38 50	---	15 55 40	88.8	109.0	-0.1		-69.5	60	2088	11 37 51
11 41 10	4C52.37	15 58 00	89.1	117.0	-0.1		-62.0	125	2088	11 41 10
11 42 10	---	15 59 00	89.2	122.4	-0.1		-56.7	60	2096	11 41 11

Schedule for TORUN (Code Tr)

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The origin of the radio jets in the young radio galaxy 4C 52.37

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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 6 Nov 2018 Day 310 ---										
11 44 30	4C52.37	16 01 21	89.5	145.3	-0.0		-34.3	111	2096	11 44 30
11 45 30	---	16 02 21	89.6	162.2	-0.0		-17.6	60	2104	11 44 31
11 47 50	4C52.37	16 04 41	89.5	208.6	0.0		28.3	54	2104	11 47 50
11 48 50	---	16 05 41	89.4	222.6	0.0		42.1	60	2112	11 47 51
11 49 30	J1549+5038	16 06 21	86.4	227.2	0.3		43.9	15	2112	11 49 30
11 50 30	=1547+507	16 07 22	86.3	229.0	0.3		45.5	60	2119	11 49 31
11 51 10	4C52.37	16 08 02	89.2	241.1	0.1		60.1	2	2119	11 51 10
11 52 10	---	16 09 02	89.0	245.6	0.1		64.4	60	2127	11 51 11
11 52 50	J1549+5038	16 09 42	86.0	232.7	0.3		48.8	-1	2127	11 52 50
11 53 50	=1547+507	16 10 42	85.9	234.2	0.3		50.1	59	2135	11 52 51
11 54 30	4C52.37	16 11 22	88.7	252.4	0.1		70.8	-12	2135	11 54 30
11 55 30	---	16 12 22	88.6	254.4	0.2		72.6	48	2142	11 54 31
11 56 10	J1549+5038	16 13 02	85.6	237.3	0.4		52.8	-9	2142	11 56 10
11 57 10	=1547+507	16 14 03	85.5	238.6	0.4		53.8	51	2150	11 56 11
11 57 50	4C52.37	16 14 43	88.2	257.9	0.2		75.6	-14	2150	11 57 50
11 58 50	---	16 15 43	88.1	259.0	0.2		76.5	46	2158	11 57 51
11 59 30	J1549+5038	16 16 23	85.2	241.2	0.4		56.0	-10	2158	11 59 30
12 00 30	=1547+507	16 17 23	85.1	242.2	0.5		56.8	50	2165	11 59 31
12 01 10	4C52.37	16 18 03	87.7	261.1	0.2		78.2	-13	2165	12 01 10
12 02 10	---	16 19 03	87.6	261.9	0.3		78.7	47	2173	12 01 11
12 02 50	J1549+5038	16 19 44	84.7	244.5	0.5		58.6	-10	2173	12 02 50
12 03 50	=1547+507	16 20 44	84.6	245.4	0.5		59.3	50	2181	12 02 51
12 04 30	4C52.37	16 21 24	87.2	263.3	0.3		79.7	-11	2181	12 04 30
12 05 30	---	16 22 24	87.1	263.9	0.3		80.0	49	2188	12 04 31
12 06 10	J1549+5038	16 23 04	84.3	247.3	0.6		60.7	-8	2188	12 06 10
12 07 10	=1547+507	16 24 04	84.1	248.0	0.6		61.3	52	2196	12 06 11
12 07 50	4C52.37	16 24 44	86.7	265.0	0.4		80.7	-9	2196	12 07 50
12 08 50	---	16 25 45	86.6	265.4	0.4		80.9	51	2204	12 07 51
12 09 30	J1549+5038	16 26 25	83.8	249.7	0.6		62.5	-6	2204	12 09 30
12 10 30	=1547+507	16 27 25	83.7	250.4	0.6		63.0	54	2212	12 09 31

Schedule for TORUN (Code Tr)

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The origin of the radio jets in the young radio galaxy 4C 52.37

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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	6 Nov 2018	Day 310	---						
12 11 10	4C52.37	16 28 05	86.2	266.3	0.4		81.3	-7	2212	12 11 10
12 12 10	---	16 29 05	86.1	266.6	0.4		81.4	53	2219	12 11 11
12 12 50	J1549+5038	16 29 45	83.3	251.8	0.7		64.0	-5	2219	12 12 50
12 13 50	=1547+507	16 30 45	83.2	252.4	0.7		64.4	55	2227	12 12 51
12 14 30	4C52.37	16 31 25	85.7	267.3	0.5		81.7	-5	2227	12 14 30
12 15 30	---	16 32 26	85.6	267.6	0.5		81.8	55	2235	12 14 31
12 16 10	J1549+5038	16 33 06	82.9	253.7	0.7		65.2	-3	2235	12 16 10
12 17 10	=1547+507	16 34 06	82.7	254.3	0.7		65.5	57	2242	12 16 11
12 17 50	4C52.37	16 34 46	85.2	268.2	0.5		81.9	-3	2242	12 17 50
12 18 50	---	16 35 46	85.1	268.5	0.5		82.0	57	2250	12 17 51
12 19 30	J1549+5038	16 36 26	82.4	255.4	0.8		66.2	-1	2250	12 19 30
12 20 30	=1547+507	16 37 26	82.2	255.9	0.8		66.5	59	2258	12 19 31
12 21 10	4C52.37	16 38 07	84.7	269.0	0.6		82.1	-1	2258	12 21 10
12 22 10	---	16 39 07	84.6	269.3	0.6		82.1	59	2265	12 21 11
12 22 50	J1549+5038	16 39 47	81.9	257.0	0.8		67.1	0	2265	12 22 50
12 23 50	=1547+507	16 40 47	81.7	257.4	0.9		67.4	60	2273	12 22 51
12 24 30	4C52.37	16 41 27	84.2	269.8	0.6		82.1	0	2273	12 24 30
12 25 30	---	16 42 27	84.1	270.0	0.7		82.1	60	2281	12 24 31
12 26 10	J1549+5038	16 43 07	81.4	258.4	0.9		67.9	2	2281	12 26 10
12 27 10	=1547+507	16 44 08	81.3	258.8	0.9		68.1	60	2288	12 26 11
12 27 50	J1638+5720	16 44 48	85.7	348.7	0.1		167.4	-146	2288	12 27 50
12 33 20	=1637+574	16 50 19	85.5	339.5	0.2		157.0	184	2331	12 27 51
12 35 40	J1549+5038	16 52 39	80.0	261.8	1.0		69.4	-30	2331	12 35 40
12 36 40	=1547+507	16 53 39	79.8	262.1	1.1		69.5	30	2338	12 35 41
12 37 20	4C52.37	16 54 19	82.3	272.1	0.9		81.9	5	2338	12 37 20
12 38 20	---	16 55 19	82.1	272.2	0.9		81.8	60	2346	12 37 21
12 39 00	J1549+5038	16 55 59	79.5	262.8	1.1		69.8	6	2346	12 39 00
12 40 00	=1547+507	16 57 00	79.3	263.1	1.1		69.9	60	2354	12 39 01
12 40 40	4C52.37	16 57 40	81.8	272.6	0.9		81.7	6	2354	12 40 40
12 41 40	---	16 58 40	81.6	272.7	0.9		81.7	60	2362	12 40 41

Schedule for TORUN (Code Tr)

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The origin of the radio jets in the young radio galaxy 4C 52.37

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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 6 Nov 2018 Day 310 ---									
12 42 20	J1549+5038	16 59 20	79.0	263.8	1.2	70.1	7	2362	12 42 20
12 43 20	=1547+507	17 00 20	78.8	264.1	1.2	70.2	60	2369	12 42 21
12 44 00	4C52.37	17 01 00	81.3	273.1	1.0	81.6	7	2369	12 44 00
12 45 00	---	17 02 00	81.1	273.2	1.0	81.5	60	2377	12 44 01
12 45 40	J1549+5038	17 02 41	78.5	264.7	1.2	70.3	8	2377	12 45 40
12 46 40	=1547+507	17 03 41	78.3	265.0	1.2	70.4	60	2385	12 45 41
12 47 20	4C52.37	17 04 21	80.8	273.6	1.0	81.4	8	2385	12 47 20
12 48 20	---	17 05 21	80.6	273.7	1.0	81.3	60	2392	12 47 21
12 49 00	J1549+5038	17 06 01	78.0	265.6	1.3	70.5	9	2392	12 49 00
12 50 00	=1547+507	17 07 01	77.8	265.8	1.3	70.6	60	2400	12 49 01
12 50 40	4C52.37	17 07 41	80.3	274.0	1.1	81.2	9	2400	12 50 40
12 51 40	---	17 08 42	80.1	274.2	1.1	81.1	60	2408	12 50 41
12 52 20	J1549+5038	17 09 22	77.5	266.4	1.3	70.7	9	2408	12 52 20
12 53 20	=1547+507	17 10 22	77.3	266.7	1.3	70.7	60	2415	12 52 21
12 54 00	4C52.37	17 11 02	79.8	274.5	1.1	80.9	9	2415	12 54 00
12 55 00	---	17 12 02	79.6	274.6	1.1	80.9	60	2423	12 54 01
12 55 40	J1549+5038	17 12 42	77.0	267.2	1.4	70.8	10	2423	12 55 40
12 56 40	=1547+507	17 13 42	76.8	267.4	1.4	70.9	60	2431	12 55 41
12 57 20	4C52.37	17 14 22	79.3	274.9	1.2	80.7	10	2431	12 57 20
12 58 20	---	17 15 23	79.1	275.1	1.2	80.6	60	2438	12 57 21
12 59 00	J1549+5038	17 16 03	76.5	268.0	1.4	70.9	11	2438	12 59 00
13 00 00	=1547+507	17 17 03	76.3	268.2	1.5	70.9	60	2446	12 59 01
13 00 40	4C52.37	17 17 43	78.8	275.4	1.2	80.5	11	2446	13 00 40
13 01 40	---	17 18 43	78.6	275.5	1.3	80.4	60	2454	13 00 41
13 02 20	J1549+5038	17 19 23	76.0	268.7	1.5	71.0	11	2454	13 02 20
13 03 20	=1547+507	17 20 23	75.8	268.9	1.5	71.0	60	2462	13 02 21
13 04 00	4C52.37	17 21 04	78.3	275.8	1.3	80.2	11	2462	13 04 00
13 05 00	---	17 22 04	78.1	275.9	1.3	80.2	60	2469	13 04 01
13 05 40	J1549+5038	17 22 44	75.5	269.4	1.5	71.0	12	2469	13 05 40
13 06 40	=1547+507	17 23 44	75.3	269.6	1.6	71.0	60	2477	13 05 41

Schedule for TORUN (Code Tr)

Page 23

The origin of the radio jets in the young radio galaxy 4C 52.37

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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 6 Nov 2018 Day 310 ---										
13 07 20	4C52.37	17 24 24	77.8	276.2	1.4		80.0	12	2477	13 07 20
13 08 20	---	17 25 24	77.6	276.4	1.4		79.9	60	2485	13 07 21
13 09 00	J1549+5038	17 26 04	75.0	270.1	1.6		71.0	12	2485	13 09 00
13 10 00	=1547+507	17 27 05	74.8	270.3	1.6		71.0	60	2492	13 09 01
13 10 40	4C52.37	17 27 45	77.3	276.6	1.4		79.7	12	2492	13 10 40
13 11 40	---	17 28 45	77.1	276.8	1.4		79.6	60	2500	13 10 41
13 12 20	J1549+5038	17 29 25	74.5	270.7	1.7		71.0	13	2500	13 12 20
13 13 20	=1547+507	17 30 25	74.3	270.9	1.7		71.0	60	2508	13 12 21
13 14 00	4C52.37	17 31 05	76.8	277.1	1.5		79.5	13	2508	13 14 00
13 15 00	---	17 32 05	76.6	277.2	1.5		79.4	60	2515	13 14 01
13 15 40	J1549+5038	17 32 46	74.0	271.4	1.7		71.0	13	2515	13 15 40
13 16 40	=1547+507	17 33 46	73.8	271.5	1.7		71.0	60	2523	13 15 41
13 17 20	4C52.37	17 34 26	76.3	277.5	1.5		79.2	13	2523	13 17 20
13 18 20	---	17 35 26	76.1	277.6	1.5		79.1	60	2531	13 17 21
13 19 00	J1549+5038	17 36 06	73.5	272.0	1.8		70.9	14	2531	13 19 00
13 20 00	=1547+507	17 37 06	73.3	272.2	1.8		70.9	60	2538	13 19 01
13 20 40	4C52.37	17 37 46	75.8	277.9	1.6		78.9	14	2538	13 20 40
13 21 40	---	17 38 46	75.6	278.0	1.6		78.8	60	2546	13 20 41
13 22 20	J1549+5038	17 39 27	73.0	272.6	1.8		70.9	14	2546	13 22 20
13 23 20	=1547+507	17 40 27	72.8	272.8	1.8		70.8	60	2554	13 22 21
13 24 00	4C52.37	17 41 07	75.3	278.2	1.6		78.6	14	2554	13 24 00
13 25 00	---	17 42 07	75.2	278.4	1.6		78.5	60	2562	13 24 01
13 25 40	J1549+5038	17 42 47	72.5	273.2	1.9		70.8	14	2562	13 25 40
13 26 40	=1547+507	17 43 47	72.3	273.3	1.9		70.7	60	2569	13 25 41
13 27 20	4C52.37	17 44 27	74.8	278.6	1.7		78.3	14	2569	13 27 20
13 28 20	---	17 45 28	74.7	278.8	1.7		78.2	60	2577	13 27 21
13 29 00	J1549+5038	17 46 08	72.0	273.7	1.9		70.7	15	2577	13 29 00
13 30 00	=1547+507	17 47 08	71.8	273.9	2.0		70.6	60	2585	13 29 01
13 30 40	4C52.37	17 47 48	74.3	279.0	1.7		78.0	15	2585	13 30 40
13 31 40	---	17 48 48	74.2	279.1	1.8		78.0	60	2592	13 30 41

Schedule for TORUN (Code Tr)

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The origin of the radio jets in the young radio galaxy 4C 52.37

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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	6 Nov 2018	Day 310	---						
13 32 20	J1549+5038	17 49 28	71.5	274.3	2.0		70.6	15	2592	13 32 20
13 33 20	=1547+507	17 50 28	71.3	274.5	2.0		70.5	60	2600	13 32 21
13 34 00	4C52.37	17 51 09	73.8	279.4	1.8		77.8	15	2600	13 34 00
13 35 00	---	17 52 09	73.7	279.5	1.8		77.7	60	2608	13 34 01
13 35 40	J1549+5038	17 52 49	71.0	274.9	2.1		70.4	16	2608	13 35 40
13 36 40	=1547+507	17 53 49	70.8	275.0	2.1		70.4	60	2615	13 35 41
13 37 20	4C52.37	17 54 29	73.3	279.8	1.9		77.5	16	2615	13 37 20
13 38 20	---	17 55 29	73.2	279.9	1.9		77.4	60	2623	13 37 21
13 39 00	J1549+5038	17 56 09	70.5	275.4	2.1		70.3	16	2623	13 39 00
13 40 00	=1547+507	17 57 10	70.3	275.6	2.1		70.3	60	2631	13 39 01
13 40 40	4C52.37	17 57 50	72.8	280.2	1.9		77.2	16	2631	13 40 40
13 41 40	---	17 58 50	72.7	280.3	1.9		77.1	60	2638	13 40 41
13 42 20	J1549+5038	17 59 30	70.0	275.9	2.2		70.2	16	2638	13 42 20
13 43 20	=1547+507	18 00 30	69.8	276.1	2.2		70.1	60	2646	13 42 21
13 44 00	4C52.37	18 01 10	72.3	280.6	2.0		76.9	16	2646	13 44 00
13 45 00	---	18 02 10	72.2	280.7	2.0		76.8	60	2654	13 44 01
13 45 40	J1549+5038	18 02 50	69.5	276.4	2.2		70.0	16	2654	13 45 40
13 46 40	=1547+507	18 03 51	69.3	276.6	2.2		70.0	60	2662	13 45 41
13 47 20	4C52.37	18 04 31	71.8	280.9	2.0		76.6	16	2662	13 47 20
13 48 20	---	18 05 31	71.7	281.1	2.0		76.5	60	2669	13 47 21
13 49 00	J1549+5038	18 06 11	69.0	277.0	2.3		69.8	16	2669	13 49 00
13 50 00	=1547+507	18 07 11	68.8	277.1	2.3		69.8	60	2677	13 49 01
13 50 40	4C52.37	18 07 51	71.3	281.3	2.1		76.2	16	2677	13 50 40
13 51 40	---	18 08 51	71.2	281.4	2.1		76.2	60	2685	13 50 41
13 52 20	J1549+5038	18 09 32	68.5	277.5	2.3		69.7	16	2685	13 52 20
13 53 20	=1547+507	18 10 32	68.3	277.6	2.3		69.6	60	2692	13 52 21
13 54 00	4C52.37	18 11 12	70.9	281.7	2.1		75.9	16	2692	13 54 00
13 55 00	---	18 12 12	70.7	281.8	2.1		75.8	60	2700	13 54 01
13 55 40	J1549+5038	18 12 52	68.0	278.0	2.4		69.5	16	2700	13 55 40
13 56 40	=1547+507	18 13 52	67.8	278.1	2.4		69.4	60	2708	13 55 41

Schedule for TORUN (Code Tr)

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The origin of the radio jets in the young radio galaxy 4C 52.37

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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 6 Nov 2018 Day 310 ---										
13 57 20	4C52.37	18 14 32	70.4	282.1	2.2		75.6	16	2708	13 57 20
13 58 20	---	18 15 33	70.2	282.2	2.2		75.5	60	2715	13 57 21
13 59 00	J1549+5038	18 16 13	67.5	278.5	2.4		69.3	16	2715	13 59 00
14 00 00	=1547+507	18 17 13	67.3	278.6	2.5		69.2	60	2723	13 59 01
14 00 40	4C52.37	18 17 53	69.9	282.4	2.2		75.3	16	2723	14 00 40
14 01 40	---	18 18 53	69.7	282.6	2.3		75.2	60	2731	14 00 41
14 02 20	J1549+5038	18 19 33	67.0	278.9	2.5		69.1	16	2731	14 02 20
14 03 20	=1547+507	18 20 33	66.8	279.1	2.5		69.0	60	2738	14 02 21
14 04 00	4C52.37	18 21 13	69.4	282.8	2.3		75.0	16	2738	14 04 00
14 05 00	---	18 22 14	69.2	282.9	2.3		74.9	60	2746	14 04 01
14 05 40	J1549+5038	18 22 54	66.5	279.4	2.6		68.9	16	2746	14 05 40
14 06 40	=1547+507	18 23 54	66.4	279.6	2.6		68.8	60	2754	14 05 41
14 07 20	4C52.37	18 24 34	68.9	283.2	2.4		74.7	16	2754	14 07 20
14 08 20	---	18 25 34	68.7	283.3	2.4		74.6	60	2762	14 07 21
14 09 00	J1549+5038	18 26 14	66.0	279.9	2.6		68.7	16	2762	14 09 00
14 10 00	=1547+507	18 27 14	65.9	280.0	2.6		68.6	60	2769	14 09 01
14 10 40	4C52.37	18 27 55	68.4	283.6	2.4		74.4	16	2769	14 10 40
14 11 40	---	18 28 55	68.3	283.7	2.4		74.3	60	2777	14 10 41
14 12 20	J1549+5038	18 29 35	65.5	280.4	2.7		68.5	16	2777	14 12 20
14 13 20	=1547+507	18 30 35	65.4	280.5	2.7		68.4	60	2785	14 12 21
14 14 00	4C52.37	18 31 15	67.9	283.9	2.5		74.0	16	2785	14 14 00
14 15 00	---	18 32 15	67.8	284.0	2.5		73.9	60	2792	14 14 01
14 15 40	J1549+5038	18 32 55	65.0	280.8	2.7		68.2	16	2792	14 15 40
14 16 40	=1547+507	18 33 56	64.9	281.0	2.7		68.2	60	2800	14 15 41
14 17 20	4C52.37	18 34 36	67.4	284.3	2.5		73.7	16	2800	14 17 20
14 18 20	---	18 35 36	67.3	284.4	2.5		73.6	60	2808	14 17 21
14 19 00	J1549+5038	18 36 16	64.5	281.3	2.8		68.0	16	2808	14 19 00
14 20 00	=1547+507	18 37 16	64.4	281.4	2.8		68.0	60	2815	14 19 01
14 20 40	4C52.37	18 37 56	66.9	284.7	2.6		73.4	16	2815	14 20 40
14 21 40	---	18 38 56	66.8	284.8	2.6		73.3	60	2823	14 20 41

Schedule for TORUN (Code Tr)

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The origin of the radio jets in the young radio galaxy 4C 52.37

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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 6 Nov 2018 Day 310 ---										
14 22 20	J1549+5038	18 39 36	64.0	281.8	2.8		67.8	16	2823	14 22 20
14 23 20	=1547+507	18 40 37	63.9	281.9	2.8		67.7	60	2831	14 22 21
14 24 00	4C52.37	18 41 17	66.5	285.0	2.6		73.1	16	2831	14 24 00
14 25 00	---	18 42 17	66.3	285.2	2.7		73.0	60	2838	14 24 01
14 25 40	J1549+5038	18 42 57	63.5	282.2	2.9		67.6	16	2838	14 25 40
14 26 40	=1547+507	18 43 57	63.4	282.4	2.9		67.5	60	2846	14 25 41
14 27 20	4C52.37	18 44 37	66.0	285.4	2.7		72.7	16	2846	14 27 20
14 28 20	---	18 45 37	65.8	285.5	2.7		72.6	60	2854	14 27 21
14 29 00	J1549+5038	18 46 18	63.1	282.7	2.9		67.3	16	2854	14 29 00
14 30 00	=1547+507	18 47 18	62.9	282.8	3.0		67.2	60	2862	14 29 01
14 30 40	4C52.37	18 47 58	65.5	285.8	2.7		72.4	16	2862	14 30 40
14 31 40	---	18 48 58	65.3	285.9	2.8		72.3	60	2869	14 30 41
14 32 20	J1549+5038	18 49 38	62.6	283.1	3.0		67.1	16	2869	14 32 20
14 33 20	=1547+507	18 50 38	62.4	283.3	3.0		67.0	60	2877	14 32 21
14 34 00	4C52.37	18 51 18	65.0	286.1	2.8		72.1	16	2877	14 34 00
14 35 00	---	18 52 19	64.9	286.3	2.8		72.0	60	2885	14 34 01
14 35 40	J1549+5038	18 52 59	62.1	283.6	3.1		66.8	16	2885	14 35 40
14 36 40	=1547+507	18 53 59	61.9	283.7	3.1		66.7	60	2892	14 35 41
14 37 20	4C52.37	18 54 39	64.5	286.5	2.9		71.8	16	2892	14 37 20
14 38 20	---	18 55 39	64.4	286.6	2.9		71.7	60	2900	14 37 21
14 39 00	J1549+5038	18 56 19	61.6	284.0	3.1		66.6	16	2900	14 39 00
14 40 00	=1547+507	18 57 19	61.4	284.2	3.1		66.5	60	2908	14 39 01
14 40 40	4C52.37	18 57 59	64.0	286.9	2.9		71.4	16	2908	14 40 40
14 41 40	---	18 59 00	63.9	287.0	2.9		71.3	60	2915	14 40 41
14 42 20	J1549+5038	18 59 40	61.1	284.5	3.2		66.3	16	2915	14 42 20
14 43 20	=1547+507	19 00 40	61.0	284.6	3.2		66.2	60	2923	14 42 21
14 44 00	4C52.37	19 01 20	63.6	287.3	3.0		71.1	16	2923	14 44 00
14 45 00	---	19 02 20	63.4	287.4	3.0		71.0	60	2931	14 44 01
14 45 40	J1549+5038	19 03 00	60.6	284.9	3.2		66.0	16	2931	14 45 40
14 46 40	=1547+507	19 04 00	60.5	285.0	3.2		66.0	60	2938	14 45 41

Schedule for TORUN (Code Tr) Page 27

The origin of the radio jets in the young radio galaxy 4C 52.37

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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 6 Nov 2018 Day 310 ---										
14 47 20	4C52.37	19 04 41	63.1	287.6	3.0		70.8	16	2938	14 47 20
14 48 20	---	19 05 41	62.9	287.7	3.0		70.7	60	2946	14 47 21
14 49 00	J1549+5038	19 06 21	60.1	285.3	3.3		65.8	16	2946	14 49 00
14 50 00	=1547+507	19 07 21	60.0	285.5	3.3		65.7	60	2954	14 49 01
14 50 40	4C52.37	19 08 01	62.6	288.0	3.1		70.4	16	2954	14 50 40
14 51 40	---	19 09 01	62.5	288.1	3.1		70.3	60	2962	14 50 41
14 52 20	J1549+5038	19 09 41	59.6	285.8	3.3		65.5	16	2962	14 52 20
14 53 20	=1547+507	19 10 42	59.5	285.9	3.3		65.4	60	2969	14 52 21
14 54 00	4C52.37	19 11 22	62.1	288.4	3.1		70.1	16	2969	14 54 00
14 55 00	---	19 12 22	62.0	288.5	3.2		70.0	60	2977	14 54 01
14 55 40	J1549+5038	19 13 02	59.2	286.2	3.4		65.2	16	2977	14 55 40
14 56 40	=1547+507	19 14 02	59.0	286.3	3.4		65.2	60	2985	14 55 41
14 57 20	4C52.37	19 14 42	61.7	288.7	3.2		69.7	16	2985	14 57 20
14 58 20	---	19 15 42	61.5	288.8	3.2		69.6	60	2992	14 57 21
14 59 00	J1549+5038	19 16 22	58.7	286.6	3.4		65.0	16	2992	14 59 00
15 00 00	=1547+507	19 17 23	58.5	286.8	3.5		64.9	60	3000	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: sess318.K1024

Setup group: 10	Station: TORUN	Total bit rate: 1024
Format: MARK5B	Bits per sample: 2	Sample rate: 32.000
Number of channels: 16	DBE type: DBBC_DDC	Speedup factor: 1.00

Disk used to record data.

1st LO=	21500.00	21500.00	21500.00	21500.00	21500.00	21500.00	21500.00	21500.00	21500.00
	21500.00	21500.00	21500.00	21500.00	21500.00	21500.00	21500.00	21500.00	21500.00
Net SB=	L	L	U	U	L	L	U	U	U
	L	L	U	U	L	L	U	U	U
IF SB =	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	LCP
	RCP	LCP	RCP	LCP	RCP	LCP	RCP	LCP	LCP
BBC =	1	5	1	5	2	6	2	6	6
	3	7	3	7	4	8	4	8	8
BBC SB=	L	L	U	U	L	L	U	U	U
	L	L	U	U	L	L	U	U	U
IF =	A1	B1	A1	B1	A1	B1	A1	B1	B1
	A1	B1	A1	B1	A1	B1	A1	B1	B1

The following frequency sets based on these setups were used.

Frequency Set:	8	Setup file default.	Used with PCAL = off						
LO sum=	22187.49	22187.49	22187.49	22187.49	22219.49	22219.49	22219.49	22219.49	22219.49
	22251.49	22251.49	22251.49	22251.49	22283.49	22283.49	22283.49	22283.49	22283.49
BBC fr=	687.49	687.49	687.49	687.49	719.49	719.49	719.49	719.49	719.49
	751.49	751.49	751.49	751.49	783.49	783.49	783.49	783.49	783.49
Bandwd=	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00
	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00
Matching frequency sets:	8								

Track assignments are:

track1= 18, 26, 2, 10, 20, 28, 4, 12, 22, 30, 6, 14, 24, 32, 8, 16

barrel=roll_off

POSITIONS OF SOURCES USED IN RECORDING SCANS

Source	Source position (RA/Dec)		(Date)	Error (mas)
	(B1950)	(J2000)		
* 4C52.37	16 01 29.239407	* 16 02 46.398000	16 03 12.678298	0.00
	52 52 11.52704	* 52 43 58.74300	52 41 08.73355	0.00
1547+507	15 47 52.271618	* 15 49 17.468559	15 49 46.781565	0.03
* J1549+5038	50 47 09.25446	* 50 38 05.78817	50 34 56.13604	0.03
J1549+50	/home/guest/rmc/SCHED/sched11.5/catalogs/sources.gsfc			
	GSFC 2016a X/S astro solution, 1479 observations.			
1637+574	16 37 17.425185	* 16 38 13.456300	16 38 31.819190	0.01
* J1638+5720	57 26 15.76132	* 57 20 23.97903	57 18 28.48668	0.01
J1638+57	/home/guest/rmc/SCHED/sched11.5/catalogs/sources.gsfc			
	GSFC 2016a X/S astro solution, 10291 observations.			

H2O MEGAMASER VLBI: A POWERFUL TOOL TO STUDY EJECTION AND ACCRETION

PI: A. Tarchi

Address: INAF - Osservatorio Astronomico di Cagliari

Observing mode: Observations of NGC3735 at 22 GHz (1024 Mb/s)

Schedule for TORUN (Code Tr)

Page 2

H2O megamaser VLBI: a powerful tool to study ejection and accretion

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

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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 6 Nov 2018	Day 310					---				
Next scan frequencies:		22046.00	22046.00	22046.00	22046.00	22046.00	22046.00	22078.00	22078.00	22078.00	
		22110.00	22110.00	22110.00	22110.00	22110.00	22110.00	22142.00	22142.00	22142.00	
Next BBC frequencies:		546.00	546.00	546.00	546.00	546.00	546.00	578.00	578.00	578.00	
		610.00	610.00	610.00	610.00	610.00	610.00	642.00	642.00	642.00	
Next scan bandwidths:		16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	
		16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	

23 00 00	DA193	03 18 41	60.2	100.3	-2.6		-50.3	0	0	23 00 00	
23 05 00	---	03 23 42	60.9	101.6	-2.6		-50.0	300	38	23 00 01	
23 09 50	J1134+7249	03 28 33	42.1	19.9	-8.1		-43.5	111	38	23 09 50	
23 10 50	=1131+730	03 29 33	42.1	20.0	-8.1		-43.7	60	46	23 09 51	
23 10 50	NGC3735	03 29 33	40.3	21.9	-8.1		-42.0	-20	46	No stop	
23 11 40	---	03 30 23	40.4	22.0	-8.1		-42.2	30	53	23 10 51	
23 12 20	J1134+7249	03 31 04	42.2	20.1	-8.1		-44.0	20	53	23 12 20	
23 13 10	=1131+730	03 31 54	42.2	20.2	-8.1		-44.1	50	59	23 12 21	
23 13 10	NGC3735	03 31 54	40.5	22.1	-8.1		-42.4	-20	59	No stop	
23 14 00	---	03 32 44	40.5	22.2	-8.1		-42.6	30	65	23 13 11	
23 14 00	J1134+7249	03 32 44	42.3	20.2	-8.0		-44.3	-20	65	No stop	
23 14 50	=1131+730	03 33 34	42.3	20.3	-8.0		-44.5	30	72	23 14 01	
23 14 50	NGC3735	03 33 34	40.6	22.2	-8.1		-42.7	-20	72	No stop	
23 15 40	---	03 34 24	40.6	22.3	-8.0		-42.9	30	78	23 14 51	
23 15 40	J1134+7249	03 34 24	42.4	20.3	-8.0		-44.6	-20	78	No stop	
23 16 30	=1131+730	03 35 14	42.4	20.4	-8.0		-44.8	30	85	23 15 41	
23 16 30	NGC3735	03 35 14	40.7	22.4	-8.0		-43.0	-20	85	No stop	
23 17 20	---	03 36 04	40.7	22.4	-8.0		-43.2	30	91	23 16 31	
23 17 20	J1134+7249	03 36 04	42.4	20.5	-8.0		-44.9	-20	91	No stop	
23 18 10	=1131+730	03 36 54	42.5	20.5	-8.0		-45.1	30	97	23 17 21	
23 18 10	NGC3735	03 36 54	40.8	22.5	-8.0		-43.3	-20	97	No stop	
23 19 00	---	03 37 45	40.8	22.6	-8.0		-43.5	30	104	23 18 11	
23 19 00	J1134+7249	03 37 45	42.5	20.6	-8.0		-45.2	-20	104	No stop	
23 19 50	=1131+730	03 38 35	42.6	20.6	-7.9		-45.4	30	110	23 19 01	

Schedule for TORUN (Code Tr)

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H2O megamaser VLBI: a powerful tool to study ejection and accretion

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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 6 Nov 2018	Day 310					---				
23 19 50	NGC3735	03 38 35	40.9	22.6	-8.0		-43.7	-20	110	No stop	
23 20 40	---	03 39 25	40.9	22.7	-8.0		-43.8	30	117	23 19 51	
23 20 40	J1134+7249	03 39 25	42.6	20.7	-7.9		-45.6	-20	117	No stop	
23 21 30	=1131+730	03 40 15	42.7	20.7	-7.9		-45.7	30	123	23 20 41	
23 21 30	NGC3735	03 40 15	40.9	22.8	-7.9		-44.0	-20	123	No stop	
23 22 20	---	03 41 05	41.0	22.8	-7.9		-44.1	30	129	23 21 31	
23 22 20	J1134+7249	03 41 05	42.7	20.8	-7.9		-45.9	-20	129	No stop	
23 23 10	=1131+730	03 41 55	42.8	20.9	-7.9		-46.0	30	136	23 22 21	
23 23 10	NGC3735	03 41 55	41.0	22.9	-7.9		-44.3	-20	136	No stop	
23 24 00	---	03 42 45	41.1	23.0	-7.9		-44.4	30	142	23 23 11	
23 24 00	J1134+7249	03 42 45	42.8	20.9	-7.9		-46.2	-20	142	No stop	
23 24 50	=1131+730	03 43 36	42.8	21.0	-7.9		-46.4	30	149	23 24 01	
23 24 50	NGC3735	03 43 36	41.1	23.0	-7.9		-44.6	-20	149	No stop	
23 25 40	---	03 44 26	41.2	23.1	-7.9		-44.7	30	155	23 24 51	
23 26 20	J1134+7249	03 45 06	42.9	21.1	-7.8		-46.7	20	155	23 26 20	
23 27 10	=1131+730	03 45 56	43.0	21.1	-7.8		-46.8	50	162	23 26 21	
23 27 10	NGC3735	03 45 56	41.3	23.2	-7.9		-45.0	-20	162	No stop	
23 28 00	---	03 46 46	41.3	23.3	-7.8		-45.2	30	168	23 27 11	
23 28 00	J1134+7249	03 46 46	43.0	21.2	-7.8		-47.0	-20	168	No stop	
23 28 50	=1131+730	03 47 36	43.1	21.3	-7.8		-47.1	30	174	23 28 01	
23 28 50	NGC3735	03 47 36	41.4	23.4	-7.8		-45.3	-20	174	No stop	
23 29 40	---	03 48 26	41.4	23.4	-7.8		-45.5	30	181	23 28 51	
23 29 40	J1134+7249	03 48 26	43.1	21.3	-7.8		-47.3	-20	181	No stop	
23 30 30	=1131+730	03 49 17	43.2	21.4	-7.8		-47.5	30	187	23 29 41	
23 30 30	NGC3735	03 49 17	41.5	23.5	-7.8		-45.6	-20	187	No stop	
23 31 20	---	03 50 07	41.5	23.6	-7.8		-45.8	30	194	23 30 31	
23 31 20	J1134+7249	03 50 07	43.2	21.4	-7.8		-47.6	-20	194	No stop	
23 32 10	=1131+730	03 50 57	43.2	21.5	-7.7		-47.8	30	200	23 31 21	
23 32 10	NGC3735	03 50 57	41.6	23.6	-7.8		-45.9	-20	200	No stop	
23 33 00	---	03 51 47	41.6	23.7	-7.8		-46.1	30	206	23 32 11	
23 33 00	J1134+7249	03 51 47	43.3	21.5	-7.7		-47.9	-20	206	No stop	
23 33 50	=1131+730	03 52 37	43.3	21.6	-7.7		-48.1	30	213	23 33 01	

Schedule for TORUN (Code Tr)

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H2O megamaser VLBI: a powerful tool to study ejection and accretion

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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	6 Nov 2018	Day	310	---					
23 33 50	NGC3735	03 52 37	41.7	23.8	-7.7		-46.2	-20	213	No stop
23 34 40	---	03 53 27	41.7	23.8	-7.7		-46.4	30	219	23 33 51
23 34 40	J1134+7249	03 53 27	43.4	21.7	-7.7		-48.3	-20	219	No stop
23 35 30	=1131+730	03 54 17	43.4	21.7	-7.7		-48.4	30	226	23 34 41
23 35 30	NGC3735	03 54 17	41.8	23.9	-7.7		-46.5	-20	226	No stop
23 36 20	---	03 55 07	41.8	23.9	-7.7		-46.7	30	232	23 35 31
23 36 20	J1134+7249	03 55 07	43.5	21.8	-7.7		-48.6	-20	232	No stop
23 37 10	=1131+730	03 55 58	43.5	21.8	-7.7		-48.7	30	238	23 36 21
23 37 10	NGC3735	03 55 58	41.9	24.0	-7.7		-46.8	-20	238	No stop
23 38 00	---	03 56 48	41.9	24.1	-7.7		-47.0	30	245	23 37 11
23 38 00	J1134+7249	03 56 48	43.6	21.9	-7.6		-48.9	-20	245	No stop
23 38 50	=1131+730	03 57 38	43.6	21.9	-7.6		-49.1	30	251	23 38 01
23 38 50	NGC3735	03 57 38	42.0	24.1	-7.7		-47.2	-20	251	No stop
23 39 40	---	03 58 28	42.0	24.2	-7.6		-47.3	30	258	23 38 51
23 40 20	J1134+7249	03 59 08	43.7	22.0	-7.6		-49.3	20	258	23 40 20
23 41 10	=1131+730	03 59 58	43.7	22.1	-7.6		-49.5	50	264	23 40 21
23 41 10	NGC3735	03 59 58	42.1	24.3	-7.6		-47.6	-20	264	No stop
23 42 00	---	04 00 48	42.2	24.4	-7.6		-47.7	30	271	23 41 11
23 42 00	J1134+7249	04 00 48	43.8	22.2	-7.6		-49.7	-20	271	No stop
23 42 50	=1131+730	04 01 39	43.8	22.2	-7.6		-49.8	30	277	23 42 01
23 42 50	NGC3735	04 01 39	42.2	24.4	-7.6		-47.9	-20	277	No stop
23 43 40	---	04 02 29	42.3	24.5	-7.6		-48.0	30	283	23 42 51
23 43 40	J1134+7249	04 02 29	43.9	22.3	-7.5		-50.0	-20	283	No stop
23 44 30	=1131+730	04 03 19	43.9	22.3	-7.5		-50.2	30	290	23 43 41
23 44 30	NGC3735	04 03 19	42.3	24.6	-7.6		-48.2	-20	290	No stop
23 45 20	---	04 04 09	42.4	24.6	-7.5		-48.4	30	296	23 44 31
23 45 20	J1134+7249	04 04 09	44.0	22.4	-7.5		-50.3	-20	296	No stop
23 46 10	=1131+730	04 04 59	44.0	22.4	-7.5		-50.5	30	303	23 45 21
23 46 10	NGC3735	04 04 59	42.4	24.7	-7.5		-48.5	-19	303	No stop
23 47 00	---	04 05 49	42.5	24.8	-7.5		-48.7	31	309	23 46 11

Schedule for TORUN (Code Tr)

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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 6 Nov 2018 Day 310 ---										
23 47 00	J1134+7249	04 05 49	44.1	22.5	-7.5		-50.6	-20	309	No stop
23 47 50	=1131+730	04 06 39	44.1	22.5	-7.5		-50.8	30	315	23 47 01
23 47 50	NGC3735	04 06 39	42.5	24.8	-7.5		-48.8	-19	315	No stop
23 48 40	---	04 07 29	42.6	24.9	-7.5		-49.0	31	322	23 47 51
23 48 40	J1134+7249	04 07 29	44.2	22.6	-7.5		-51.0	-20	322	No stop
23 49 30	=1131+730	04 08 20	44.2	22.7	-7.4		-51.1	30	328	23 48 41
23 49 30	NGC3735	04 08 20	42.7	24.9	-7.5		-49.1	-19	328	No stop
23 50 20	---	04 09 10	42.7	25.0	-7.5		-49.3	31	335	23 49 31
23 50 20	J1134+7249	04 09 10	44.3	22.7	-7.4		-51.3	-20	335	No stop
23 51 10	=1131+730	04 10 00	44.3	22.8	-7.4		-51.4	30	341	23 50 21
23 51 10	NGC3735	04 10 00	42.8	25.1	-7.4		-49.4	-19	341	No stop
23 52 00	---	04 10 50	42.8	25.1	-7.4		-49.6	31	347	23 51 11
23 52 00	J1134+7249	04 10 50	44.4	22.8	-7.4		-51.6	-19	347	No stop
23 52 50	=1131+730	04 11 40	44.4	22.9	-7.4		-51.8	31	354	23 52 01
23 52 50	NGC3735	04 11 40	42.9	25.2	-7.4		-49.7	-19	354	No stop
23 53 40	---	04 12 30	42.9	25.3	-7.4		-49.9	31	360	23 52 51
23 54 20	J1134+7249	04 13 10	44.5	23.0	-7.4		-52.1	21	360	23 54 20
23 55 10	=1131+730	04 14 01	44.6	23.0	-7.4		-52.2	50	367	23 54 21
23 55 10	NGC3735	04 14 01	43.0	25.4	-7.4		-50.2	-19	367	No stop
23 56 00	---	04 14 51	43.1	25.4	-7.4		-50.3	31	373	23 55 11
23 56 00	J1134+7249	04 14 51	44.6	23.1	-7.3		-52.4	-19	373	No stop
23 56 50	=1131+730	04 15 41	44.7	23.1	-7.3		-52.5	31	379	23 56 01
23 56 50	NGC3735	04 15 41	43.1	25.5	-7.4		-50.5	-19	379	No stop
23 57 40	---	04 16 31	43.2	25.6	-7.3		-50.6	31	386	23 56 51
23 57 40	J1134+7249	04 16 31	44.7	23.2	-7.3		-52.7	-19	386	No stop
23 58 30	=1131+730	04 17 21	44.8	23.2	-7.3		-52.9	31	392	23 57 41
23 58 30	NGC3735	04 17 21	43.2	25.6	-7.3		-50.8	-19	392	No stop
23 59 20	---	04 18 11	43.3	25.7	-7.3		-51.0	31	399	23 58 31

Schedule for TORUN (Code Tr)

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Start UT	Source	Start / Stop					Early	Disk	TPStart	
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC

--- Start: Tue 6 Nov 2018 Day 310 -- Stop: Wed 7 Nov 2018 Day 311 ---										
23 59 20	J1134+7249	04 18 11	44.8	23.3	-7.3		-53.0	-19	399	No stop
00 00 10	=1131+730	04 19 01	44.9	23.3	-7.3		-53.2	31	405	23 59 21
00 00 10	NGC3735	04 19 01	43.3	25.7	-7.3		-51.1	-19	405	No stop
00 01 00	---	04 19 52	43.4	25.8	-7.3		-51.3	31	412	00 00 11
00 01 00	J1134+7249	04 19 52	44.9	23.4	-7.3		-53.4	-19	412	No stop
00 01 50	=1131+730	04 20 42	45.0	23.4	-7.2		-53.5	31	418	00 01 01
00 01 50	NGC3735	04 20 42	43.5	25.9	-7.3		-51.4	-19	418	No stop
00 02 40	---	04 21 32	43.5	25.9	-7.3		-51.6	31	424	00 01 51
00 02 40	J1134+7249	04 21 32	45.0	23.5	-7.2		-53.7	-19	424	No stop
00 03 30	=1131+730	04 22 22	45.1	23.5	-7.2		-53.8	31	431	00 02 41
00 03 30	NGC3735	04 22 22	43.6	26.0	-7.2		-51.7	-19	431	No stop
00 04 20	---	04 23 12	43.6	26.0	-7.2		-51.9	31	437	00 03 31
00 04 20	J1134+7249	04 23 12	45.1	23.6	-7.2		-54.0	-19	437	No stop
00 05 10	=1131+730	04 24 02	45.2	23.6	-7.2		-54.2	31	444	00 04 21
00 05 10	NGC3735	04 24 02	43.7	26.1	-7.2		-52.0	-19	444	No stop
00 06 00	---	04 24 52	43.7	26.2	-7.2		-52.2	31	450	00 05 11
00 06 00	J1134+7249	04 24 52	45.2	23.7	-7.2		-54.3	-19	450	No stop
00 06 50	=1131+730	04 25 42	45.3	23.8	-7.2		-54.5	31	456	00 06 01
00 06 50	NGC3735	04 25 42	43.8	26.2	-7.2		-52.4	-19	456	No stop
00 07 40	---	04 26 33	43.8	26.3	-7.2		-52.5	31	463	00 06 51
00 08 20	J1134+7249	04 27 13	45.3	23.8	-7.1		-54.8	21	463	00 08 20
00 09 10	=1131+730	04 28 03	45.4	23.9	-7.1		-55.0	50	469	00 08 21
00 09 10	NGC3735	04 28 03	43.9	26.4	-7.1		-52.8	-19	469	No stop
00 10 00	---	04 28 53	44.0	26.4	-7.1		-52.9	31	476	00 09 11
00 10 00	J1134+7249	04 28 53	45.4	23.9	-7.1		-55.1	-19	476	No stop
00 10 50	=1131+730	04 29 43	45.5	24.0	-7.1		-55.3	31	482	00 10 01
00 10 50	NGC3735	04 29 43	44.0	26.5	-7.1		-53.1	-19	482	No stop
00 11 40	---	04 30 33	44.1	26.6	-7.1		-53.3	31	488	00 10 51
00 11 40	J1134+7249	04 30 33	45.5	24.0	-7.1		-55.4	-19	488	No stop
00 12 30	=1131+730	04 31 23	45.6	24.1	-7.1		-55.6	31	495	00 11 41

Schedule for TORUN (Code Tr)

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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 7 Nov 2018 Day 311 ---										
00 12 30	NGC3735	04 31 23	44.2	26.6	-7.1		-53.4	-19	495	No stop
00 13 20	---	04 32 14	44.2	26.7	-7.1		-53.6	31	501	00 12 31
00 13 20	J1134+7249	04 32 14	45.7	24.1	-7.0		-55.8	-19	501	No stop
00 14 10	=1131+730	04 33 04	45.7	24.2	-7.0		-55.9	31	508	00 13 21
00 14 10	NGC3735	04 33 04	44.3	26.7	-7.1		-53.7	-19	508	No stop
00 15 00	---	04 33 54	44.3	26.8	-7.1		-53.9	31	514	00 14 11
00 15 00	J1134+7249	04 33 54	45.8	24.2	-7.0		-56.1	-19	514	No stop
00 15 50	=1131+730	04 34 44	45.8	24.3	-7.0		-56.3	31	521	00 15 01
00 15 50	NGC3735	04 34 44	44.4	26.8	-7.0		-54.0	-19	521	No stop
00 16 40	---	04 35 34	44.4	26.9	-7.0		-54.2	31	527	00 15 51
00 16 40	J1134+7249	04 35 34	45.9	24.3	-7.0		-56.4	-19	527	No stop
00 17 30	=1131+730	04 36 24	45.9	24.4	-7.0		-56.6	31	533	00 16 41
00 17 30	NGC3735	04 36 24	44.5	27.0	-7.0		-54.4	-19	533	No stop
00 18 20	---	04 37 14	44.6	27.0	-7.0		-54.5	31	540	00 17 31
00 18 20	J1134+7249	04 37 14	46.0	24.4	-7.0		-56.8	-19	540	No stop
00 19 10	=1131+730	04 38 05	46.0	24.5	-7.0		-56.9	31	546	00 18 21
00 19 10	NGC3735	04 38 05	44.6	27.1	-7.0		-54.7	-19	546	No stop
00 20 00	---	04 38 55	44.7	27.1	-7.0		-54.8	31	553	00 19 11
00 20 00	J1134+7249	04 38 55	46.1	24.5	-6.9		-57.1	-19	553	No stop
00 20 50	=1131+730	04 39 45	46.1	24.6	-6.9		-57.2	31	559	00 20 01
00 20 50	NGC3735	04 39 45	44.7	27.2	-7.0		-55.0	-19	559	No stop
00 21 40	---	04 40 35	44.8	27.2	-6.9		-55.1	31	565	00 20 51
00 22 20	J1134+7249	04 41 15	46.2	24.7	-6.9		-57.5	21	565	00 22 20
00 23 10	=1131+730	04 42 05	46.3	24.7	-6.9		-57.7	50	572	00 22 21
00 23 10	NGC3735	04 42 05	44.9	27.3	-6.9		-55.4	-20	572	No stop
00 24 00	---	04 42 55	44.9	27.4	-6.9		-55.6	30	578	00 23 11
00 24 00	J1134+7249	04 42 55	46.3	24.8	-6.9		-57.9	-19	578	No stop
00 24 50	=1131+730	04 43 45	46.4	24.8	-6.9		-58.0	31	585	00 24 01
00 24 50	NGC3735	04 43 45	45.0	27.5	-6.9		-55.7	-20	585	No stop
00 25 40	---	04 44 36	45.1	27.5	-6.9		-55.9	30	591	00 24 51

Schedule for TORUN (Code Tr)

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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 7 Nov 2018 Day 311 ---										
00 25 40	J1134+7249	04 44 36	46.4	24.9	-6.8		-58.2	-19	591	No stop
00 26 30	=1131+730	04 45 26	46.5	24.9	-6.8		-58.4	31	597	00 25 41
00 26 30	NGC3735	04 45 26	45.1	27.6	-6.9		-56.1	-20	597	No stop
00 27 20	---	04 46 16	45.2	27.6	-6.8		-56.2	30	604	00 26 31
00 27 20	J1134+7249	04 46 16	46.5	25.0	-6.8		-58.5	-20	604	No stop
00 28 10	=1131+730	04 47 06	46.6	25.0	-6.8		-58.7	30	610	00 27 21
00 28 10	NGC3735	04 47 06	45.2	27.7	-6.8		-56.4	-20	610	No stop
00 29 00	---	04 47 56	45.3	27.7	-6.8		-56.5	30	617	00 28 11
00 29 00	J1134+7249	04 47 56	46.6	25.1	-6.8		-58.9	-20	617	No stop
00 29 50	=1131+730	04 48 46	46.7	25.1	-6.8		-59.0	30	623	00 29 01
00 29 50	NGC3735	04 48 46	45.4	27.8	-6.8		-56.7	-20	623	No stop
00 30 40	---	04 49 36	45.4	27.8	-6.8		-56.8	30	629	00 29 51
00 30 40	J1134+7249	04 49 36	46.7	25.1	-6.8		-59.2	-20	629	No stop
00 31 30	=1131+730	04 50 27	46.8	25.2	-6.7		-59.4	30	636	00 30 41
00 31 30	NGC3735	04 50 27	45.5	27.9	-6.8		-57.0	-20	636	No stop
00 32 20	---	04 51 17	45.5	27.9	-6.8		-57.2	30	642	00 31 31
00 32 20	J1134+7249	04 51 17	46.8	25.2	-6.7		-59.5	-20	642	No stop
00 33 10	=1131+730	04 52 07	46.9	25.3	-6.7		-59.7	30	649	00 32 21
00 33 10	NGC3735	04 52 07	45.6	28.0	-6.7		-57.3	-20	649	No stop
00 34 00	---	04 52 57	45.6	28.1	-6.7		-57.5	30	655	00 33 11
00 34 00	J1134+7249	04 52 57	47.0	25.3	-6.7		-59.9	-20	655	No stop
00 34 50	=1131+730	04 53 47	47.0	25.4	-6.7		-60.0	30	662	00 34 01
00 34 50	NGC3735	04 53 47	45.7	28.1	-6.7		-57.6	-20	662	No stop
00 35 40	---	04 54 37	45.8	28.2	-6.7		-57.8	30	668	00 34 51
00 36 20	J1134+7249	04 55 17	47.1	25.5	-6.7		-60.3	20	668	00 36 20
00 37 10	=1131+730	04 56 07	47.2	25.5	-6.7		-60.5	50	674	00 36 21
00 37 10	NGC3735	04 56 07	45.9	28.3	-6.7		-58.1	-20	674	No stop
00 38 00	---	04 56 58	45.9	28.3	-6.7		-58.2	30	681	00 37 11
00 38 00	J1134+7249	04 56 58	47.2	25.6	-6.6		-60.7	-20	681	No stop
00 38 50	=1131+730	04 57 48	47.3	25.6	-6.6		-60.8	30	687	00 38 01

Schedule for TORUN (Code Tr)

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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 7 Nov 2018 Day 311 ---										
00 38 50	NGC3735	04 57 48	46.0	28.4	-6.7		-58.4	-20	687	No stop
00 39 40	---	04 58 38	46.1	28.4	-6.6		-58.6	30	694	00 38 51
00 39 40	J1134+7249	04 58 38	47.3	25.6	-6.6		-61.0	-20	694	No stop
00 40 30	=1131+730	04 59 28	47.4	25.7	-6.6		-61.2	30	700	00 39 41
00 40 30	NGC3735	04 59 28	46.1	28.5	-6.6		-58.7	-20	700	No stop
00 41 20	---	05 00 18	46.2	28.5	-6.6		-58.9	30	706	00 40 31
00 41 20	J1134+7249	05 00 18	47.4	25.7	-6.6		-61.3	-20	706	No stop
00 42 10	=1131+730	05 01 08	47.5	25.8	-6.6		-61.5	30	713	00 41 21
00 42 10	NGC3735	05 01 08	46.2	28.6	-6.6		-59.0	-20	713	No stop
00 43 00	---	05 01 58	46.3	28.6	-6.6		-59.2	30	719	00 42 11
00 43 00	J1134+7249	05 01 58	47.5	25.8	-6.6		-61.7	-20	719	No stop
00 43 50	=1131+730	05 02 49	47.6	25.9	-6.5		-61.8	30	726	00 43 01
00 43 50	NGC3735	05 02 49	46.4	28.7	-6.6		-59.4	-20	726	No stop
00 44 40	---	05 03 39	46.4	28.7	-6.6		-59.5	30	732	00 43 51
00 44 40	J1134+7249	05 03 39	47.6	25.9	-6.5		-62.0	-20	732	No stop
00 45 30	=1131+730	05 04 29	47.7	25.9	-6.5		-62.2	30	738	00 44 41
00 45 30	NGC3735	05 04 29	46.5	28.8	-6.5		-59.7	-20	738	No stop
00 46 20	---	05 05 19	46.5	28.8	-6.5		-59.8	30	745	00 45 31
00 46 20	J1134+7249	05 05 19	47.8	26.0	-6.5		-62.3	-20	745	No stop
00 47 10	=1131+730	05 06 09	47.8	26.0	-6.5		-62.5	30	751	00 46 21
00 47 10	NGC3735	05 06 09	46.6	28.9	-6.5		-60.0	-20	751	No stop
00 48 00	---	05 06 59	46.7	28.9	-6.5		-60.1	30	758	00 47 11
00 48 00	J1134+7249	05 06 59	47.9	26.1	-6.5		-62.7	-20	758	No stop
00 48 50	=1131+730	05 07 49	47.9	26.1	-6.5		-62.8	30	764	00 48 01
00 48 50	NGC3735	05 07 49	46.7	29.0	-6.5		-60.3	-20	764	No stop
00 49 40	---	05 08 40	46.8	29.0	-6.5		-60.5	30	771	00 48 51
00 50 20	J1134+7249	05 09 20	48.0	26.2	-6.4		-63.1	20	771	00 50 20
00 51 10	=1131+730	05 10 10	48.1	26.2	-6.4		-63.3	50	777	00 50 21
00 51 10	NGC3735	05 10 10	46.9	29.1	-6.4		-60.8	-20	777	No stop
00 52 00	---	05 11 00	46.9	29.2	-6.4		-60.9	30	783	00 51 11

Schedule for TORUN (Code Tr)

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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 7 Nov 2018 Day 311 ---										
00 52 00	J1134+7249	05 11 00	48.1	26.3	-6.4		-63.5	-20	783	No stop
00 52 50	=1131+730	05 11 50	48.2	26.3	-6.4		-63.6	30	790	00 52 01
00 52 50	NGC3735	05 11 50	47.0	29.2	-6.4		-61.1	-20	790	No stop
00 53 40	---	05 12 40	47.1	29.3	-6.4		-61.2	30	796	00 52 51
00 53 40	J1134+7249	05 12 40	48.2	26.4	-6.4		-63.8	-20	796	No stop
00 54 30	=1131+730	05 13 30	48.3	26.4	-6.4		-64.0	30	803	00 53 41
00 54 30	NGC3735	05 13 30	47.1	29.3	-6.4		-61.4	-20	803	No stop
00 55 20	---	05 14 20	47.2	29.4	-6.4		-61.6	30	809	00 54 31
00 55 20	J1134+7249	05 14 20	48.4	26.4	-6.3		-64.1	-20	809	No stop
00 56 10	=1131+730	05 15 11	48.4	26.5	-6.3		-64.3	30	815	00 55 21
00 56 10	NGC3735	05 15 11	47.3	29.4	-6.4		-61.7	-20	815	No stop
00 57 00	---	05 16 01	47.3	29.5	-6.3		-61.9	30	822	00 56 11
00 57 00	J1134+7249	05 16 01	48.5	26.5	-6.3		-64.5	-20	822	No stop
00 57 50	=1131+730	05 16 51	48.5	26.6	-6.3		-64.7	30	828	00 57 01
00 57 50	NGC3735	05 16 51	47.4	29.5	-6.3		-62.0	-20	828	No stop
00 58 40	---	05 17 41	47.4	29.6	-6.3		-62.2	30	835	00 57 51
00 58 40	J1134+7249	05 17 41	48.6	26.6	-6.3		-64.8	-20	835	No stop
00 59 30	=1131+730	05 18 31	48.6	26.6	-6.3		-65.0	30	841	00 58 41
00 59 30	NGC3735	05 18 31	47.5	29.6	-6.3		-62.4	-20	841	No stop
01 00 20	---	05 19 21	47.6	29.7	-6.3		-62.5	30	847	00 59 31
01 00 20	J1134+7249	05 19 21	48.7	26.7	-6.3		-65.2	-20	847	No stop
01 01 10	=1131+730	05 20 11	48.7	26.7	-6.3		-65.3	30	854	01 00 21
01 01 10	NGC3735	05 20 11	47.6	29.7	-6.3		-62.7	-21	854	No stop
01 02 00	---	05 21 02	47.7	29.8	-6.3		-62.9	29	860	01 01 11
01 02 00	J1134+7249	05 21 02	48.8	26.8	-6.2		-65.5	-20	860	No stop
01 02 50	=1131+730	05 21 52	48.9	26.8	-6.2		-65.7	30	867	01 02 01
01 02 50	NGC3735	05 21 52	47.7	29.8	-6.3		-63.0	-21	867	No stop
01 03 40	---	05 22 42	47.8	29.9	-6.2		-63.2	29	873	01 02 51
01 04 20	J1134+7249	05 23 22	49.0	26.9	-6.2		-66.0	19	873	01 04 20
01 05 10	=1131+730	05 24 12	49.0	26.9	-6.2		-66.2	50	879	01 04 21

Schedule for TORUN (Code Tr)

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Start UT	Source	Start / Stop					Early	Disk	TPStart	
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC

--- Wed 7 Nov 2018 Day 311 ---										
01 05 10	NGC3735	05 24 12	47.9	29.9	-6.2		-63.5	-21	879	No stop
01 06 00	---	05 25 02	48.0	30.0	-6.2		-63.6	29	886	01 05 11
01 06 00	J1134+7249	05 25 02	49.1	26.9	-6.2		-66.3	-21	886	No stop
01 06 50	=1131+730	05 25 52	49.1	27.0	-6.2		-66.5	29	892	01 06 01
01 06 50	NGC3735	05 25 52	48.0	30.0	-6.2		-63.8	-21	892	No stop
01 07 40	---	05 26 42	48.1	30.1	-6.2		-64.0	29	899	01 06 51
01 07 40	J1134+7249	05 26 42	49.2	27.0	-6.1		-66.7	-21	899	No stop
01 08 30	=1131+730	05 27 33	49.2	27.1	-6.1		-66.8	29	905	01 07 41
01 08 30	NGC3735	05 27 33	48.2	30.1	-6.2		-64.1	-21	905	No stop
01 09 20	---	05 28 23	48.2	30.2	-6.1		-64.3	29	912	01 08 31
01 09 20	J1134+7249	05 28 23	49.3	27.1	-6.1		-67.0	-21	912	No stop
01 10 10	=1131+730	05 29 13	49.4	27.1	-6.1		-67.2	29	918	01 09 21
01 10 10	NGC3735	05 29 13	48.3	30.2	-6.1		-64.4	-21	918	No stop
01 11 00	---	05 30 03	48.4	30.3	-6.1		-64.6	29	924	01 10 11
01 11 00	J1134+7249	05 30 03	49.4	27.2	-6.1		-67.3	-21	924	No stop
01 11 50	=1131+730	05 30 53	49.5	27.2	-6.1		-67.5	29	931	01 11 01
01 11 50	NGC3735	05 30 53	48.4	30.3	-6.1		-64.8	-21	931	No stop
01 12 40	---	05 31 43	48.5	30.4	-6.1		-64.9	29	937	01 11 51
01 12 40	J1134+7249	05 31 43	49.5	27.2	-6.1		-67.7	-21	937	No stop
01 13 30	=1131+730	05 32 33	49.6	27.3	-6.0		-67.9	29	944	01 12 41
01 13 30	NGC3735	05 32 33	48.6	30.4	-6.1		-65.1	-21	944	No stop
01 14 20	---	05 33 24	48.6	30.4	-6.1		-65.3	29	950	01 13 31
01 14 20	J1134+7249	05 33 24	49.6	27.3	-6.0		-68.0	-21	950	No stop
01 15 10	=1131+730	05 34 14	49.7	27.4	-6.0		-68.2	29	956	01 14 21
01 15 10	NGC3735	05 34 14	48.7	30.5	-6.0		-65.4	-21	956	No stop
01 16 00	---	05 35 04	48.7	30.5	-6.0		-65.6	29	963	01 15 11
01 16 00	J1134+7249	05 35 04	49.8	27.4	-6.0		-68.4	-21	963	No stop
01 16 50	=1131+730	05 35 54	49.8	27.4	-6.0		-68.6	29	969	01 16 01
01 16 50	NGC3735	05 35 54	48.8	30.6	-6.0		-65.8	-21	969	No stop
01 17 40	---	05 36 44	48.9	30.6	-6.0		-65.9	29	976	01 16 51

Schedule for TORUN (Code Tr)

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TPStart: Recording start time. Frequencies are L0 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 7 Nov 2018 Day 311 ---										
01 18 20	J1134+7249	05 37 24	49.9	27.5	-6.0		-68.9	19	976	01 18 20
01 19 10	=1131+730	05 38 14	50.0	27.5	-5.9		-69.0	50	982	01 18 21
01 19 10	NGC3735	05 38 14	49.0	30.7	-6.0		-66.2	-21	982	No stop
01 20 00	---	05 39 04	49.1	30.7	-6.0		-66.4	29	988	01 19 11
01 20 00	J1134+7249	05 39 04	50.0	27.6	-5.9		-69.2	-21	988	No stop
01 20 50	=1131+730	05 39 55	50.1	27.6	-5.9		-69.4	29	995	01 20 01
01 20 50	NGC3735	05 39 55	49.1	30.8	-6.0		-66.5	-21	995	No stop
01 21 40	---	05 40 45	49.2	30.8	-5.9		-66.7	29	1001	01 20 51
01 21 40	J1134+7249	05 40 45	50.2	27.6	-5.9		-69.6	-21	1001	No stop
01 22 30	=1131+730	05 41 35	50.2	27.7	-5.9		-69.7	29	1008	01 21 41
01 22 30	NGC3735	05 41 35	49.2	30.9	-5.9		-66.9	-21	1008	No stop
01 23 20	---	05 42 25	49.3	30.9	-5.9		-67.0	29	1014	01 22 31
01 23 20	J1134+7249	05 42 25	50.3	27.7	-5.9		-69.9	-21	1014	No stop
01 24 10	=1131+730	05 43 15	50.3	27.7	-5.9		-70.1	29	1021	01 23 21
01 24 10	NGC3735	05 43 15	49.4	30.9	-5.9		-67.2	-21	1021	No stop
01 25 00	---	05 44 05	49.4	31.0	-5.9		-67.4	29	1027	01 24 11
01 25 00	J1134+7249	05 44 05	50.4	27.8	-5.9		-70.3	-21	1027	No stop
01 25 50	=1131+730	05 44 55	50.5	27.8	-5.8		-70.4	29	1033	01 25 01
01 25 50	NGC3735	05 44 55	49.5	31.0	-5.9		-67.5	-21	1033	No stop
01 26 40	---	05 45 46	49.6	31.1	-5.9		-67.7	29	1040	01 25 51
01 26 40	J1134+7249	05 45 46	50.5	27.8	-5.8		-70.6	-21	1040	No stop
01 27 30	=1131+730	05 46 36	50.6	27.9	-5.8		-70.8	29	1046	01 26 41
01 27 30	NGC3735	05 46 36	49.6	31.1	-5.8		-67.9	-21	1046	No stop
01 28 20	---	05 47 26	49.7	31.2	-5.8		-68.0	29	1053	01 27 31
01 28 20	J1134+7249	05 47 26	50.6	27.9	-5.8		-70.9	-21	1053	No stop
01 29 10	=1131+730	05 48 16	50.7	27.9	-5.8		-71.1	29	1059	01 28 21
01 29 10	NGC3735	05 48 16	49.8	31.2	-5.8		-68.2	-21	1059	No stop
01 30 00	---	05 49 06	49.8	31.2	-5.8		-68.4	29	1065	01 29 11
01 30 00	J1134+7249	05 49 06	50.7	27.9	-5.8		-71.3	-21	1065	No stop
01 30 50	=1131+730	05 49 56	50.8	28.0	-5.8		-71.5	29	1072	01 30 01

Schedule for TORUN (Code Tr)

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H2O megamaser VLBI: a powerful tool to study ejection and accretion

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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 7 Nov 2018 Day 311 ---										
01 30 50	NGC3735	05 49 56	49.9	31.3	-5.8		-68.5	-21	1072	No stop
01 31 40	---	05 50 46	50.0	31.3	-5.8		-68.7	29	1078	01 30 51
01 32 20	J1134+7249	05 51 27	50.9	28.0	-5.7		-71.8	19	1078	01 32 20
01 33 20	=1131+730	05 52 27	51.0	28.1	-5.7		-72.0	60	1086	01 32 21
01 36 20	4C39.25	05 55 27	51.5	89.5	-3.5		-50.5	42	1086	01 36 20
01 41 20	---	06 00 28	52.2	90.5	-3.5		-50.5	300	1124	01 36 21
01 45 40	J1134+7249	06 04 49	51.9	28.5	-5.5		-74.6	121	1124	01 45 40
01 46 40	=1131+730	06 05 49	51.9	28.5	-5.5		-74.8	60	1132	01 45 41
01 46 40	NGC3735	06 05 49	51.1	32.0	-5.5		-71.7	-22	1132	No stop
01 47 30	---	06 06 39	51.2	32.0	-5.5		-71.9	28	1138	01 46 41
01 48 10	J1134+7249	06 07 19	52.0	28.6	-5.5		-75.2	18	1138	01 48 10
01 49 00	=1131+730	06 08 09	52.1	28.6	-5.5		-75.3	50	1145	01 48 11
01 49 00	NGC3735	06 08 09	51.3	32.1	-5.5		-72.2	-22	1145	No stop
01 49 50	---	06 08 59	51.4	32.1	-5.5		-72.4	28	1151	01 49 01
01 49 50	J1134+7249	06 08 59	52.2	28.6	-5.4		-75.5	-22	1151	No stop
01 50 40	=1131+730	06 09 50	52.2	28.6	-5.4		-75.7	28	1158	01 49 51
01 50 40	NGC3735	06 09 50	51.5	32.1	-5.5		-72.5	-22	1158	No stop
01 51 30	---	06 10 40	51.5	32.2	-5.4		-72.7	28	1164	01 50 41
01 51 30	J1134+7249	06 10 40	52.3	28.7	-5.4		-75.9	-22	1164	No stop
01 52 20	=1131+730	06 11 30	52.3	28.7	-5.4		-76.1	28	1171	01 51 31
01 52 20	NGC3735	06 11 30	51.6	32.2	-5.4		-72.9	-22	1171	No stop
01 53 10	---	06 12 20	51.7	32.2	-5.4		-73.0	28	1177	01 52 21
01 53 10	J1134+7249	06 12 20	52.4	28.7	-5.4		-76.2	-22	1177	No stop
01 54 00	=1131+730	06 13 10	52.5	28.7	-5.4		-76.4	28	1183	01 53 11
01 54 00	NGC3735	06 13 10	51.7	32.3	-5.4		-73.2	-22	1183	No stop
01 54 50	---	06 14 00	51.8	32.3	-5.4		-73.4	28	1190	01 54 01
01 54 50	J1134+7249	06 14 00	52.5	28.8	-5.4		-76.6	-22	1190	No stop
01 55 40	=1131+730	06 14 50	52.6	28.8	-5.3		-76.8	28	1196	01 54 51
01 55 40	NGC3735	06 14 50	51.9	32.3	-5.4		-73.6	-22	1196	No stop
01 56 30	---	06 15 40	51.9	32.4	-5.4		-73.7	28	1203	01 55 41

Schedule for TORUN (Code Tr)

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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 7 Nov 2018 Day 311 ---										
01 56 30	J1134+7249	06 15 40	52.6	28.8	-5.3		-77.0	-22	1203	No stop
01 57 20	=1131+730	06 16 31	52.7	28.8	-5.3		-77.1	28	1209	01 56 31
01 57 20	NGC3735	06 16 31	52.0	32.4	-5.3		-73.9	-22	1209	No stop
01 58 10	---	06 17 21	52.1	32.4	-5.3		-74.1	28	1215	01 57 21
01 58 10	J1134+7249	06 17 21	52.8	28.9	-5.3		-77.3	-22	1215	No stop
01 59 00	=1131+730	06 18 11	52.8	28.9	-5.3		-77.5	28	1222	01 58 11
01 59 00	NGC3735	06 18 11	52.1	32.5	-5.3		-74.2	-22	1222	No stop
01 59 50	---	06 19 01	52.2	32.5	-5.3		-74.4	28	1228	01 59 01
01 59 50	J1134+7249	06 19 01	52.9	28.9	-5.3		-77.7	-22	1228	No stop
02 00 40	=1131+730	06 19 51	52.9	28.9	-5.3		-77.9	28	1235	01 59 51
02 00 40	NGC3735	06 19 51	52.3	32.5	-5.3		-74.6	-22	1235	No stop
02 01 30	---	06 20 41	52.3	32.6	-5.3		-74.8	28	1241	02 00 41
02 02 10	J1134+7249	06 21 21	53.1	29.0	-5.2		-78.2	18	1241	02 02 10
02 03 00	=1131+730	06 22 12	53.1	29.0	-5.2		-78.4	50	1247	02 02 11
02 03 00	NGC3735	06 22 12	52.5	32.6	-5.2		-75.1	-22	1247	No stop
02 03 50	---	06 23 02	52.5	32.6	-5.2		-75.3	28	1254	02 03 01
02 03 50	J1134+7249	06 23 02	53.2	29.0	-5.2		-78.6	-22	1254	No stop
02 04 40	=1131+730	06 23 52	53.2	29.0	-5.2		-78.7	28	1260	02 03 51
02 04 40	NGC3735	06 23 52	52.6	32.7	-5.2		-75.4	-22	1260	No stop
02 05 30	---	06 24 42	52.7	32.7	-5.2		-75.6	28	1267	02 04 41
02 05 30	J1134+7249	06 24 42	53.3	29.1	-5.2		-78.9	-22	1267	No stop
02 06 20	=1131+730	06 25 32	53.4	29.1	-5.2		-79.1	28	1273	02 05 31
02 06 20	NGC3735	06 25 32	52.7	32.7	-5.2		-75.8	-22	1273	No stop
02 07 10	---	06 26 22	52.8	32.8	-5.2		-75.9	28	1279	02 06 21
02 07 10	J1134+7249	06 26 22	53.4	29.1	-5.1		-79.3	-22	1279	No stop
02 08 00	=1131+730	06 27 12	53.5	29.1	-5.1		-79.5	28	1286	02 07 11
02 08 00	NGC3735	06 27 12	52.9	32.8	-5.2		-76.1	-22	1286	No stop
02 08 50	---	06 28 03	52.9	32.8	-5.1		-76.3	28	1292	02 08 01
02 08 50	J1134+7249	06 28 03	53.5	29.1	-5.1		-79.7	-22	1292	No stop
02 09 40	=1131+730	06 28 53	53.6	29.1	-5.1		-79.8	28	1299	02 08 51

Schedule for TORUN (Code Tr)

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Start UT	Source	Start / Stop					Early	Disk	TPStart	
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC

--- Wed 7 Nov 2018 Day 311 ---										
02 09 40	NGC3735	06 28 53	53.0	32.8	-5.1		-76.5	-22	1299	No stop
02 10 30	---	06 29 43	53.1	32.9	-5.1		-76.6	28	1305	02 09 41
02 10 30	J1134+7249	06 29 43	53.7	29.2	-5.1		-80.0	-22	1305	No stop
02 11 20	=1131+730	06 30 33	53.7	29.2	-5.1		-80.2	28	1312	02 10 31
02 11 20	NGC3735	06 30 33	53.1	32.9	-5.1		-76.8	-22	1312	No stop
02 12 10	---	06 31 23	53.2	32.9	-5.1		-77.0	28	1318	02 11 21
02 12 10	J1134+7249	06 31 23	53.8	29.2	-5.1		-80.4	-22	1318	No stop
02 13 00	=1131+730	06 32 13	53.8	29.2	-5.1		-80.6	28	1324	02 12 11
02 13 00	NGC3735	06 32 13	53.3	32.9	-5.1		-77.2	-22	1324	No stop
02 13 50	---	06 33 03	53.3	33.0	-5.1		-77.3	28	1331	02 13 01
02 13 50	J1134+7249	06 33 03	53.9	29.2	-5.0		-80.8	-22	1331	No stop
02 14 40	=1131+730	06 33 53	54.0	29.3	-5.0		-81.0	28	1337	02 13 51
02 14 40	NGC3735	06 33 53	53.4	33.0	-5.1		-77.5	-22	1337	No stop
02 15 30	---	06 34 44	53.5	33.0	-5.0		-77.7	28	1344	02 14 41
02 16 10	J1134+7249	06 35 24	54.1	29.3	-5.0		-81.3	18	1344	02 16 10
02 17 00	=1131+730	06 36 14	54.1	29.3	-5.0		-81.5	50	1350	02 16 11
02 17 00	NGC3735	06 36 14	53.6	33.1	-5.0		-78.0	-22	1350	No stop
02 17 50	---	06 37 04	53.7	33.1	-5.0		-78.2	28	1356	02 17 01
02 17 50	J1134+7249	06 37 04	54.2	29.3	-5.0		-81.7	-22	1356	No stop
02 18 40	=1131+730	06 37 54	54.3	29.3	-5.0		-81.9	28	1363	02 17 51
02 18 40	NGC3735	06 37 54	53.7	33.1	-5.0		-78.4	-22	1363	No stop
02 19 30	---	06 38 44	53.8	33.1	-5.0		-78.6	28	1369	02 18 41
02 19 30	J1134+7249	06 38 44	54.3	29.3	-4.9		-82.0	-22	1369	No stop
02 20 20	=1131+730	06 39 34	54.4	29.4	-4.9		-82.2	28	1376	02 19 31
02 20 20	NGC3735	06 39 34	53.9	33.2	-5.0		-78.7	-22	1376	No stop
02 21 10	---	06 40 25	53.9	33.2	-4.9		-78.9	28	1382	02 20 21
02 21 10	J1134+7249	06 40 25	54.4	29.4	-4.9		-82.4	-22	1382	No stop
02 22 00	=1131+730	06 41 15	54.5	29.4	-4.9		-82.6	28	1388	02 21 11
02 22 00	NGC3735	06 41 15	54.0	33.2	-4.9		-79.1	-23	1388	No stop
02 22 50	---	06 42 05	54.1	33.2	-4.9		-79.3	27	1395	02 22 01

Schedule for TORUN (Code Tr)

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Start UT	Source	Start / Stop					Early	Disk	TPStart	
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC

--- Wed 7 Nov 2018 Day 311 ---										
02 22 50	J1134+7249	06 42 05	54.6	29.4	-4.9		-82.8	-23	1395	No stop
02 23 40	=1131+730	06 42 55	54.6	29.4	-4.9		-83.0	27	1401	02 22 51
02 23 40	NGC3735	06 42 55	54.1	33.3	-4.9		-79.4	-23	1401	No stop
02 24 30	---	06 43 45	54.2	33.3	-4.9		-79.6	27	1408	02 23 41
02 24 30	J1134+7249	06 43 45	54.7	29.4	-4.9		-83.2	-23	1408	No stop
02 25 20	=1131+730	06 44 35	54.8	29.4	-4.8		-83.4	27	1414	02 24 31
02 25 20	NGC3735	06 44 35	54.3	33.3	-4.9		-79.8	-23	1414	No stop
02 26 10	---	06 45 25	54.4	33.3	-4.9		-80.0	27	1421	02 25 21
02 26 10	J1134+7249	06 45 25	54.8	29.4	-4.8		-83.6	-23	1421	No stop
02 27 00	=1131+730	06 46 16	54.9	29.5	-4.8		-83.7	27	1427	02 26 11
02 27 00	NGC3735	06 46 16	54.4	33.3	-4.8		-80.2	-23	1427	No stop
02 27 50	---	06 47 06	54.5	33.4	-4.8		-80.3	27	1433	02 27 01
02 27 50	J1134+7249	06 47 06	54.9	29.5	-4.8		-83.9	-23	1433	No stop
02 28 40	=1131+730	06 47 56	55.0	29.5	-4.8		-84.1	27	1440	02 27 51
02 28 40	NGC3735	06 47 56	54.6	33.4	-4.8		-80.5	-23	1440	No stop
02 29 30	---	06 48 46	54.6	33.4	-4.8		-80.7	27	1446	02 28 41
02 30 10	J1134+7249	06 49 26	55.1	29.5	-4.8		-84.5	17	1446	02 30 10
02 31 00	=1131+730	06 50 16	55.2	29.5	-4.7		-84.7	50	1453	02 30 11
02 31 00	NGC3735	06 50 16	54.8	33.4	-4.8		-81.0	-23	1453	No stop
02 31 50	---	06 51 06	54.8	33.5	-4.8		-81.2	27	1459	02 31 01
02 31 50	J1134+7249	06 51 06	55.2	29.5	-4.7		-84.8	-23	1459	No stop
02 32 40	=1131+730	06 51 56	55.3	29.5	-4.7		-85.0	27	1465	02 31 51
02 32 40	NGC3735	06 51 56	54.9	33.5	-4.8		-81.4	-23	1465	No stop
02 33 30	---	06 52 47	55.0	33.5	-4.7		-81.6	27	1472	02 32 41
02 33 30	J1134+7249	06 52 47	55.4	29.5	-4.7		-85.2	-23	1472	No stop
02 34 20	=1131+730	06 53 37	55.4	29.6	-4.7		-85.4	27	1478	02 33 31
02 34 20	NGC3735	06 53 37	55.0	33.5	-4.7		-81.8	-23	1478	No stop
02 35 10	---	06 54 27	55.1	33.5	-4.7		-81.9	27	1485	02 34 21
02 35 10	J1134+7249	06 54 27	55.5	29.6	-4.7		-85.6	-23	1485	No stop
02 36 00	=1131+730	06 55 17	55.5	29.6	-4.7		-85.8	27	1491	02 35 11

Schedule for TORUN (Code Tr)

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Start UT	Source	Start / Stop					Early	Disk	TPStart	
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC

--- Wed 7 Nov 2018 Day 311 ---										
02 36 00	NGC3735	06 55 17	55.2	33.5	-4.7		-82.1	-23	1491	No stop
02 36 50	---	06 56 07	55.2	33.6	-4.7		-82.3	27	1497	02 36 01
02 36 50	J1134+7249	06 56 07	55.6	29.6	-4.7		-86.0	-23	1497	No stop
02 37 40	=1131+730	06 56 57	55.7	29.6	-4.6		-86.2	27	1504	02 36 51
02 37 40	NGC3735	06 56 57	55.3	33.6	-4.7		-82.5	-23	1504	No stop
02 38 30	---	06 57 47	55.4	33.6	-4.7		-82.7	27	1510	02 37 41
02 38 30	J1134+7249	06 57 47	55.7	29.6	-4.6		-86.4	-23	1510	No stop
02 39 20	=1131+730	06 58 38	55.8	29.6	-4.6		-86.6	27	1517	02 38 31
02 39 20	NGC3735	06 58 38	55.4	33.6	-4.6		-82.9	-23	1517	No stop
02 40 10	---	06 59 28	55.5	33.6	-4.6		-83.0	27	1523	02 39 21
02 40 10	J1134+7249	06 59 28	55.9	29.6	-4.6		-86.8	-23	1523	No stop
02 41 00	=1131+730	07 00 18	55.9	29.6	-4.6		-87.0	27	1529	02 40 11
02 41 00	NGC3735	07 00 18	55.6	33.6	-4.6		-83.2	-23	1529	No stop
02 41 50	---	07 01 08	55.7	33.7	-4.6		-83.4	27	1536	02 41 01
02 41 50	J1134+7249	07 01 08	56.0	29.6	-4.6		-87.2	-23	1536	No stop
02 42 40	=1131+730	07 01 58	56.0	29.6	-4.6		-87.4	27	1542	02 41 51
02 42 40	NGC3735	07 01 58	55.7	33.7	-4.6		-83.6	-23	1542	No stop
02 43 30	---	07 02 48	55.8	33.7	-4.6		-83.8	27	1549	02 42 41
02 44 10	J1134+7249	07 03 28	56.2	29.6	-4.5		-87.7	17	1549	02 44 10
02 45 00	=1131+730	07 04 18	56.2	29.6	-4.5		-87.9	50	1555	02 44 11
02 45 00	NGC3735	07 04 18	55.9	33.7	-4.5		-84.1	-23	1555	No stop
02 45 50	---	07 05 09	56.0	33.7	-4.5		-84.3	27	1562	02 45 01
02 45 50	J1134+7249	07 05 09	56.3	29.6	-4.5		-88.1	-23	1562	No stop
02 46 40	=1131+730	07 05 59	56.3	29.6	-4.5		-88.3	27	1568	02 45 51
02 46 40	NGC3735	07 05 59	56.1	33.7	-4.5		-84.5	-23	1568	No stop
02 47 30	---	07 06 49	56.1	33.7	-4.5		-84.7	27	1574	02 46 41
02 47 30	J1134+7249	07 06 49	56.4	29.6	-4.5		-88.5	-23	1574	No stop
02 48 20	=1131+730	07 07 39	56.5	29.6	-4.5		-88.7	27	1581	02 47 31
02 48 20	NGC3735	07 07 39	56.2	33.8	-4.5		-84.9	-23	1581	No stop
02 49 10	---	07 08 29	56.3	33.8	-4.5		-85.1	27	1587	02 48 21

Schedule for TORUN (Code Tr)

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H2O megamaser VLBI: a powerful tool to study ejection and accretion

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

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Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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 7 Nov 2018 Day 311 ---										
02 49 10	J1134+7249	07 08 29	56.5	29.6	-4.4		-88.9	-23	1587	No stop
02 50 00	=1131+730	07 09 19	56.6	29.7	-4.4		-89.1	27	1594	02 49 11
02 50 00	NGC3735	07 09 19	56.3	33.8	-4.5		-85.2	-23	1594	No stop
02 50 50	---	07 10 09	56.4	33.8	-4.4		-85.4	27	1600	02 50 01
02 50 50	J1134+7249	07 10 09	56.7	29.7	-4.4		-89.3	-23	1600	No stop
02 51 40	=1131+730	07 11 00	56.7	29.7	-4.4		-89.5	27	1606	02 50 51
02 51 40	NGC3735	07 11 00	56.5	33.8	-4.4		-85.6	-23	1606	No stop
02 52 30	---	07 11 50	56.5	33.8	-4.4		-85.8	27	1613	02 51 41
02 52 30	J1134+7249	07 11 50	56.8	29.7	-4.4		-89.7	-23	1613	No stop
02 53 20	=1131+730	07 12 40	56.8	29.7	-4.4		-89.9	27	1619	02 52 31
02 53 20	NGC3735	07 12 40	56.6	33.8	-4.4		-86.0	-23	1619	No stop
02 54 10	---	07 13 30	56.7	33.8	-4.4		-86.2	27	1626	02 53 21
02 54 10	J1134+7249	07 13 30	56.9	29.7	-4.4		-90.1	-23	1626	No stop
02 55 00	=1131+730	07 14 20	57.0	29.7	-4.3		-90.3	27	1632	02 54 11
02 55 00	NGC3735	07 14 20	56.8	33.8	-4.4		-86.4	-23	1632	No stop
02 55 50	---	07 15 10	56.8	33.8	-4.4		-86.6	27	1638	02 55 01
02 55 50	J1134+7249	07 15 10	57.0	29.7	-4.3		-90.5	-23	1638	No stop
02 56 40	=1131+730	07 16 00	57.1	29.7	-4.3		-90.7	27	1645	02 55 51
02 56 40	NGC3735	07 16 00	56.9	33.8	-4.3		-86.8	-23	1645	No stop
02 57 30	---	07 16 51	57.0	33.9	-4.3		-86.9	27	1651	02 56 41
02 58 10	J1134+7249	07 17 31	57.2	29.7	-4.3		-91.0	17	1651	02 58 10
02 59 00	=1131+730	07 18 21	57.3	29.6	-4.3		-91.2	50	1658	02 58 11
02 59 00	NGC3735	07 18 21	57.1	33.9	-4.3		-87.3	-23	1658	No stop
02 59 50	---	07 19 11	57.2	33.9	-4.3		-87.5	27	1664	02 59 01
02 59 50	J1134+7249	07 19 11	57.3	29.6	-4.3		-91.5	-23	1664	No stop
03 00 40	=1131+730	07 20 01	57.4	29.6	-4.3		-91.7	27	1671	02 59 51
03 00 40	NGC3735	07 20 01	57.2	33.9	-4.3		-87.7	-23	1671	No stop
03 01 30	---	07 20 51	57.3	33.9	-4.3		-87.9	27	1677	03 00 41
03 01 30	J1134+7249	07 20 51	57.4	29.6	-4.2		-91.9	-23	1677	No stop
03 02 20	=1131+730	07 21 41	57.5	29.6	-4.2		-92.1	27	1683	03 01 31

Schedule for TORUN (Code Tr)

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H2O megamaser VLBI: a powerful tool to study ejection and accretion

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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 7 Nov 2018 Day 311 ---										
03 02 20	NGC3735	07 21 41	57.4	33.9	-4.3		-88.1	-23	1683	No stop
03 03 10	---	07 22 31	57.4	33.9	-4.2		-88.3	27	1690	03 02 21
03 03 10	J1134+7249	07 22 31	57.6	29.6	-4.2		-92.3	-23	1690	No stop
03 04 00	=1131+730	07 23 22	57.6	29.6	-4.2		-92.5	27	1696	03 03 11
03 04 00	NGC3735	07 23 22	57.5	33.9	-4.2		-88.4	-23	1696	No stop
03 04 50	---	07 24 12	57.6	33.9	-4.2		-88.6	27	1703	03 04 01
03 04 50	J1134+7249	07 24 12	57.7	29.6	-4.2		-92.7	-23	1703	No stop
03 05 40	=1131+730	07 25 02	57.8	29.6	-4.2		-92.9	27	1709	03 04 51
03 05 40	NGC3735	07 25 02	57.7	33.9	-4.2		-88.8	-24	1709	No stop
03 06 30	---	07 25 52	57.7	33.9	-4.2		-89.0	26	1715	03 05 41
03 06 30	J1134+7249	07 25 52	57.8	29.6	-4.2		-93.1	-24	1715	No stop
03 07 20	=1131+730	07 26 42	57.9	29.6	-4.1		-93.3	26	1722	03 06 31
03 07 20	NGC3735	07 26 42	57.8	33.9	-4.2		-89.2	-24	1722	No stop
03 08 10	---	07 27 32	57.9	33.9	-4.2		-89.4	26	1728	03 07 21
03 08 10	J1134+7249	07 27 32	57.9	29.6	-4.1		-93.5	-24	1728	No stop
03 09 00	=1131+730	07 28 22	58.0	29.6	-4.1		-93.7	26	1735	03 08 11
03 09 00	NGC3735	07 28 22	57.9	33.9	-4.1		-89.6	-24	1735	No stop
03 09 50	---	07 29 13	58.0	33.9	-4.1		-89.8	26	1741	03 09 01
03 09 50	J1134+7249	07 29 13	58.1	29.6	-4.1		-93.9	-24	1741	No stop
03 10 40	=1131+730	07 30 03	58.1	29.6	-4.1		-94.1	26	1747	03 09 51
03 10 40	NGC3735	07 30 03	58.1	33.9	-4.1		-90.0	-24	1747	No stop
03 11 30	---	07 30 53	58.1	33.9	-4.1		-90.2	26	1754	03 10 41
03 12 10	J1134+7249	07 31 33	58.2	29.6	-4.1		-94.5	16	1754	03 12 10
03 13 00	=1131+730	07 32 23	58.3	29.5	-4.0		-94.7	50	1760	03 12 11
03 13 00	NGC3735	07 32 23	58.3	33.9	-4.1		-90.6	-24	1760	No stop
03 13 50	---	07 33 13	58.3	33.9	-4.1		-90.8	26	1767	03 13 01
03 13 50	J1134+7249	07 33 13	58.4	29.5	-4.0		-94.9	-24	1767	No stop
03 14 40	=1131+730	07 34 03	58.4	29.5	-4.0		-95.1	26	1773	03 13 51
03 14 40	NGC3735	07 34 03	58.4	33.9	-4.0		-91.0	-24	1773	No stop
03 15 30	---	07 34 53	58.5	33.9	-4.0		-91.2	26	1779	03 14 41

Schedule for TORUN (Code Tr)

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H2O megamaser VLBI: a powerful tool to study ejection and accretion

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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 7 Nov 2018 Day 311 ---										
03 15 30	J1134+7249	07 34 53	58.5	29.5	-4.0		-95.3	-24	1779	No stop
03 16 20	=1131+730	07 35 44	58.5	29.5	-4.0		-95.5	26	1786	03 15 31
03 16 20	NGC3735	07 35 44	58.5	33.9	-4.0		-91.4	-24	1786	No stop
03 17 10	---	07 36 34	58.6	33.9	-4.0		-91.6	26	1792	03 16 21
03 17 10	J1134+7249	07 36 34	58.6	29.5	-4.0		-95.7	-24	1792	No stop
03 18 00	=1131+730	07 37 24	58.7	29.5	-4.0		-95.9	26	1799	03 17 11
03 18 00	NGC3735	07 37 24	58.7	33.9	-4.0		-91.8	-24	1799	No stop
03 18 50	---	07 38 14	58.8	33.9	-4.0		-92.0	26	1805	03 18 01
03 18 50	J1134+7249	07 38 14	58.7	29.5	-3.9		-96.1	-24	1805	No stop
03 19 40	=1131+730	07 39 04	58.8	29.5	-3.9		-96.4	26	1812	03 18 51
03 19 40	NGC3735	07 39 04	58.8	33.9	-4.0		-92.2	-24	1812	No stop
03 20 30	---	07 39 54	58.9	33.9	-4.0		-92.4	26	1818	03 19 41
03 20 30	J1134+7249	07 39 54	58.9	29.4	-3.9		-96.6	-24	1818	No stop
03 21 20	=1131+730	07 40 44	58.9	29.4	-3.9		-96.8	26	1824	03 20 31
03 21 20	NGC3735	07 40 44	59.0	33.9	-3.9		-92.6	-24	1824	No stop
03 22 10	---	07 41 35	59.0	33.9	-3.9		-92.8	26	1831	03 21 21
03 22 10	J1134+7249	07 41 35	59.0	29.4	-3.9		-97.0	-24	1831	No stop
03 23 00	=1131+730	07 42 25	59.0	29.4	-3.9		-97.2	26	1837	03 22 11
03 23 00	NGC3735	07 42 25	59.1	33.9	-3.9		-93.0	-24	1837	No stop
03 23 50	---	07 43 15	59.2	33.8	-3.9		-93.2	26	1844	03 23 01
03 23 50	J1134+7249	07 43 15	59.1	29.4	-3.9		-97.4	-24	1844	No stop
03 24 40	=1131+730	07 44 05	59.2	29.4	-3.9		-97.6	26	1850	03 23 51
03 24 40	NGC3735	07 44 05	59.2	33.8	-3.9		-93.4	-24	1850	No stop
03 25 30	---	07 44 55	59.3	33.8	-3.9		-93.6	26	1856	03 24 41
03 26 10	J1134+7249	07 45 35	59.3	29.3	-3.8		-98.0	16	1856	03 26 10
03 27 00	=1131+730	07 46 25	59.3	29.3	-3.8		-98.2	50	1863	03 26 11
03 27 00	NGC3735	07 46 25	59.4	33.8	-3.8		-93.9	-24	1863	No stop
03 27 50	---	07 47 15	59.5	33.8	-3.8		-94.2	26	1869	03 27 01
03 27 50	J1134+7249	07 47 15	59.4	29.3	-3.8		-98.4	-24	1869	No stop
03 28 40	=1131+730	07 48 06	59.5	29.3	-3.8		-98.7	26	1876	03 27 51

Schedule for TORUN (Code Tr)

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H2O megamaser VLBI: a powerful tool to study ejection and accretion

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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 7 Nov 2018 Day 311 ---										
03 28 40	NGC3735	07 48 06	59.6	33.8	-3.8		-94.4	-24	1876	No stop
03 29 30	---	07 48 56	59.7	33.8	-3.8		-94.6	26	1882	03 28 41
03 29 30	J1134+7249	07 48 56	59.5	29.3	-3.8		-98.9	-24	1882	No stop
03 30 20	=1131+730	07 49 46	59.6	29.2	-3.8		-99.1	26	1888	03 29 31
03 30 20	NGC3735	07 49 46	59.7	33.8	-3.8		-94.8	-24	1888	No stop
03 31 10	---	07 50 36	59.8	33.8	-3.8		-95.0	26	1895	03 30 21
03 31 10	J1134+7249	07 50 36	59.6	29.2	-3.7		-99.3	-24	1895	No stop
03 32 00	=1131+730	07 51 26	59.7	29.2	-3.7		-99.5	26	1901	03 31 11
03 32 00	NGC3735	07 51 26	59.9	33.7	-3.8		-95.2	-24	1901	No stop
03 32 50	---	07 52 16	59.9	33.7	-3.7		-95.4	26	1908	03 32 01
03 32 50	J1134+7249	07 52 16	59.8	29.2	-3.7		-99.7	-24	1908	No stop
03 33 40	=1131+730	07 53 06	59.8	29.2	-3.7		-100.0	26	1914	03 32 51
03 33 40	NGC3735	07 53 06	60.0	33.7	-3.7		-95.6	-24	1914	No stop
03 34 30	---	07 53 57	60.1	33.7	-3.7		-95.8	26	1921	03 33 41
03 34 30	J1134+7249	07 53 57	59.9	29.1	-3.7		-100.2	-24	1921	No stop
03 35 20	=1131+730	07 54 47	59.9	29.1	-3.7		-100.4	26	1927	03 34 31
03 35 20	NGC3735	07 54 47	60.1	33.7	-3.7		-96.0	-24	1927	No stop
03 36 10	---	07 55 37	60.2	33.7	-3.7		-96.2	26	1933	03 35 21
03 36 10	J1134+7249	07 55 37	60.0	29.1	-3.7		-100.6	-24	1933	No stop
03 37 00	=1131+730	07 56 27	60.1	29.1	-3.6		-100.8	26	1940	03 36 11
03 37 00	NGC3735	07 56 27	60.3	33.7	-3.7		-96.4	-24	1940	No stop
03 37 50	---	07 57 17	60.3	33.6	-3.7		-96.7	26	1946	03 37 01
03 37 50	J1134+7249	07 57 17	60.1	29.1	-3.6		-101.1	-24	1946	No stop
03 38 40	=1131+730	07 58 07	60.2	29.0	-3.6		-101.3	26	1953	03 37 51
03 38 40	NGC3735	07 58 07	60.4	33.6	-3.6		-96.9	-24	1953	No stop
03 39 30	---	07 58 57	60.5	33.6	-3.6		-97.1	26	1959	03 38 41
03 40 10	J1134+7249	07 59 38	60.3	29.0	-3.6		-101.7	16	1959	03 40 10
03 41 00	=1131+730	08 00 28	60.4	29.0	-3.6		-101.9	50	1965	03 40 11
03 41 00	NGC3735	08 00 28	60.6	33.6	-3.6		-97.5	-24	1965	No stop
03 41 50	---	08 01 18	60.7	33.6	-3.6		-97.7	26	1972	03 41 01

Schedule for TORUN (Code Tr)

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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 7 Nov 2018 Day 311 ---										
03 41 50	J1134+7249	08 01 18	60.4	28.9	-3.6		-102.1	-24	1972	No stop
03 42 40	=1131+730	08 02 08	60.5	28.9	-3.6		-102.3	26	1978	03 41 51
03 42 40	NGC3735	08 02 08	60.7	33.5	-3.6		-97.9	-24	1978	No stop
03 43 30	---	08 02 58	60.8	33.5	-3.6		-98.1	26	1985	03 42 41
03 43 30	J1134+7249	08 02 58	60.5	28.9	-3.5		-102.6	-24	1985	No stop
03 44 20	=1131+730	08 03 48	60.6	28.8	-3.5		-102.8	26	1991	03 43 31
03 44 20	NGC3735	08 03 48	60.9	33.5	-3.6		-98.3	-24	1991	No stop
03 45 10	---	08 04 38	61.0	33.5	-3.5		-98.5	26	1997	03 44 21
03 45 10	J1134+7249	08 04 38	60.7	28.8	-3.5		-103.0	-24	1997	No stop
03 46 00	=1131+730	08 05 28	60.7	28.8	-3.5		-103.2	26	2004	03 45 11
03 46 00	NGC3735	08 05 28	61.0	33.5	-3.5		-98.7	-24	2004	No stop
03 46 50	---	08 06 19	61.1	33.4	-3.5		-99.0	26	2010	03 46 01
03 46 50	J1134+7249	08 06 19	60.8	28.8	-3.5		-103.5	-24	2010	No stop
03 47 40	=1131+730	08 07 09	60.8	28.7	-3.5		-103.7	26	2017	03 46 51
03 47 40	NGC3735	08 07 09	61.2	33.4	-3.5		-99.2	-24	2017	No stop
03 48 30	---	08 07 59	61.2	33.4	-3.5		-99.4	26	2023	03 47 41
03 48 30	J1134+7249	08 07 59	60.9	28.7	-3.5		-103.9	-24	2023	No stop
03 49 20	=1131+730	08 08 49	61.0	28.7	-3.4		-104.1	26	2029	03 48 31
03 49 20	NGC3735	08 08 49	61.3	33.4	-3.5		-99.6	-24	2029	No stop
03 50 10	---	08 09 39	61.4	33.3	-3.5		-99.8	26	2036	03 49 21
03 50 10	J1134+7249	08 09 39	61.0	28.6	-3.4		-104.4	-24	2036	No stop
03 51 00	=1131+730	08 10 29	61.1	28.6	-3.4		-104.6	26	2042	03 50 11
03 51 00	NGC3735	08 10 29	61.4	33.3	-3.4		-100.1	-24	2042	No stop
03 51 50	---	08 11 19	61.5	33.3	-3.4		-100.3	26	2049	03 51 01
03 51 50	J1134+7249	08 11 19	61.1	28.6	-3.4		-104.8	-24	2049	No stop
03 52 40	=1131+730	08 12 10	61.2	28.5	-3.4		-105.1	26	2055	03 51 51
03 52 40	NGC3735	08 12 10	61.6	33.3	-3.4		-100.5	-24	2055	No stop
03 53 30	---	08 13 00	61.6	33.2	-3.4		-100.7	26	2062	03 52 41
03 54 10	J1134+7249	08 13 40	61.3	28.5	-3.4		-105.5	16	2062	03 54 10
03 55 00	=1131+730	08 14 30	61.4	28.4	-3.3		-105.7	50	2068	03 54 11

Schedule for TORUN (Code Tr)

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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 7 Nov 2018 Day 311 ---										
03 55 00	NGC3735	08 14 30	61.8	33.2	-3.4		-101.1	-24	2068	No stop
03 55 50	---	08 15 20	61.8	33.2	-3.4		-101.3	26	2074	03 55 01
03 55 50	J1134+7249	08 15 20	61.4	28.4	-3.3		-105.9	-25	2074	No stop
03 56 40	=1131+730	08 16 10	61.5	28.4	-3.3		-106.2	25	2081	03 55 51
03 56 40	NGC3735	08 16 10	61.9	33.1	-3.3		-101.6	-24	2081	No stop
03 57 30	---	08 17 00	62.0	33.1	-3.3		-101.8	26	2087	03 56 41
03 57 30	J1134+7249	08 17 00	61.6	28.3	-3.3		-106.4	-25	2087	No stop
03 58 20	=1131+730	08 17 51	61.6	28.3	-3.3		-106.6	25	2094	03 57 31
03 58 20	NGC3735	08 17 51	62.0	33.1	-3.3		-102.0	-25	2094	No stop
03 59 10	---	08 18 41	62.1	33.0	-3.3		-102.2	25	2100	03 58 21
03 59 10	J1134+7249	08 18 41	61.7	28.3	-3.3		-106.9	-25	2100	No stop
04 00 00	=1131+730	08 19 31	61.7	28.2	-3.3		-107.1	25	2106	03 59 11
04 00 00	NGC3735	08 19 31	62.2	33.0	-3.3		-102.5	-25	2106	No stop
04 00 50	---	08 20 21	62.3	33.0	-3.3		-102.7	25	2113	04 00 01
04 00 50	J1134+7249	08 20 21	61.8	28.2	-3.2		-107.3	-25	2113	No stop
04 01 40	=1131+730	08 21 11	61.9	28.1	-3.2		-107.6	25	2119	04 00 51
04 01 40	NGC3735	08 21 11	62.3	32.9	-3.3		-102.9	-25	2119	No stop
04 02 30	---	08 22 01	62.4	32.9	-3.2		-103.1	25	2126	04 01 41
04 02 30	J1134+7249	08 22 01	61.9	28.1	-3.2		-107.8	-25	2126	No stop
04 03 20	=1131+730	08 22 51	62.0	28.1	-3.2		-108.0	25	2132	04 02 31
04 03 20	NGC3735	08 22 51	62.5	32.9	-3.2		-103.4	-25	2132	No stop
04 04 10	---	08 23 41	62.5	32.8	-3.2		-103.6	25	2138	04 03 21
04 04 10	J1134+7249	08 23 41	62.0	28.0	-3.2		-108.3	-25	2138	No stop
04 05 00	=1131+730	08 24 32	62.1	28.0	-3.2		-108.5	25	2145	04 04 11
04 05 00	NGC3735	08 24 32	62.6	32.8	-3.2		-103.8	-25	2145	No stop
04 05 50	---	08 25 22	62.7	32.8	-3.2		-104.0	25	2151	04 05 01
04 05 50	J1134+7249	08 25 22	62.1	27.9	-3.2		-108.7	-25	2151	No stop
04 06 40	=1131+730	08 26 12	62.2	27.9	-3.2		-109.0	25	2158	04 05 51
04 06 40	NGC3735	08 26 12	62.7	32.7	-3.2		-104.3	-25	2158	No stop
04 07 30	---	08 27 02	62.8	32.7	-3.2		-104.5	25	2164	04 06 41

Schedule for TORUN (Code Tr)

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H2O megamaser VLBI: a powerful tool to study ejection and accretion

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TPStart: Recording start time. Frequencies are L0 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 7 Nov 2018 Day 311 ---										
04 08 10	J1134+7249	08 27 42	62.3	27.8	-3.1		-109.4	15	2164	04 08 10
04 09 00	=1131+730	08 28 32	62.4	27.8	-3.1		-109.6	50	2171	04 08 11
04 09 00	NGC3735	08 28 32	62.9	32.6	-3.1		-104.9	-25	2171	No stop
04 09 50	---	08 29 22	63.0	32.6	-3.1		-105.2	25	2177	04 09 01
04 09 50	J1134+7249	08 29 22	62.4	27.7	-3.1		-109.9	-25	2177	No stop
04 10 40	=1131+730	08 30 13	62.5	27.7	-3.1		-110.1	25	2183	04 09 51
04 10 40	NGC3735	08 30 13	63.1	32.5	-3.1		-105.4	-25	2183	No stop
04 11 30	---	08 31 03	63.1	32.5	-3.1		-105.6	25	2190	04 10 41
04 11 30	J1134+7249	08 31 03	62.5	27.6	-3.1		-110.4	-25	2190	No stop
04 12 20	=1131+730	08 31 53	62.6	27.6	-3.1		-110.6	25	2196	04 11 31
04 12 20	NGC3735	08 31 53	63.2	32.5	-3.1		-105.9	-25	2196	No stop
04 13 10	---	08 32 43	63.3	32.4	-3.1		-106.1	25	2203	04 12 21
04 13 10	J1134+7249	08 32 43	62.7	27.5	-3.0		-110.8	-25	2203	No stop
04 14 00	=1131+730	08 33 33	62.7	27.5	-3.0		-111.1	25	2209	04 13 11
04 14 00	NGC3735	08 33 33	63.3	32.4	-3.1		-106.3	-25	2209	No stop
04 14 50	---	08 34 23	63.4	32.3	-3.0		-106.6	25	2215	04 14 01
04 14 50	J1134+7249	08 34 23	62.8	27.4	-3.0		-111.3	-25	2215	No stop
04 15 40	=1131+730	08 35 13	62.8	27.4	-3.0		-111.6	25	2222	04 14 51
04 15 40	NGC3735	08 35 13	63.5	32.3	-3.0		-106.8	-25	2222	No stop
04 16 30	---	08 36 03	63.5	32.2	-3.0		-107.0	25	2228	04 15 41
04 16 30	J1134+7249	08 36 03	62.9	27.3	-3.0		-111.8	-25	2228	No stop
04 17 20	=1131+730	08 36 54	62.9	27.3	-3.0		-112.1	25	2235	04 16 31
04 17 20	NGC3735	08 36 54	63.6	32.2	-3.0		-107.3	-25	2235	No stop
04 18 10	---	08 37 44	63.7	32.1	-3.0		-107.5	25	2241	04 17 21
04 18 10	J1134+7249	08 37 44	63.0	27.2	-3.0		-112.3	-25	2241	No stop
04 19 00	=1131+730	08 38 34	63.1	27.2	-2.9		-112.5	25	2247	04 18 11
04 19 00	NGC3735	08 38 34	63.7	32.1	-3.0		-107.8	-25	2247	No stop
04 19 50	---	08 39 24	63.8	32.0	-3.0		-108.0	25	2254	04 19 01
04 19 50	J1134+7249	08 39 24	63.1	27.1	-2.9		-112.8	-25	2254	No stop
04 20 40	=1131+730	08 40 14	63.2	27.1	-2.9		-113.0	25	2260	04 19 51

Schedule for TORUN (Code Tr)

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H2O megamaser VLBI: a powerful tool to study ejection and accretion

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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 7 Nov 2018 Day 311 ---										
04 20 40	NGC3735	08 40 14	63.9	32.0	-2.9		-108.2	-25	2260	No stop
04 21 30	---	08 41 04	63.9	31.9	-2.9		-108.5	25	2267	04 20 41
04 22 10	J1134+7249	08 41 44	63.3	27.0	-2.9		-113.5	15	2267	04 22 10
04 23 00	=1131+730	08 42 35	63.3	26.9	-2.9		-113.7	50	2273	04 22 11
04 23 00	NGC3735	08 42 35	64.0	31.9	-2.9		-108.9	-25	2273	No stop
04 23 50	---	08 43 25	64.1	31.8	-2.9		-109.2	25	2279	04 23 01
04 23 50	J1134+7249	08 43 25	63.4	26.9	-2.9		-114.0	-25	2279	No stop
04 24 40	=1131+730	08 44 15	63.5	26.8	-2.8		-114.2	25	2286	04 23 51
04 24 40	NGC3735	08 44 15	64.2	31.7	-2.9		-109.4	-25	2286	No stop
04 25 30	---	08 45 05	64.2	31.7	-2.9		-109.6	25	2292	04 24 41
04 25 30	J1134+7249	08 45 05	63.5	26.8	-2.8		-114.5	-25	2292	No stop
04 26 20	=1131+730	08 45 55	63.6	26.7	-2.8		-114.7	25	2299	04 25 31
04 26 20	NGC3735	08 45 55	64.3	31.6	-2.9		-109.9	-25	2299	No stop
04 27 10	---	08 46 45	64.4	31.6	-2.8		-110.1	25	2305	04 26 21
04 27 10	J1134+7249	08 46 45	63.6	26.6	-2.8		-115.0	-25	2305	No stop
04 28 00	=1131+730	08 47 35	63.7	26.6	-2.8		-115.2	25	2312	04 27 11
04 28 00	NGC3735	08 47 35	64.4	31.5	-2.8		-110.4	-25	2312	No stop
04 28 50	---	08 48 26	64.5	31.5	-2.8		-110.6	25	2318	04 28 01
04 28 50	J1134+7249	08 48 26	63.7	26.5	-2.8		-115.5	-25	2318	No stop
04 29 40	=1131+730	08 49 16	63.8	26.5	-2.8		-115.8	25	2324	04 28 51
04 29 40	NGC3735	08 49 16	64.6	31.4	-2.8		-110.9	-25	2324	No stop
04 30 30	---	08 50 06	64.6	31.4	-2.8		-111.1	25	2331	04 29 41
04 30 30	J1134+7249	08 50 06	63.8	26.4	-2.8		-116.0	-25	2331	No stop
04 31 20	=1131+730	08 50 56	63.9	26.3	-2.7		-116.3	25	2337	04 30 31
04 31 20	NGC3735	08 50 56	64.7	31.3	-2.8		-111.4	-25	2337	No stop
04 32 10	---	08 51 46	64.8	31.2	-2.8		-111.6	25	2344	04 31 21
04 32 10	J1134+7249	08 51 46	64.0	26.3	-2.7		-116.5	-25	2344	No stop
04 33 00	=1131+730	08 52 36	64.0	26.2	-2.7		-116.8	25	2350	04 32 11
04 33 00	NGC3735	08 52 36	64.8	31.2	-2.7		-111.9	-25	2350	No stop
04 33 50	---	08 53 26	64.9	31.1	-2.7		-112.1	25	2356	04 33 01

Schedule for TORUN (Code Tr)

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Start UT	Source	Start / Stop					Early	Disk	TPStart	
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC

--- Wed 7 Nov 2018 Day 311 ---										
04 33 50	J1134+7249	08 53 26	64.1	26.2	-2.7		-117.0	-25	2356	No stop
04 34 40	=1131+730	08 54 16	64.1	26.1	-2.7		-117.3	25	2363	04 33 51
04 34 40	NGC3735	08 54 16	65.0	31.0	-2.7		-112.4	-25	2363	No stop
04 35 30	---	08 55 07	65.0	31.0	-2.7		-112.6	25	2369	04 34 41
04 36 10	J1134+7249	08 55 47	64.2	26.0	-2.7		-117.8	15	2369	04 36 10
04 37 00	=1131+730	08 56 37	64.3	25.9	-2.6		-118.0	50	2376	04 36 11
04 37 00	NGC3735	08 56 37	65.1	30.9	-2.7		-113.1	-25	2376	No stop
04 37 50	---	08 57 27	65.2	30.8	-2.7		-113.4	25	2382	04 37 01
04 37 50	J1134+7249	08 57 27	64.3	25.8	-2.6		-118.3	-25	2382	No stop
04 38 40	=1131+730	08 58 17	64.4	25.8	-2.6		-118.5	25	2388	04 37 51
04 38 40	NGC3735	08 58 17	65.3	30.7	-2.6		-113.6	-25	2388	No stop
04 39 30	---	08 59 07	65.3	30.7	-2.6		-113.9	25	2395	04 38 41
04 39 30	J1134+7249	08 59 07	64.4	25.7	-2.6		-118.8	-25	2395	No stop
04 40 20	=1131+730	08 59 57	64.5	25.6	-2.6		-119.1	25	2401	04 39 31
04 40 20	NGC3735	08 59 57	65.4	30.6	-2.6		-114.1	-25	2401	No stop
04 41 10	---	09 00 48	65.5	30.5	-2.6		-114.4	25	2408	04 40 21
04 41 10	J1134+7249	09 00 48	64.5	25.6	-2.6		-119.3	-25	2408	No stop
04 42 00	=1131+730	09 01 38	64.6	25.5	-2.6		-119.6	25	2414	04 41 11
04 42 00	NGC3735	09 01 38	65.5	30.5	-2.6		-114.7	-25	2414	No stop
04 42 50	---	09 02 28	65.6	30.4	-2.6		-114.9	25	2421	04 42 01
04 42 50	J1134+7249	09 02 28	64.7	25.4	-2.5		-119.9	-25	2421	No stop
04 43 40	=1131+730	09 03 18	64.7	25.3	-2.5		-120.1	25	2427	04 42 51
04 43 40	NGC3735	09 03 18	65.6	30.3	-2.6		-115.2	-25	2427	No stop
04 44 30	---	09 04 08	65.7	30.2	-2.5		-115.4	25	2433	04 43 41
04 44 30	J1134+7249	09 04 08	64.8	25.3	-2.5		-120.4	-25	2433	No stop
04 45 20	=1131+730	09 04 58	64.8	25.2	-2.5		-120.6	25	2440	04 44 31
04 45 20	NGC3735	09 04 58	65.8	30.2	-2.5		-115.7	-25	2440	No stop
04 46 10	---	09 05 48	65.8	30.1	-2.5		-116.0	25	2446	04 45 21
04 46 10	J1134+7249	09 05 48	64.9	25.1	-2.5		-120.9	-25	2446	No stop
04 47 00	=1131+730	09 06 39	64.9	25.0	-2.5		-121.2	25	2453	04 46 11

Schedule for TORUN (Code Tr)

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Start UT	Source	Start / Stop					Early	Disk	TPStart	
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC

--- Wed 7 Nov 2018 Day 311 ---										
04 47 00	NGC3735	09 06 39	65.9	30.0	-2.5		-116.2	-25	2453	No stop
04 47 50	---	09 07 29	66.0	29.9	-2.5		-116.5	25	2459	04 47 01
04 47 50	J1134+7249	09 07 29	65.0	25.0	-2.5		-121.5	-25	2459	No stop
04 48 40	=1131+730	09 08 19	65.0	24.9	-2.4		-121.7	25	2465	04 47 51
04 48 40	NGC3735	09 08 19	66.0	29.9	-2.5		-116.8	-25	2465	No stop
04 49 30	---	09 09 09	66.1	29.8	-2.5		-117.0	25	2472	04 48 41
04 50 10	J1134+7249	09 09 49	65.1	24.7	-2.4		-122.2	15	2472	04 50 10
04 51 00	=1131+730	09 10 39	65.2	24.7	-2.4		-122.5	50	2478	04 50 11
04 51 00	NGC3735	09 10 39	66.2	29.6	-2.4		-117.5	-25	2478	No stop
04 51 50	---	09 11 29	66.3	29.6	-2.4		-117.8	25	2485	04 51 01
04 51 50	J1134+7249	09 11 29	65.2	24.6	-2.4		-122.7	-25	2485	No stop
04 52 40	=1131+730	09 12 19	65.3	24.5	-2.4		-123.0	25	2491	04 51 51
04 52 40	NGC3735	09 12 19	66.3	29.5	-2.4		-118.1	-25	2491	No stop
04 53 30	---	09 13 10	66.4	29.4	-2.4		-118.3	25	2497	04 52 41
04 53 30	J1134+7249	09 13 10	65.3	24.4	-2.4		-123.3	-25	2497	No stop
04 54 20	=1131+730	09 14 00	65.4	24.3	-2.4		-123.6	25	2504	04 53 31
04 54 20	NGC3735	09 14 00	66.4	29.3	-2.4		-118.6	-25	2504	No stop
04 55 10	---	09 14 50	66.5	29.2	-2.4		-118.9	25	2510	04 54 21
04 55 10	J1134+7249	09 14 50	65.4	24.3	-2.3		-123.8	-25	2510	No stop
04 56 00	=1131+730	09 15 40	65.5	24.2	-2.3		-124.1	25	2517	04 55 11
04 56 00	NGC3735	09 15 40	66.6	29.2	-2.4		-119.2	-25	2517	No stop
04 56 50	---	09 16 30	66.6	29.1	-2.3		-119.4	25	2523	04 56 01
04 56 50	J1134+7249	09 16 30	65.5	24.1	-2.3		-124.4	-25	2523	No stop
04 57 40	=1131+730	09 17 20	65.6	24.0	-2.3		-124.7	25	2529	04 56 51
04 57 40	NGC3735	09 17 20	66.7	29.0	-2.3		-119.7	-25	2529	No stop
04 58 30	---	09 18 10	66.8	28.9	-2.3		-120.0	25	2536	04 57 41
04 58 30	J1134+7249	09 18 10	65.6	23.9	-2.3		-125.0	-25	2536	No stop
04 59 20	=1131+730	09 19 01	65.7	23.8	-2.3		-125.2	25	2542	04 58 31
04 59 20	NGC3735	09 19 01	66.8	28.8	-2.3		-120.3	-25	2542	No stop
05 00 10	---	09 19 51	66.9	28.7	-2.3		-120.6	25	2549	04 59 21

Schedule for TORUN (Code Tr)

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Start UT	Source	Start / Stop					Early	Disk	TPStart	
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC

--- Wed 7 Nov 2018 Day 311 ---										
05 00 10	J1134+7249	09 19 51	65.7	23.8	-2.3		-125.5	-25	2549	No stop
05 01 00	=1131+730	09 20 41	65.8	23.7	-2.2		-125.8	25	2555	05 00 11
05 01 00	NGC3735	09 20 41	66.9	28.6	-2.3		-120.8	-25	2555	No stop
05 01 50	---	09 21 31	67.0	28.5	-2.3		-121.1	25	2562	05 01 01
05 01 50	J1134+7249	09 21 31	65.8	23.6	-2.2		-126.1	-25	2562	No stop
05 02 40	=1131+730	09 22 21	65.9	23.5	-2.2		-126.3	25	2568	05 01 51
05 02 40	NGC3735	09 22 21	67.1	28.4	-2.2		-121.4	-25	2568	No stop
05 03 30	---	09 23 11	67.1	28.3	-2.2		-121.7	25	2574	05 02 41
05 04 10	J1134+7249	09 23 51	66.0	23.3	-2.2		-126.9	15	2574	05 04 10
05 05 00	=1131+730	09 24 41	66.0	23.2	-2.2		-127.1	50	2581	05 04 11
05 05 00	NGC3735	09 24 41	67.2	28.2	-2.2		-122.2	-25	2581	No stop
05 05 50	---	09 25 32	67.3	28.1	-2.2		-122.5	25	2587	05 05 01
05 05 50	J1134+7249	09 25 32	66.1	23.1	-2.2		-127.4	-25	2587	No stop
05 06 40	=1131+730	09 26 22	66.1	23.0	-2.1		-127.7	25	2594	05 05 51
05 06 40	NGC3735	09 26 22	67.3	28.0	-2.2		-122.8	-25	2594	No stop
05 07 30	---	09 27 12	67.4	27.9	-2.2		-123.1	25	2600	05 06 41
05 07 30	J1134+7249	09 27 12	66.2	22.9	-2.1		-128.0	-25	2600	No stop
05 08 20	=1131+730	09 28 02	66.2	22.9	-2.1		-128.3	25	2606	05 07 31
05 08 20	NGC3735	09 28 02	67.5	27.8	-2.1		-123.3	-25	2606	No stop
05 09 10	---	09 28 52	67.5	27.7	-2.1		-123.6	25	2613	05 08 21
05 09 10	J1134+7249	09 28 52	66.3	22.8	-2.1		-128.6	-25	2613	No stop
05 10 00	=1131+730	09 29 42	66.3	22.7	-2.1		-128.9	25	2619	05 09 11
05 10 00	NGC3735	09 29 42	67.6	27.6	-2.1		-123.9	-25	2619	No stop
05 10 50	---	09 30 32	67.6	27.5	-2.1		-124.2	25	2626	05 10 01
05 10 50	J1134+7249	09 30 32	66.4	22.6	-2.1		-129.1	-25	2626	No stop
05 11 40	=1131+730	09 31 23	66.4	22.5	-2.1		-129.4	25	2632	05 10 51
05 11 40	NGC3735	09 31 23	67.7	27.4	-2.1		-124.5	-25	2632	No stop
05 12 30	---	09 32 13	67.7	27.3	-2.1		-124.8	25	2638	05 11 41
05 12 30	J1134+7249	09 32 13	66.5	22.4	-2.1		-129.7	-25	2638	No stop
05 13 20	=1131+730	09 33 03	66.5	22.3	-2.0		-130.0	25	2645	05 12 31

Schedule for TORUN (Code Tr)

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H2O megamaser VLBI: a powerful tool to study ejection and accretion

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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 7 Nov 2018 Day 311 ---										
05 13 20	NGC3735	09 33 03	67.8	27.2	-2.1		-125.1	-25	2645	No stop
05 14 10	---	09 33 53	67.9	27.0	-2.1		-125.4	25	2651	05 13 21
05 14 10	J1134+7249	09 33 53	66.6	22.2	-2.0		-130.3	-25	2651	No stop
05 15 00	=1131+730	09 34 43	66.6	22.1	-2.0		-130.6	25	2658	05 14 11
05 15 00	NGC3735	09 34 43	67.9	26.9	-2.0		-125.7	-25	2658	No stop
05 15 50	---	09 35 33	68.0	26.8	-2.0		-126.0	25	2664	05 15 01
05 15 50	J1134+7249	09 35 33	66.7	22.0	-2.0		-130.9	-25	2664	No stop
05 16 40	=1131+730	09 36 23	66.7	21.9	-2.0		-131.2	25	2671	05 15 51
05 16 40	NGC3735	09 36 23	68.0	26.7	-2.0		-126.3	-25	2671	No stop
05 17 30	---	09 37 14	68.1	26.6	-2.0		-126.6	25	2677	05 16 41
05 18 10	J1134+7249	09 37 54	66.8	21.7	-2.0		-131.7	15	2677	05 18 10
05 19 00	=1131+730	09 38 44	66.8	21.6	-1.9		-132.0	50	2683	05 18 11
05 19 00	NGC3735	09 38 44	68.2	26.4	-2.0		-127.1	-25	2683	No stop
05 19 50	---	09 39 34	68.2	26.3	-2.0		-127.4	25	2690	05 19 01
05 19 50	J1134+7249	09 39 34	66.9	21.5	-1.9		-132.3	-25	2690	No stop
05 20 40	=1131+730	09 40 24	66.9	21.4	-1.9		-132.6	25	2696	05 19 51
05 20 40	NGC3735	09 40 24	68.3	26.2	-1.9		-127.7	-25	2696	No stop
05 21 30	---	09 41 14	68.4	26.1	-1.9		-128.0	25	2703	05 20 41
05 21 30	J1134+7249	09 41 14	67.0	21.2	-1.9		-132.9	-25	2703	No stop
05 22 20	=1131+730	09 42 04	67.0	21.1	-1.9		-133.2	25	2709	05 21 31
05 22 20	NGC3735	09 42 04	68.4	25.9	-1.9		-128.3	-25	2709	No stop
05 23 10	---	09 42 54	68.5	25.8	-1.9		-128.7	25	2715	05 22 21
05 23 10	J1134+7249	09 42 54	67.1	21.0	-1.9		-133.5	-25	2715	No stop
05 24 00	=1131+730	09 43 45	67.1	20.9	-1.9		-133.8	25	2722	05 23 11
05 24 00	NGC3735	09 43 45	68.5	25.7	-1.9		-129.0	-24	2722	No stop
05 24 50	---	09 44 35	68.6	25.6	-1.9		-129.3	26	2728	05 24 01
05 24 50	J1134+7249	09 44 35	67.2	20.8	-1.8		-134.1	-25	2728	No stop
05 25 40	=1131+730	09 45 25	67.2	20.7	-1.8		-134.4	25	2735	05 24 51
05 25 40	NGC3735	09 45 25	68.6	25.5	-1.9		-129.6	-24	2735	No stop
05 26 30	---	09 46 15	68.7	25.3	-1.8		-129.9	26	2741	05 25 41

Schedule for TORUN (Code Tr)

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H2O megamaser VLBI: a powerful tool to study ejection and accretion

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

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Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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 7 Nov 2018 Day 311 ---										
05 26 30	J1134+7249	09 46 15	67.2	20.6	-1.8		-134.7	-25	2741	No stop
05 27 20	=1131+730	09 47 05	67.3	20.5	-1.8		-135.0	25	2747	05 26 31
05 27 20	NGC3735	09 47 05	68.7	25.2	-1.8		-130.2	-24	2747	No stop
05 28 10	---	09 47 55	68.8	25.1	-1.8		-130.5	26	2754	05 27 21
05 28 10	J1134+7249	09 47 55	67.3	20.4	-1.8		-135.3	-25	2754	No stop
05 29 00	=1131+730	09 48 45	67.4	20.2	-1.8		-135.6	25	2760	05 28 11
05 29 00	NGC3735	09 48 45	68.8	25.0	-1.8		-130.8	-24	2760	No stop
05 29 50	---	09 49 36	68.9	24.8	-1.8		-131.2	26	2767	05 29 01
05 29 50	J1134+7249	09 49 36	67.4	20.1	-1.8		-135.9	-25	2767	No stop
05 30 40	=1131+730	09 50 26	67.5	20.0	-1.7		-136.2	25	2773	05 29 51
05 30 40	NGC3735	09 50 26	68.9	24.7	-1.8		-131.5	-24	2773	No stop
05 31 30	---	09 51 16	69.0	24.6	-1.8		-131.8	26	2779	05 30 41
05 32 10	J1134+7249	09 51 56	67.5	19.8	-1.7		-136.8	16	2779	05 32 10
05 33 00	=1131+730	09 52 46	67.6	19.7	-1.7		-137.1	50	2786	05 32 11
05 33 00	NGC3735	09 52 46	69.1	24.3	-1.7		-132.4	-24	2786	No stop
05 33 50	---	09 53 36	69.1	24.2	-1.7		-132.7	26	2792	05 33 01
05 33 50	J1134+7249	09 53 36	67.6	19.6	-1.7		-137.4	-24	2792	No stop
05 34 40	=1131+730	09 54 26	67.7	19.4	-1.7		-137.7	26	2799	05 33 51
05 34 40	NGC3735	09 54 26	69.2	24.1	-1.7		-133.0	-24	2799	No stop
05 35 30	---	09 55 16	69.2	23.9	-1.7		-133.3	26	2805	05 34 41
05 35 30	J1134+7249	09 55 16	67.7	19.3	-1.7		-138.0	-24	2805	No stop
05 36 20	=1131+730	09 56 07	67.7	19.2	-1.7		-138.4	26	2812	05 35 31
05 36 20	NGC3735	09 56 07	69.3	23.8	-1.7		-133.6	-24	2812	No stop
05 37 10	---	09 56 57	69.3	23.7	-1.7		-134.0	26	2818	05 36 21
05 37 10	J1134+7249	09 56 57	67.8	19.1	-1.6		-138.7	-24	2818	No stop
05 38 00	=1131+730	09 57 47	67.8	18.9	-1.6		-139.0	26	2824	05 37 11
05 38 00	NGC3735	09 57 47	69.4	23.5	-1.7		-134.3	-24	2824	No stop
05 38 50	---	09 58 37	69.4	23.4	-1.6		-134.6	26	2831	05 38 01
05 38 50	J1134+7249	09 58 37	67.9	18.8	-1.6		-139.3	-24	2831	No stop
05 39 40	=1131+730	09 59 27	67.9	18.7	-1.6		-139.6	26	2837	05 38 51

Schedule for TORUN (Code Tr) Page 31

H2O megamaser VLBI: a powerful tool to study ejection and accretion

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Start UT	Source	Start / Stop					Early	Disk	TPStart	
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC

--- Wed 7 Nov 2018 Day 311 ---										
05 39 40	NGC3735	09 59 27	69.5	23.2	-1.6		-135.0	-24	2837	No stop
05 40 30	---	10 00 17	69.5	23.1	-1.6		-135.3	26	2844	05 39 41
05 40 30	J1134+7249	10 00 17	67.9	18.6	-1.6		-139.9	-24	2844	No stop
05 41 20	=1131+730	10 01 07	68.0	18.4	-1.6		-140.2	26	2850	05 40 31
05 41 20	NGC3735	10 01 07	69.6	23.0	-1.6		-135.6	-24	2850	No stop
05 42 10	---	10 01 58	69.6	22.8	-1.6		-135.9	26	2856	05 41 21
05 42 10	J1134+7249	10 01 58	68.0	18.3	-1.6		-140.6	-24	2856	No stop
05 43 00	=1131+730	10 02 48	68.1	18.2	-1.5		-140.9	26	2863	05 42 11
05 43 00	NGC3735	10 02 48	69.7	22.7	-1.6		-136.3	-24	2863	No stop
05 43 50	---	10 03 38	69.7	22.5	-1.6		-136.6	26	2869	05 43 01
05 43 50	J1134+7249	10 03 38	68.1	18.1	-1.5		-141.2	-24	2869	No stop
05 44 40	=1131+730	10 04 28	68.1	17.9	-1.5		-141.5	26	2876	05 43 51
05 44 40	NGC3735	10 04 28	69.8	22.4	-1.5		-137.0	-24	2876	No stop
05 45 30	---	10 05 18	69.8	22.2	-1.5		-137.3	26	2882	05 44 41
05 46 15	J1134+7249	10 06 03	68.2	17.7	-1.5		-142.1	21	2882	05 46 15
05 47 05	=1131+730	10 06 53	68.3	17.5	-1.5		-142.5	50	2888	05 46 16
05 47 05	NGC3735	10 06 53	69.9	21.9	-1.5		-137.9	-24	2888	No stop
05 47 55	---	10 07 44	70.0	21.8	-1.5		-138.3	26	2895	05 47 06
05 47 55	J1134+7249	10 07 44	68.3	17.4	-1.5		-142.8	-24	2895	No stop
05 49 00	=1131+730	10 08 49	68.3	17.2	-1.4		-143.2	41	2903	05 47 56
05 54 00	DA193	10 13 50	45.4	279.6	4.3		50.4	-241	2903	05 54 00
06 00 00	---	10 19 50	44.5	280.7	4.4		50.2	119	2949	05 54 01

SETUP FILE INFORMATION:

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

==== Setup file: sess318.K1024line

Setup group: 10	Station: TORUN	Total bit rate: 1024
Format: MARK5B	Bits per sample: 2	Sample rate: 32.000
Number of channels: 16	DBE type: DBBC_DDC	Speedup factor: 1.00

Disk used to record data.

1st LO=	21500.00	21500.00	21500.00	21500.00	21500.00	21500.00	21500.00	21500.00	21500.00
	21500.00	21500.00	21500.00	21500.00	21500.00	21500.00	21500.00	21500.00	21500.00
Net SB=	L	L	U	U	L	L	U	U	U
	L	L	U	U	L	L	U	U	U
IF SB =	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	LCP
	RCP	LCP	RCP	LCP	RCP	LCP	RCP	LCP	LCP
BBC =	1	5	1	5	2	6	2	6	6
	3	7	3	7	4	8	4	8	8
BBC SB=	L	L	U	U	L	L	U	U	U
	L	L	U	U	L	L	U	U	U
IF =	A1	B1	A1	B1	A1	B1	A1	B1	B1
	A1	B1	A1	B1	A1	B1	A1	B1	B1

The following frequency sets based on these setups were used.

Frequency Set: 7 Based on FREQ, BW, and/or DOPPLER in schedule. Used with PCAL = off

LO sum=	22046.00	22046.00	22046.00	22046.00	22078.00	22078.00	22078.00	22078.00	22078.00
	22110.00	22110.00	22110.00	22110.00	22142.00	22142.00	22142.00	22142.00	22142.00
BBC fr=	546.00	546.00	546.00	546.00	578.00	578.00	578.00	578.00	578.00
	610.00	610.00	610.00	610.00	642.00	642.00	642.00	642.00	642.00
Bandwd=	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00
	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00

Matching frequency sets: 7

Track assignments are:

track1= 18, 26, 2, 10, 20, 28, 4, 12, 22, 30, 6, 14, 24, 32, 8, 16

barrel=roll_off

POSITIONS OF SOURCES USED IN RECORDING SCANS

Source	Source position (RA/Dec) (B1950)	(Date)	Error (mas)
* NGC3735	11 33 02.401363 * 11 35 57.300000	11 36 58.182004	0.00
	70 48 44.61683 * 70 32 09.00000	70 25 46.26282	0.00
	Doppler based on heliocentric frame and optical definition. Velocities:		
	2696.00 2696.00 2696.00 2696.00 2696.00 2696.00 2696.00 2696.00		
	2696.00 2696.00 2696.00 2696.00 2696.00 2696.00		
0552+398	05 52 01.407168 * 05 55 30.805611	05 56 49.662529	0.00
J0555+3948	39 48 21.94581 * 39 48 49.16496	39 48 46.83184	0.00
* DA193	/home/guest/rmc/SCHED/sched11.5/catalogs/sources.gsfc		
J0555+39	GSFC 2016a X/S astro solution, 415688 observations.		
	Doppler based on other sources.		
* 4C39.25	09 23 55.319216 * 09 27 03.013937	09 28 11.991087	0.31
J0927+3902	39 15 23.56644 * 39 02 20.85185	38 57 18.00743	0.16
0923+392	/home/guest/rmc/SCHED/sched11.5/catalogs/sources.gsfc		
J0927+39	GSFC 2016a X/S astro solution, 250526 observations.		
	Doppler based on other sources.		
1131+730	11 31 11.755699 * 11 34 11.407802	11 35 13.524234	2.12
* J1134+7249	73 05 54.76059 * 72 49 20.05280	72 42 57.07626	1.37
	/home/guest/rmc/SCHED/sched11.5/catalogs/sources.gsfc		
	GSFC 2016a X/S astro solution, 60 observations.		
	Doppler based on other sources.		

THE VARIABLE VLBI CORE OF NGC 4151

PI: *F. Panessa*

Address: INAF-IAPS

Observing mode: Phase-referencing of a source at 1.3cm (1024 Mb/s)

Schedule for TORUN (Code Tr)

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The variable VLBI core of NGC 4151

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

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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 7 Nov 2018 Day 311 ---											
Next scan frequencies:		22187.49	22187.49	22187.49	22187.49	22187.49	22187.49	22219.49	22219.49	22219.49	22219.49
		22251.49	22251.49	22251.49	22251.49	22251.49	22251.49	22283.49	22283.49	22283.49	22283.49
Next BBC frequencies:		687.49	687.49	687.49	687.49	687.49	687.49	719.49	719.49	719.49	719.49
		751.49	751.49	751.49	751.49	751.49	751.49	783.49	783.49	783.49	783.49
Next scan bandwidths:		16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00
		16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00

07 00 00	3C286	11 20 00	57.1	120.3	-2.2		-37.0	0	0	07 00 00	
07 02 00	---	11 22 01	57.3	120.9	-2.2		-36.7	120	15	07 00 01	
07 03 49	J1209+4119	11 23 50	75.8	141.9	-0.8		-29.5	26	15	07 03 49	
07 04 49	=1206+416	11 24 50	75.9	142.6	-0.8		-29.0	60	23	07 03 50	
07 05 36	NGC4151	11 25 37	74.1	145.8	-0.8		-25.9	26	23	07 05 36	
07 08 36	---	11 28 37	74.4	147.7	-0.7		-24.5	180	46	07 05 37	
07 09 21	J1209+4119	11 29 23	76.3	145.8	-0.7		-26.7	25	46	07 09 21	
07 10 21	=1206+416	11 30 23	76.4	146.5	-0.7		-26.2	60	54	07 09 22	
07 11 08	NGC4151	11 31 10	74.6	149.4	-0.7		-23.3	26	54	07 11 08	
07 14 08	---	11 34 11	74.8	151.4	-0.6		-21.8	180	77	07 11 09	
07 14 54	J1209+4119	11 34 57	76.7	149.8	-0.6		-23.7	25	77	07 14 54	
07 15 54	=1206+416	11 35 57	76.8	150.6	-0.6		-23.1	60	85	07 14 55	
07 16 41	NGC4151	11 36 44	75.0	153.2	-0.6		-20.5	27	85	07 16 41	
07 19 41	---	11 39 45	75.2	155.3	-0.5		-18.9	180	108	07 16 42	
07 20 27	J1209+4119	11 40 31	77.1	154.1	-0.5		-20.4	25	108	07 20 27	
07 21 27	=1206+416	11 41 31	77.2	154.9	-0.5		-19.8	60	115	07 20 28	
07 22 15	NGC4151	11 42 19	75.3	157.2	-0.5		-17.5	27	115	07 22 15	
07 25 15	---	11 45 19	75.5	159.4	-0.4		-15.8	180	138	07 22 16	
07 26 01	J1209+4119	11 46 05	77.4	158.6	-0.4		-16.9	25	138	07 26 01	
07 27 01	=1206+416	11 47 05	77.5	159.4	-0.4		-16.3	60	146	07 26 02	
07 27 48	NGC4151	11 47 53	75.6	161.3	-0.4		-14.4	27	146	07 27 48	
07 30 48	---	11 50 54	75.8	163.6	-0.3		-12.6	180	169	07 27 49	
07 31 34	J1209+4119	11 51 40	77.7	163.3	-0.3		-13.2	25	169	07 31 34	
07 32 34	=1206+416	11 52 40	77.8	164.2	-0.3		-12.6	60	177	07 31 35	

Schedule for TORUN (Code Tr)

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The variable VLBI core of NGC 4151

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Early: Seconds between end of slew and start. Dwell: On source seconds.

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TPStart: Recording start time. Frequencies are L0 sum (band edge).

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Start UT	Source	Start / Stop					Early	Disk	TPStart		
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC	

---	Wed 7 Nov 2018	Day 311					---				
07 33 22	NGC4151	11 53 28	75.9	165.6	-0.3		-11.1	27	177	07 33 22	
07 36 22	---	11 56 29	76.0	168.0	-0.2		-9.3	180	200	07 33 23	
07 37 08	J1209+4119	11 57 15	77.9	168.2	-0.2		-9.4	25	200	07 37 08	
07 38 08	=1206+416	11 58 15	78.0	169.1	-0.2		-8.7	60	208	07 37 09	
07 38 56	NGC4151	11 59 03	76.0	170.0	-0.2		-7.7	27	208	07 38 56	
07 41 56	---	12 02 03	76.1	172.4	-0.2		-5.9	180	231	07 38 57	
07 42 42	J1209+4119	12 02 49	78.1	173.2	-0.1		-5.4	24	231	07 42 42	
07 43 42	=1206+416	12 03 49	78.1	174.1	-0.1		-4.7	60	238	07 42 43	
07 44 29	NGC4151	12 04 37	76.2	174.5	-0.1		-4.3	27	238	07 44 29	
07 47 29	---	12 07 37	76.2	176.9	-0.1		-2.4	180	262	07 44 30	
07 48 14	J1209+4119	12 08 22	78.1	178.3	-0.0		-1.4	24	262	07 48 14	
07 49 14	=1206+416	12 09 23	78.1	179.2	-0.0		-0.7	60	269	07 48 15	
07 50 01	NGC4151	12 10 10	76.2	179.0	-0.0		-0.8	26	269	07 50 01	
07 53 01	---	12 13 11	76.2	181.4	0.0		1.1	180	292	07 50 02	
07 53 46	J1209+4119	12 13 55	78.1	183.3	0.1		2.6	23	292	07 53 46	
07 54 46	=1206+416	12 14 55	78.1	184.2	0.1		3.4	60	300	07 53 47	
07 55 32	NGC4151	12 15 42	76.2	183.4	0.1		2.7	26	300	07 55 32	
07 58 32	---	12 18 42	76.2	185.9	0.1		4.6	180	323	07 55 33	
07 59 15	J1209+4119	12 19 25	78.0	188.3	0.2		6.6	22	323	07 59 15	
08 00 15	=1206+416	12 20 25	78.0	189.2	0.2		7.3	60	331	07 59 16	
08 01 01	NGC4151	12 21 11	76.1	187.9	0.2		6.1	25	331	08 01 01	
08 04 01	---	12 24 12	76.0	190.3	0.2		7.9	180	354	08 01 02	
08 04 42	J1209+4119	12 24 53	77.9	193.2	0.2		10.5	21	354	08 04 42	
08 05 42	=1206+416	12 25 53	77.8	194.1	0.3		11.2	60	362	08 04 43	
08 06 26	NGC4151	12 26 37	76.0	192.2	0.3		9.4	23	362	08 06 26	
08 09 26	---	12 29 38	75.9	194.5	0.3		11.2	180	385	08 06 27	
08 10 05	J1209+4119	12 30 17	77.7	197.9	0.3		14.2	19	385	08 10 05	
08 11 05	=1206+416	12 31 17	77.6	198.7	0.3		14.8	60	392	08 10 06	
08 11 47	NGC4151	12 31 59	75.8	196.4	0.3		12.6	21	392	08 11 47	
08 14 47	---	12 35 00	75.6	198.6	0.4		14.4	180	415	08 11 48	
08 15 24	J1209+4119	12 35 36	77.4	202.3	0.4		17.6	15	415	08 15 24	
08 16 24	=1206+416	12 36 37	77.3	203.1	0.4		18.3	60	423	08 15 25	

Schedule for TORUN (Code Tr)

Page 4

The variable VLBI core of NGC 4151

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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 7 Nov 2018 Day 311 ---										
08 17 02	NGC4151	12 37 16	75.5	200.3	0.4		15.7	18	423	08 17 02
08 20 02	---	12 40 16	75.4	202.6	0.5		17.3	180	446	08 17 03
08 20 39	J1209+4119	12 40 53	77.1	206.5	0.5		20.9	14	446	08 20 39
08 21 39	=1206+416	12 41 53	77.0	207.3	0.5		21.5	60	454	08 20 40
08 22 16	NGC4151	12 42 30	75.2	204.2	0.5		18.5	15	454	08 22 16
08 25 16	---	12 45 30	75.0	206.3	0.6		20.1	180	477	08 22 17
08 27 22	3C286	12 47 37	65.9	156.0	-0.7		-16.4	11	477	08 27 22
08 29 22	---	12 49 37	66.0	157.0	-0.7		-15.8	120	492	08 27 23
08 33 14	J1209+4119	12 53 30	76.1	215.9	0.7		27.9	101	492	08 33 14
08 34 14	=1206+416	12 54 30	76.0	216.5	0.7		28.4	60	500	08 33 15
08 34 51	NGC4151	12 55 07	74.3	212.8	0.7		24.9	14	500	08 34 51
08 37 51	---	12 58 07	74.1	214.7	0.8		26.2	180	523	08 34 52
08 38 27	J1209+4119	12 58 44	75.6	219.4	0.8		30.4	13	523	08 38 27
08 39 27	=1206+416	12 59 44	75.5	220.0	0.8		30.9	60	531	08 38 28
08 40 04	NGC4151	13 00 21	73.9	216.1	0.8		27.2	14	531	08 40 04
08 43 04	---	13 03 21	73.6	218.0	0.9		28.5	180	554	08 40 05
08 43 44	J1209+4119	13 04 02	75.1	222.7	0.9		32.8	16	554	08 43 44
08 44 44	=1206+416	13 05 02	75.0	223.3	0.9		33.2	60	562	08 43 45
08 45 22	NGC4151	13 05 39	73.4	219.3	0.9		29.5	14	562	08 45 22
08 48 22	---	13 08 40	73.1	221.1	1.0		30.7	180	585	08 45 23
08 49 06	J1209+4119	13 09 24	74.5	225.9	1.0		35.0	20	585	08 49 06
08 50 06	=1206+416	13 10 24	74.4	226.5	1.0		35.4	60	592	08 49 07
08 50 47	NGC4151	13 11 05	72.8	222.5	1.0		31.6	18	592	08 50 47
08 53 47	---	13 14 06	72.5	224.1	1.0		32.7	180	615	08 50 48
08 54 34	J1209+4119	13 14 53	73.9	229.0	1.1		37.0	23	615	08 54 34
08 55 34	=1206+416	13 15 53	73.8	229.5	1.1		37.4	60	623	08 54 35
08 56 18	NGC4151	13 16 37	72.3	225.5	1.1		33.6	20	623	08 56 18
08 59 18	---	13 19 38	71.9	227.0	1.1		34.6	180	646	08 56 19
09 00 07	J1209+4119	13 20 27	73.3	231.9	1.2		38.9	25	646	09 00 07
09 01 07	=1206+416	13 21 27	73.1	232.4	1.2		39.2	60	654	09 00 08

Schedule for TORUN (Code Tr)

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The variable VLBI core of NGC 4151

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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 7 Nov 2018 Day 311 ---										
09 01 57	NGC4151	13 22 17	71.6	228.4	1.2		35.5	27	654	09 01 57
09 04 57	---	13 25 18	71.3	229.9	1.2		36.4	180	677	09 01 58
09 05 57	J1209+4119	13 26 18	72.6	234.8	1.3		40.7	36	677	09 05 57
09 06 57	=1206+416	13 27 18	72.4	235.2	1.3		41.0	60	685	09 05 58
09 07 45	NGC4151	13 28 06	71.0	231.2	1.3		37.2	24	685	09 07 45
09 10 45	---	13 31 06	70.6	232.6	1.3		38.1	180	708	09 07 46
09 11 36	J1209+4119	13 31 58	71.8	237.4	1.4		42.3	28	708	09 11 36
09 12 36	=1206+416	13 32 58	71.7	237.8	1.4		42.5	60	715	09 11 37
09 13 25	NGC4151	13 33 48	70.3	233.8	1.4		38.8	26	715	09 13 25
09 16 25	---	13 36 48	69.9	235.2	1.4		39.6	180	738	09 13 26
09 17 18	J1209+4119	13 37 40	71.1	239.9	1.5		43.7	28	738	09 17 18
09 18 18	=1206+416	13 38 41	71.0	240.3	1.5		43.9	60	746	09 17 19
09 19 07	NGC4151	13 39 30	69.6	236.3	1.5		40.2	26	746	09 19 07
09 22 07	---	13 42 31	69.2	237.6	1.5		40.9	180	769	09 19 08
09 23 00	J1209+4119	13 43 24	70.4	242.2	1.6		44.9	29	769	09 23 00
09 24 00	=1206+416	13 44 24	70.2	242.6	1.6		45.1	60	777	09 23 01
09 24 50	NGC4151	13 45 14	68.9	238.7	1.6		41.5	27	777	09 24 50
09 27 50	---	13 48 15	68.5	239.9	1.6		42.2	180	800	09 24 51
09 28 54	J1209+4119	13 49 19	69.6	244.5	1.7		46.1	41	800	09 28 54
09 29 54	=1206+416	13 50 19	69.4	244.8	1.7		46.3	60	808	09 28 55
09 30 51	NGC4151	13 51 16	68.1	241.0	1.7		42.8	34	808	09 30 51
09 33 51	---	13 54 16	67.7	242.2	1.7		43.3	180	831	09 30 52
09 34 43	J1209+4119	13 55 09	68.8	246.6	1.7		47.1	29	831	09 34 43
09 35 43	=1206+416	13 56 09	68.6	246.9	1.8		47.3	60	838	09 34 44
09 36 33	NGC4151	13 56 59	67.3	243.2	1.8		43.8	27	838	09 36 33
09 39 33	---	14 00 00	66.9	244.2	1.8		44.3	180	862	09 36 34
09 40 26	J1209+4119	14 00 52	68.0	248.6	1.8		48.0	29	862	09 40 26
09 41 26	=1206+416	14 01 52	67.8	248.9	1.9		48.1	60	869	09 40 27
09 42 16	NGC4151	14 02 43	66.6	245.2	1.9		44.8	27	869	09 42 16
09 45 16	---	14 05 43	66.1	246.2	1.9		45.2	180	892	09 42 17

Schedule for TORUN (Code Tr)

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The variable VLBI core of NGC 4151

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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   7 Nov 2018   Day 311 ---

09 46 08  J1209+4119   14 06 35  67.2 250.4  1.9      48.8   29     892   09 46 08
09 47 08  =1206+416   14 07 35  67.0 250.7  2.0      48.9   60     900   09 46 09

09 47 57  NGC4151       14 08 25  65.8 247.1  1.9      45.6   27     900   09 47 57
09 49 10  ---           14 09 39  65.6 247.5  2.0      45.8   73     909   09 47 58

09 50 02  J1209+4119   14 10 30  66.6 251.7  2.0      49.3   29     909   09 50 02
09 51 02  =1206+416   14 11 30  66.5 252.0  2.0      49.4   60     917   09 50 03

09 58 00  3C286        14 18 29  65.8 205.1  0.8      17.2  304     917   09 58 00
10 00 00  ---           14 20 30  65.7 206.1  0.8      17.8  120     932   09 58 01

```

SETUP FILE INFORMATION:

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

==== Setup file: sess318.K1024

```

Setup group:   10          Station: TORUN          Total bit rate: 1024
Format: MARK5B          Bits per sample: 2      Sample rate: 32.000
Number of channels: 16   DBE type: DBBC_DDC   Speedup factor: 1.00

```

Disk used to record data.

1st LO=	21500.00	21500.00	21500.00	21500.00	21500.00	21500.00	21500.00	21500.00	21500.00
	21500.00	21500.00	21500.00	21500.00	21500.00	21500.00	21500.00	21500.00	21500.00
Net SB=	L	L	U	U	L	L	U	U	U
	L	L	U	U	L	L	U	U	U
IF SB =	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	LCP
	RCP	LCP	RCP	LCP	RCP	LCP	RCP	LCP	LCP
BBC =	1	5	1	5	2	6	2	6	6
	3	7	3	7	4	8	4	8	8
BBC SB=	L	L	U	U	L	L	U	U	U
	L	L	U	U	L	L	U	U	U
IF =	A1	B1	A1	B1	A1	B1	A1	B1	B1
	A1	B1	A1	B1	A1	B1	A1	B1	B1

The following frequency sets based on these setups were used.

Frequency Set: 8 Setup file default. Used with PCAL = off

LO sum=	22187.49	22187.49	22187.49	22187.49	22219.49	22219.49	22219.49	22219.49
	22251.49	22251.49	22251.49	22251.49	22283.49	22283.49	22283.49	22283.49
BBC fr=	687.49	687.49	687.49	687.49	719.49	719.49	719.49	719.49
	751.49	751.49	751.49	751.49	783.49	783.49	783.49	783.49
Bandwd=	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00
	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00

Matching frequency sets: 8

Track assignments are:

track1= 18, 26, 2, 10, 20, 28, 4, 12, 22, 30, 6, 14, 24, 32, 8, 16

barrel=roll_off

POSITIONS OF SOURCES USED IN RECORDING SCANS

Source	Source position (RA/Dec) (B1950)	(J2000)	(Date)	Error (mas)
* NGC4151	12 08 01.055801	* 12 10 32.583400	12 11 27.093464	0.00
	39 41 02.10308	* 39 24 21.03100	39 18 06.07593	0.00
1206+416	12 06 51.117947	* 12 09 22.788006	12 10 17.293473	0.17
* J1209+4119	41 36 22.62761	* 41 19 41.37011	41 13 25.77323	0.16
	/home/guest/rmc/SCHED/sched11.5/catalogs/sources.gsfc			
	GSFC 2016a X/S astro solution, 150 observations.			
* 3C286	13 28 49.657769	* 13 31 08.288061	13 31 58.011500	0.17
J1331+3030	30 45 58.64066	* 30 30 32.95930	30 24 53.55359	0.16
1328+307	/home/guest/rmc/SCHED/sched11.5/catalogs/sources.gsfc			
J1331+30	GSFC 2016a X/S astro solution, 269 observations.			

DOES CYGNUS A HARBOR A BINARY BLACK HOLE?

PI: Uwe Bach

Address: Max-Planck-Institut fuer Radioastronomie

Observing mode:

Schedule for TORUN (Code Tr)

Page 2

Does Cygnus A harbor a binary black hole?

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes 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 7 Nov 2018 Day 311 ---											
Next scan frequencies:		22187.49	22187.49	22187.49	22187.49	22187.49	22187.49	22219.49	22219.49	22219.49	22219.49
		22251.49	22251.49	22251.49	22251.49	22251.49	22251.49	22283.49	22283.49	22283.49	22283.49
Next BBC frequencies:		687.49	687.49	687.49	687.49	687.49	687.49	719.49	719.49	719.49	719.49
		751.49	751.49	751.49	751.49	751.49	751.49	783.49	783.49	783.49	783.49
Next scan bandwidths:		16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00
		16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00

12 00 00	CYG-A	16 20 50	51.7	86.0	-3.7		-52.3	0	0	12 00 00	
12 10 00	---	16 30 51	53.2	87.9	-3.5		-52.4	600	77	12 00 01	

12 10 30	CYG-A	16 31 21	53.2	88.0	-3.5		-52.4	24	77	12 10 30	
12 20 30	---	16 41 23	54.7	89.9	-3.3		-52.5	600	154	12 10 31	

12 21 30	2013+370	16 42 23	50.2	91.4	-3.6		-48.9	29	154	12 21 30	
12 26 30	---	16 47 24	51.0	92.4	-3.5		-48.9	300	192	12 21 31	

12 27 30	CYG-A	16 48 24	55.8	91.4	-3.2		-52.5	28	192	12 27 30	
12 37 30	---	16 58 26	57.3	93.5	-3.0		-52.3	600	269	12 27 31	

12 38 00	CYG-A	16 58 56	57.4	93.6	-3.0		-52.3	24	269	12 38 00	
12 48 00	---	17 08 58	58.9	95.8	-2.9		-52.1	600	346	12 38 01	

12 48 30	CYG-A	17 09 28	59.0	95.9	-2.8		-52.1	24	346	12 48 30	
12 58 30	---	17 19 29	60.4	98.2	-2.7		-51.7	600	423	12 48 31	

12 59 00	CYG-A	17 19 59	60.5	98.3	-2.7		-51.7	24	423	12 59 00	
13 09 00	---	17 30 01	62.0	100.8	-2.5		-51.2	600	500	12 59 01	

13 09 30	CYG-A	17 30 31	62.1	100.9	-2.5		-51.2	24	500	13 09 30	
13 19 30	---	17 40 33	63.5	103.5	-2.3		-50.5	600	577	13 09 31	

13 20 00	CYG-A	17 41 03	63.6	103.7	-2.3		-50.4	24	577	13 20 00	
13 30 00	---	17 51 04	65.1	106.5	-2.2		-49.5	600	654	13 20 01	

----- 5-min gap for pointing -----											

13 36 00	2013+370	17 57 05	61.2	109.4	-2.3		-45.4	329	654	13 36 00	
13 41 00	---	18 02 06	61.9	110.8	-2.2		-44.8	300	692	13 36 01	

13 42 45	CYG-A	18 03 52	66.9	110.4	-1.9		-48.0	73	692	13 42 45	
13 52 45	---	18 13 53	68.3	113.8	-1.8		-46.5	600	769	13 42 46	

Schedule for TORUN (Code Tr)

Page 3

Does Cygnus A harbor a binary black hole?

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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 7 Nov 2018	Day 311					---				
13 53 15	CYG-A	18 14 23	68.4	114.0	-1.8		-46.4	24	769	13 53 15	
14 03 15	---	18 24 25	69.7	117.7	-1.6		-44.6	600	846	13 53 16	
14 03 45	CYG-A	18 24 55	69.8	117.9	-1.6		-44.5	24	846	14 03 45	
14 13 45	---	18 34 57	71.1	122.0	-1.4		-42.3	600	923	14 03 46	
14 14 15	CYG-A	18 35 27	71.1	122.2	-1.4		-42.1	23	923	14 14 15	
14 24 15	---	18 45 28	72.4	126.8	-1.2		-39.4	600	1000	14 14 16	
14 24 45	CYG-A	18 45 58	72.4	127.1	-1.2		-39.3	23	1000	14 24 45	
14 34 45	---	18 56 00	73.6	132.2	-1.1		-36.0	600	1077	14 24 46	
14 35 15	CYG-A	18 56 30	73.7	132.5	-1.1		-35.8	23	1077	14 35 15	
14 45 15	---	19 06 32	74.7	138.3	-0.9		-31.9	600	1154	14 35 16	
14 45 45	CYG-A	19 07 02	74.8	138.6	-0.9		-31.7	23	1154	14 45 45	
14 55 45	---	19 17 04	75.7	145.1	-0.7		-27.0	600	1231	14 45 46	

----- 5-min gap for pointing -----											
15 02 45	BLLAC	19 24 05	61.6	95.9	-2.7		-54.0	304	1231	15 02 45	
15 07 45	---	19 29 05	62.3	97.0	-2.6		-53.8	300	1269	15 02 46	
15 11 00	CYG-A	19 32 21	76.8	156.3	-0.5		-18.6	63	1269	15 11 00	
15 21 00	---	19 42 22	77.3	164.5	-0.3		-12.2	600	1346	15 11 01	
15 21 30	CYG-A	19 42 52	77.4	164.9	-0.3		-11.9	22	1346	15 21 30	
15 31 30	---	19 52 54	77.6	173.6	-0.1		-5.1	600	1423	15 21 31	
15 32 00	CYG-A	19 53 24	77.6	174.1	-0.1		-4.7	22	1423	15 32 00	
15 42 00	---	20 03 26	77.7	182.9	0.1		2.3	600	1500	15 32 01	
15 42 30	CYG-A	20 03 56	77.7	183.4	0.1		2.7	22	1500	15 42 30	
15 52 30	---	20 13 57	77.5	192.2	0.2		9.6	600	1577	15 42 31	
15 53 00	CYG-A	20 14 28	77.5	192.6	0.2		10.0	22	1577	15 53 00	
16 03 00	---	20 24 29	77.0	201.0	0.4		16.5	600	1654	15 53 01	
16 03 30	CYG-A	20 24 59	77.0	201.4	0.4		16.8	23	1654	16 03 30	
16 13 30	---	20 35 01	76.4	209.1	0.6		22.7	600	1731	16 03 31	
16 14 00	CYG-A	20 35 31	76.3	209.5	0.6		23.0	23	1731	16 14 00	
16 24 00	---	20 45 33	75.5	216.5	0.8		28.2	600	1808	16 14 01	

----- 5-min gap for pointing -----											
16 33 40	BLLAC	20 55 14	74.4	126.4	-1.1		-40.8	378	1808	16 33 40	
16 38 40	---	21 00 15	75.0	129.1	-1.1		-39.1	300	1846	16 33 41	

Schedule for TORUN (Code Tr)

Page 4

Does Cygnus A harbor a binary black hole?

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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 7 Nov 2018 Day 311 ---										
16 43 10	CYG-A	21 04 46	73.5	228.1	1.1		36.2	59	1846	16 43 10
16 53 10	---	21 14 48	72.4	233.2	1.2		39.4	600	1923	16 43 11
16 53 40	CYG-A	21 15 18	72.3	233.5	1.3		39.6	23	1923	16 53 40
17 03 10	---	21 24 49	71.1	237.8	1.4		42.2	570	1996	16 53 41
17 03 40	CYG-A	21 25 19	71.1	238.0	1.4		42.3	23	1996	17 03 40
17 13 10	---	21 34 51	69.8	241.9	1.6		44.4	570	2069	17 03 41
17 13 40	CYG-A	21 35 21	69.8	242.1	1.6		44.5	24	2069	17 13 40
17 23 10	---	21 44 53	68.5	245.7	1.7		46.3	570	2142	17 13 41
17 23 40	CYG-A	21 45 23	68.4	245.9	1.8		46.4	24	2142	17 23 40
17 33 10	---	21 54 54	67.1	249.1	1.9		47.8	570	2215	17 23 41
17 33 40	CYG-A	21 55 24	67.0	249.3	1.9		47.9	24	2215	17 33 40
17 43 10	---	22 04 56	65.7	252.3	2.1		49.1	570	2288	17 33 41
17 43 40	CYG-A	22 05 26	65.6	252.4	2.1		49.1	24	2288	17 43 40
17 53 10	---	22 14 58	64.2	255.2	2.2		50.1	570	2362	17 43 41
17 55 00	2013+370	22 16 48	63.8	244.9	2.0		43.1	74	2362	17 55 00
18 00 00	---	22 21 49	63.1	246.6	2.1		43.8	300	2400	17 55 01

```
-----
```

SETUP FILE INFORMATION:

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

==== Setup file: sess318.K1024

```

Setup group: 11          Station: TORUN          Total bit rate: 1024
Format: MARK5B         Bits per sample: 2       Sample rate: 32.000
Number of channels: 16  DBE type: DBBC_DDC      Speedup factor: 1.00
    
```

Disk used to record data.

1st LO=	21500.00	21500.00	21500.00	21500.00	21500.00	21500.00	21500.00	21500.00	21500.00
	21500.00	21500.00	21500.00	21500.00	21500.00	21500.00	21500.00	21500.00	21500.00
Net SB=	L	L	U	U	L	L	U	U	U
	L	L	U	U	L	L	U	U	U
IF SB =	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	LCP
	RCP	LCP	RCP	LCP	RCP	LCP	RCP	LCP	LCP
BBC =	1	5	1	5	2	6	2	6	6
	3	7	3	7	4	8	4	8	8
BBC SB=	L	L	U	U	L	L	U	U	U
	L	L	U	U	L	L	U	U	U
IF =	A1	B1	A1	B1	A1	B1	A1	B1	B1
	A1	B1	A1	B1	A1	B1	A1	B1	B1

The following frequency sets based on these setups were used.

Frequency Set:	8	Setup file default.	Used with PCAL = off					
LO sum=	22187.49	22187.49	22187.49	22187.49	22219.49	22219.49	22219.49	22219.49
	22251.49	22251.49	22251.49	22251.49	22283.49	22283.49	22283.49	22283.49
BBC fr=	687.49	687.49	687.49	687.49	719.49	719.49	719.49	719.49
	751.49	751.49	751.49	751.49	783.49	783.49	783.49	783.49
Bandwd=	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00
	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00
Matching frequency sets:	8							

Track assignments are:

track1= 18, 26, 2, 10, 20, 28, 4, 12, 22, 30, 6, 14, 24, 32, 8, 16
 barrel=roll_off

POSITIONS OF SOURCES USED IN RECORDING SCANS

Source	Source position (RA/Dec)	Error
	(B1950) (J2000) (Date)	(mas)
CYGNUS-A	19 57 44.440790 * 19 59 28.356468 20 00 06.403562	0.80
J1959+4044	40 35 46.36227 * 40 44 02.09608 40 47 28.04324	0.53
* CYG-A	/home/guest/rmc/SCHED/sched11.5/catalogs/sources.gsfc	
J1959+40	GSFC 2016a X/S astro solution, 27 observations.	
1957+405		
1957+404		
1957+40		
* 2013+370	20 13 37.014517 * 20 15 28.729803 20 16 09.808313	0.09
J2015+3710	37 01 44.45878 * 37 10 59.51466 37 14 46.86455	0.12
	/home/guest/rmc/SCHED/sched11.5/catalogs/sources.gsfc	
	GSFC 2016a X/S astro solution, 131 observations.	
VR422201	22 00 39.362504 * 22 02 43.291371 22 03 29.868689	0.01
J2202+4216	42 02 08.59075 * 42 16 39.97988 42 22 23.44095	0.00
* BLLAC	/home/guest/rmc/SCHED/sched11.5/catalogs/sources.gsfc	
2200+420	GSFC 2016a X/S astro solution, 52189 observations.	
J2202+42		

H2O MEGAMASER VLBI: A POWERFUL TOOL TO STUDY EJECTION AND ACCRETION
 PI: A. Tarchi

Address: INAF - Osservatorio Astronomico di Cagliari

Observing mode: Observations of NGC3735 at 22 GHz (1024 Mb/s)

Schedule for TORUN (Code Tr) Page 2

H2O megamaser VLBI: a powerful tool to study ejection and accretion

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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 8 Nov 2018 Day 312 ---											
Next scan frequencies:		22046.00	22046.00	22046.00	22046.00	22046.00	22046.00	22078.00	22078.00	22078.00	22078.00
		22110.00	22110.00	22110.00	22110.00	22110.00	22110.00	22142.00	22142.00	22142.00	22142.00
Next BBC frequencies:		546.00	546.00	546.00	546.00	546.00	546.00	578.00	578.00	578.00	578.00
		610.00	610.00	610.00	610.00	610.00	610.00	642.00	642.00	642.00	642.00
Next scan bandwidths:		16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00
		16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00

00 00 00	DA193	04 22 48	69.2	120.3	-1.6		-42.5	0	0	00 00 00	
00 05 00	---	04 27 49	69.9	122.3	-1.5		-41.4	300	38	00 00 01	
00 09 20	J1134+7249	04 32 09	45.6	24.1	-7.1		-55.8	49	38	00 09 20	
00 10 20	=1131+730	04 33 10	45.7	24.2	-7.0		-56.0	60	46	00 09 21	
00 10 20	NGC3735	04 33 10	44.3	26.7	-7.1		-53.7	-19	46	No stop	
00 11 10	---	04 34 00	44.3	26.8	-7.0		-53.9	31	53	00 10 21	
00 11 50	J1134+7249	04 34 40	45.8	24.3	-7.0		-56.2	21	53	00 11 50	
00 12 40	=1131+730	04 35 30	45.9	24.3	-7.0		-56.4	50	59	00 11 51	
00 12 40	NGC3735	04 35 30	44.4	26.9	-7.0		-54.2	-19	59	No stop	
00 13 30	---	04 36 20	44.5	27.0	-7.0		-54.3	31	65	00 12 41	
00 13 30	J1134+7249	04 36 20	45.9	24.4	-7.0		-56.6	-19	65	No stop	
00 14 20	=1131+730	04 37 10	46.0	24.4	-7.0		-56.7	31	72	00 13 31	
00 14 20	NGC3735	04 37 10	44.6	27.0	-7.0		-54.5	-19	72	No stop	
00 15 10	---	04 38 00	44.6	27.1	-7.0		-54.7	31	78	00 14 21	
00 15 10	J1134+7249	04 38 00	46.0	24.5	-7.0		-56.9	-19	78	No stop	
00 16 00	=1131+730	04 38 51	46.1	24.5	-6.9		-57.1	31	85	00 15 11	
00 16 00	NGC3735	04 38 51	44.7	27.1	-7.0		-54.8	-19	85	No stop	
00 16 50	---	04 39 41	44.7	27.2	-7.0		-55.0	31	91	00 16 01	
00 16 50	J1134+7249	04 39 41	46.1	24.6	-6.9		-57.2	-19	91	No stop	
00 17 40	=1131+730	04 40 31	46.2	24.6	-6.9		-57.4	31	97	00 16 51	
00 17 40	NGC3735	04 40 31	44.8	27.2	-6.9		-55.1	-19	97	No stop	
00 18 30	---	04 41 21	44.8	27.3	-6.9		-55.3	31	104	00 17 41	
00 18 30	J1134+7249	04 41 21	46.2	24.7	-6.9		-57.6	-19	104	No stop	
00 19 20	=1131+730	04 42 11	46.3	24.7	-6.9		-57.7	31	110	00 18 31	

Schedule for TORUN (Code Tr)

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H2O megamaser VLBI: a powerful tool to study ejection and accretion

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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 8 Nov 2018	Day 312					---				
00 19 20	NGC3735	04 42 11	44.9	27.3	-6.9		-55.4	-20	110	No stop	
00 20 10	---	04 43 01	45.0	27.4	-6.9		-55.6	30	117	00 19 21	
00 20 10	J1134+7249	04 43 01	46.3	24.8	-6.9		-57.9	-19	117	No stop	
00 21 00	=1131+730	04 43 51	46.4	24.8	-6.9		-58.1	31	123	00 20 11	
00 21 00	NGC3735	04 43 51	45.0	27.5	-6.9		-55.8	-20	123	No stop	
00 21 50	---	04 44 41	45.1	27.5	-6.9		-55.9	30	129	00 21 01	
00 21 50	J1134+7249	04 44 41	46.4	24.9	-6.8		-58.2	-20	129	No stop	
00 22 40	=1131+730	04 45 32	46.5	24.9	-6.8		-58.4	30	136	00 21 51	
00 22 40	NGC3735	04 45 32	45.1	27.6	-6.9		-56.1	-20	136	No stop	
00 23 30	---	04 46 22	45.2	27.6	-6.8		-56.2	30	142	00 22 41	
00 23 30	J1134+7249	04 46 22	46.5	25.0	-6.8		-58.6	-20	142	No stop	
00 24 20	=1131+730	04 47 12	46.6	25.0	-6.8		-58.7	30	149	00 23 31	
00 24 20	NGC3735	04 47 12	45.2	27.7	-6.8		-56.4	-20	149	No stop	
00 25 10	---	04 48 02	45.3	27.7	-6.8		-56.5	30	155	00 24 21	
00 25 50	J1134+7249	04 48 42	46.7	25.1	-6.8		-59.0	20	155	00 25 50	
00 26 40	=1131+730	04 49 32	46.7	25.1	-6.8		-59.2	50	162	00 25 51	
00 26 40	NGC3735	04 49 32	45.4	27.8	-6.8		-56.8	-20	162	No stop	
00 27 30	---	04 50 22	45.5	27.9	-6.8		-57.0	30	168	00 26 41	
00 27 30	J1134+7249	04 50 22	46.8	25.2	-6.7		-59.3	-20	168	No stop	
00 28 20	=1131+730	04 51 13	46.8	25.2	-6.7		-59.5	30	174	00 27 31	
00 28 20	NGC3735	04 51 13	45.5	27.9	-6.8		-57.1	-20	174	No stop	
00 29 10	---	04 52 03	45.6	28.0	-6.7		-57.3	30	181	00 28 21	
00 29 10	J1134+7249	04 52 03	46.9	25.3	-6.7		-59.7	-20	181	No stop	
00 30 00	=1131+730	04 52 53	46.9	25.3	-6.7		-59.8	30	187	00 29 11	
00 30 00	NGC3735	04 52 53	45.6	28.1	-6.7		-57.5	-20	187	No stop	
00 30 50	---	04 53 43	45.7	28.1	-6.7		-57.6	30	194	00 30 01	
00 30 50	J1134+7249	04 53 43	47.0	25.4	-6.7		-60.0	-20	194	No stop	
00 31 40	=1131+730	04 54 33	47.1	25.4	-6.7		-60.2	30	200	00 30 51	
00 31 40	NGC3735	04 54 33	45.8	28.2	-6.7		-57.8	-20	200	No stop	
00 32 30	---	04 55 23	45.8	28.2	-6.7		-57.9	30	206	00 31 41	
00 32 30	J1134+7249	04 55 23	47.1	25.5	-6.7		-60.3	-20	206	No stop	
00 33 20	=1131+730	04 56 13	47.2	25.5	-6.7		-60.5	30	213	00 32 31	

Schedule for TORUN (Code Tr)

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Start UT	Source	Start / Stop					Early	Disk	TPStart	
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC

---	Thu	8 Nov 2018	Day 312	---						
00 33 20	NGC3735	04 56 13	45.9	28.3	-6.7		-58.1	-20	213	No stop
00 34 10	---	04 57 04	45.9	28.3	-6.7		-58.3	30	219	00 33 21
00 34 10	J1134+7249	04 57 04	47.2	25.6	-6.6		-60.7	-20	219	No stop
00 35 00	=1131+730	04 57 54	47.3	25.6	-6.6		-60.8	30	226	00 34 11
00 35 00	NGC3735	04 57 54	46.0	28.4	-6.7		-58.4	-20	226	No stop
00 35 50	---	04 58 44	46.1	28.4	-6.6		-58.6	30	232	00 35 01
00 35 50	J1134+7249	04 58 44	47.3	25.6	-6.6		-61.0	-20	232	No stop
00 36 40	=1131+730	04 59 34	47.4	25.7	-6.6		-61.2	30	238	00 35 51
00 36 40	NGC3735	04 59 34	46.1	28.5	-6.6		-58.7	-20	238	No stop
00 37 30	---	05 00 24	46.2	28.5	-6.6		-58.9	30	245	00 36 41
00 37 30	J1134+7249	05 00 24	47.4	25.7	-6.6		-61.3	-20	245	No stop
00 38 20	=1131+730	05 01 14	47.5	25.8	-6.6		-61.5	30	251	00 37 31
00 38 20	NGC3735	05 01 14	46.2	28.6	-6.6		-59.1	-20	251	No stop
00 39 10	---	05 02 04	46.3	28.6	-6.6		-59.2	30	258	00 38 21
00 39 50	J1134+7249	05 02 44	47.6	25.9	-6.5		-61.8	20	258	00 39 50
00 40 40	=1131+730	05 03 35	47.6	25.9	-6.5		-62.0	50	264	00 39 51
00 40 40	NGC3735	05 03 35	46.4	28.7	-6.6		-59.5	-20	264	No stop
00 41 30	---	05 04 25	46.5	28.8	-6.5		-59.7	30	271	00 40 41
00 41 30	J1134+7249	05 04 25	47.7	25.9	-6.5		-62.1	-20	271	No stop
00 42 20	=1131+730	05 05 15	47.8	26.0	-6.5		-62.3	30	277	00 41 31
00 42 20	NGC3735	05 05 15	46.5	28.8	-6.5		-59.8	-20	277	No stop
00 43 10	---	05 06 05	46.6	28.9	-6.5		-60.0	30	283	00 42 21
00 43 10	J1134+7249	05 06 05	47.8	26.0	-6.5		-62.5	-20	283	No stop
00 44 00	=1131+730	05 06 55	47.9	26.1	-6.5		-62.7	30	290	00 43 11
00 44 00	NGC3735	05 06 55	46.6	28.9	-6.5		-60.1	-20	290	No stop
00 44 50	---	05 07 45	46.7	29.0	-6.5		-60.3	30	296	00 44 01
00 44 50	J1134+7249	05 07 45	47.9	26.1	-6.5		-62.8	-20	296	No stop
00 45 40	=1131+730	05 08 35	48.0	26.2	-6.4		-63.0	30	303	00 44 51
00 45 40	NGC3735	05 08 35	46.8	29.0	-6.5		-60.5	-20	303	No stop
00 46 30	---	05 09 26	46.8	29.1	-6.5		-60.6	30	309	00 45 41

Schedule for TORUN (Code Tr)

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Start UT	Source	Start / Stop					Early	Disk	TPStart	
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC

---	Thu	8 Nov 2018	Day	312	---					
00 46 30	J1134+7249	05 09 26	48.0	26.2	-6.4		-63.2	-20	309	No stop
00 47 20	=1131+730	05 10 16	48.1	26.2	-6.4		-63.3	30	315	00 46 31
00 47 20	NGC3735	05 10 16	46.9	29.1	-6.4		-60.8	-20	315	No stop
00 48 10	---	05 11 06	47.0	29.2	-6.4		-60.9	30	322	00 47 21
00 48 10	J1134+7249	05 11 06	48.1	26.3	-6.4		-63.5	-20	322	No stop
00 49 00	=1131+730	05 11 56	48.2	26.3	-6.4		-63.7	30	328	00 48 11
00 49 00	NGC3735	05 11 56	47.0	29.2	-6.4		-61.1	-20	328	No stop
00 49 50	---	05 12 46	47.1	29.3	-6.4		-61.3	30	335	00 49 01
00 49 50	J1134+7249	05 12 46	48.3	26.4	-6.4		-63.8	-20	335	No stop
00 50 40	=1131+730	05 13 36	48.3	26.4	-6.4		-64.0	30	341	00 49 51
00 50 40	NGC3735	05 13 36	47.1	29.3	-6.4		-61.4	-20	341	No stop
00 51 30	---	05 14 26	47.2	29.4	-6.4		-61.6	30	347	00 50 41
00 51 30	J1134+7249	05 14 26	48.4	26.4	-6.3		-64.2	-20	347	No stop
00 52 20	=1131+730	05 15 17	48.4	26.5	-6.3		-64.3	30	354	00 51 31
00 52 20	NGC3735	05 15 17	47.3	29.4	-6.4		-61.7	-20	354	No stop
00 53 10	---	05 16 07	47.3	29.5	-6.3		-61.9	30	360	00 52 21
00 53 50	J1134+7249	05 16 47	48.5	26.6	-6.3		-64.6	20	360	00 53 50
00 54 40	=1131+730	05 17 37	48.6	26.6	-6.3		-64.8	50	367	00 53 51
00 54 40	NGC3735	05 17 37	47.4	29.6	-6.3		-62.2	-20	367	No stop
00 55 30	---	05 18 27	47.5	29.6	-6.3		-62.4	30	373	00 54 41
00 55 30	J1134+7249	05 18 27	48.6	26.6	-6.3		-65.0	-20	373	No stop
00 56 20	=1131+730	05 19 17	48.7	26.7	-6.3		-65.1	30	379	00 55 31
00 56 20	NGC3735	05 19 17	47.6	29.7	-6.3		-62.5	-20	379	No stop
00 57 10	---	05 20 07	47.6	29.7	-6.3		-62.7	30	386	00 56 21
00 57 10	J1134+7249	05 20 07	48.7	26.7	-6.3		-65.3	-20	386	No stop
00 58 00	=1131+730	05 20 57	48.8	26.8	-6.2		-65.5	30	392	00 57 11
00 58 00	NGC3735	05 20 57	47.7	29.8	-6.3		-62.8	-21	392	No stop
00 58 50	---	05 21 48	47.7	29.8	-6.3		-63.0	29	399	00 58 01
00 58 50	J1134+7249	05 21 48	48.9	26.8	-6.2		-65.7	-20	399	No stop
00 59 40	=1131+730	05 22 38	48.9	26.8	-6.2		-65.8	30	405	00 58 51

Schedule for TORUN (Code Tr)

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Start UT	Source	Start / Stop					Early	Disk	TPStart	
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC

---	Thu	8 Nov 2018	Day 312	---						
00 59 40	NGC3735	05 22 38	47.8	29.9	-6.2		-63.2	-21	405	No stop
01 00 30	---	05 23 28	47.9	29.9	-6.2		-63.3	29	412	00 59 41
01 00 30	J1134+7249	05 23 28	49.0	26.9	-6.2		-66.0	-21	412	No stop
01 01 20	=1131+730	05 24 18	49.0	26.9	-6.2		-66.2	29	418	01 00 31
01 01 20	NGC3735	05 24 18	47.9	29.9	-6.2		-63.5	-21	418	No stop
01 02 10	---	05 25 08	48.0	30.0	-6.2		-63.6	29	424	01 01 21
01 02 10	J1134+7249	05 25 08	49.1	26.9	-6.2		-66.3	-21	424	No stop
01 03 00	=1131+730	05 25 58	49.1	27.0	-6.2		-66.5	29	431	01 02 11
01 03 00	NGC3735	05 25 58	48.1	30.0	-6.2		-63.8	-21	431	No stop
01 03 50	---	05 26 48	48.1	30.1	-6.2		-64.0	29	437	01 03 01
01 03 50	J1134+7249	05 26 48	49.2	27.0	-6.1		-66.7	-21	437	No stop
01 04 40	=1131+730	05 27 39	49.3	27.1	-6.1		-66.9	29	444	01 03 51
01 04 40	NGC3735	05 27 39	48.2	30.1	-6.2		-64.1	-21	444	No stop
01 05 30	---	05 28 29	48.2	30.2	-6.1		-64.3	29	450	01 04 41
01 05 30	J1134+7249	05 28 29	49.3	27.1	-6.1		-67.0	-21	450	No stop
01 06 20	=1131+730	05 29 19	49.4	27.1	-6.1		-67.2	29	456	01 05 31
01 06 20	NGC3735	05 29 19	48.3	30.2	-6.1		-64.5	-21	456	No stop
01 07 10	---	05 30 09	48.4	30.3	-6.1		-64.6	29	463	01 06 21
01 07 50	J1134+7249	05 30 49	49.5	27.2	-6.1		-67.5	19	463	01 07 50
01 08 40	=1131+730	05 31 39	49.5	27.2	-6.1		-67.7	50	469	01 07 51
01 08 40	NGC3735	05 31 39	48.5	30.3	-6.1		-64.9	-21	469	No stop
01 09 30	---	05 32 29	48.5	30.4	-6.1		-65.1	29	476	01 08 41
01 09 30	J1134+7249	05 32 29	49.6	27.3	-6.0		-67.8	-21	476	No stop
01 10 20	=1131+730	05 33 19	49.6	27.3	-6.0		-68.0	29	482	01 09 31
01 10 20	NGC3735	05 33 19	48.6	30.4	-6.1		-65.2	-21	482	No stop
01 11 10	---	05 34 10	48.7	30.5	-6.0		-65.4	29	488	01 10 21
01 11 10	J1134+7249	05 34 10	49.7	27.3	-6.0		-68.2	-21	488	No stop
01 12 00	=1131+730	05 35 00	49.8	27.4	-6.0		-68.4	29	495	01 11 11
01 12 00	NGC3735	05 35 00	48.7	30.5	-6.0		-65.6	-21	495	No stop
01 12 50	---	05 35 50	48.8	30.6	-6.0		-65.7	29	501	01 12 01

Schedule for TORUN (Code Tr)

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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 8 Nov 2018 Day 312 ---										
01 12 50	J1134+7249	05 35 50	49.8	27.4	-6.0		-68.5	-21	501	No stop
01 13 40	=1131+730	05 36 40	49.9	27.5	-6.0		-68.7	29	508	01 12 51
01 13 40	NGC3735	05 36 40	48.9	30.6	-6.0		-65.9	-21	508	No stop
01 14 30	---	05 37 30	48.9	30.7	-6.0		-66.1	29	514	01 13 41
01 14 30	J1134+7249	05 37 30	49.9	27.5	-6.0		-68.9	-21	514	No stop
01 15 20	=1131+730	05 38 20	50.0	27.5	-5.9		-69.1	29	521	01 14 31
01 15 20	NGC3735	05 38 20	49.0	30.7	-6.0		-66.2	-21	521	No stop
01 16 10	---	05 39 10	49.1	30.7	-6.0		-66.4	29	527	01 15 21
01 16 10	J1134+7249	05 39 10	50.0	27.6	-5.9		-69.2	-21	527	No stop
01 17 00	=1131+730	05 40 01	50.1	27.6	-5.9		-69.4	29	533	01 16 11
01 17 00	NGC3735	05 40 01	49.1	30.8	-5.9		-66.6	-21	533	No stop
01 17 50	---	05 40 51	49.2	30.8	-5.9		-66.7	29	540	01 17 01
01 17 50	J1134+7249	05 40 51	50.2	27.6	-5.9		-69.6	-21	540	No stop
01 18 40	=1131+730	05 41 41	50.2	27.7	-5.9		-69.8	29	546	01 17 51
01 18 40	NGC3735	05 41 41	49.3	30.9	-5.9		-66.9	-21	546	No stop
01 19 30	---	05 42 31	49.3	30.9	-5.9		-67.1	29	553	01 18 41
01 19 30	J1134+7249	05 42 31	50.3	27.7	-5.9		-69.9	-21	553	No stop
01 20 20	=1131+730	05 43 21	50.3	27.7	-5.9		-70.1	29	559	01 19 31
01 20 20	NGC3735	05 43 21	49.4	31.0	-5.9		-67.2	-21	559	No stop
01 21 10	---	05 44 11	49.4	31.0	-5.9		-67.4	29	565	01 20 21
01 21 50	J1134+7249	05 44 51	50.4	27.8	-5.8		-70.4	19	565	01 21 50
01 22 40	=1131+730	05 45 41	50.5	27.8	-5.8		-70.6	50	572	01 21 51
01 22 40	NGC3735	05 45 41	49.6	31.1	-5.9		-67.7	-21	572	No stop
01 23 30	---	05 46 32	49.6	31.1	-5.8		-67.8	29	578	01 22 41
01 23 30	J1134+7249	05 46 32	50.6	27.8	-5.8		-70.8	-21	578	No stop
01 24 20	=1131+730	05 47 22	50.6	27.9	-5.8		-70.9	29	585	01 23 31
01 24 20	NGC3735	05 47 22	49.7	31.1	-5.8		-68.0	-21	585	No stop
01 25 10	---	05 48 12	49.8	31.2	-5.8		-68.2	29	591	01 24 21
01 25 10	J1134+7249	05 48 12	50.7	27.9	-5.8		-71.1	-21	591	No stop
01 26 00	=1131+730	05 49 02	50.7	27.9	-5.8		-71.3	29	597	01 25 11

Schedule for TORUN (Code Tr)

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Start UT	Source	Start / Stop					Early	Disk	TPStart	
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC

---	Thu	8 Nov 2018	Day 312	---						
01 26 00	NGC3735	05 49 02	49.8	31.2	-5.8		-68.3	-21	597	No stop
01 26 50	---	05 49 52	49.9	31.3	-5.8		-68.5	29	604	01 26 01
01 26 50	J1134+7249	05 49 52	50.8	28.0	-5.8		-71.5	-21	604	No stop
01 27 40	=1131+730	05 50 42	50.9	28.0	-5.7		-71.6	29	610	01 26 51
01 27 40	NGC3735	05 50 42	50.0	31.3	-5.8		-68.7	-21	610	No stop
01 28 30	---	05 51 32	50.0	31.3	-5.8		-68.8	29	617	01 27 41
01 28 30	J1134+7249	05 51 32	50.9	28.0	-5.7		-71.8	-21	617	No stop
01 29 20	=1131+730	05 52 23	51.0	28.1	-5.7		-72.0	29	623	01 28 31
01 29 20	NGC3735	05 52 23	50.1	31.4	-5.7		-69.0	-21	623	No stop
01 30 10	---	05 53 13	50.1	31.4	-5.7		-69.2	29	629	01 29 21
01 30 10	J1134+7249	05 53 13	51.0	28.1	-5.7		-72.2	-21	629	No stop
01 31 00	=1131+730	05 54 03	51.1	28.1	-5.7		-72.3	29	636	01 30 11
01 31 00	NGC3735	05 54 03	50.2	31.5	-5.7		-69.3	-21	636	No stop
01 31 50	---	05 54 53	50.3	31.5	-5.7		-69.5	29	642	01 31 01
01 31 50	J1134+7249	05 54 53	51.2	28.2	-5.7		-72.5	-21	642	No stop
01 32 40	=1131+730	05 55 43	51.2	28.2	-5.7		-72.7	29	649	01 31 51
01 32 40	NGC3735	05 55 43	50.3	31.5	-5.7		-69.7	-21	649	No stop
01 33 30	---	05 56 33	50.4	31.6	-5.7		-69.8	29	655	01 32 41
01 33 30	J1134+7249	05 56 33	51.3	28.2	-5.6		-72.9	-21	655	No stop
01 34 20	=1131+730	05 57 23	51.3	28.2	-5.6		-73.0	29	662	01 33 31
01 34 20	NGC3735	05 57 23	50.5	31.6	-5.7		-70.0	-21	662	No stop
01 35 10	---	05 58 14	50.5	31.7	-5.6		-70.2	29	668	01 34 21
01 35 50	J1134+7249	05 58 54	51.4	28.3	-5.6		-73.4	19	668	01 35 50
01 36 40	=1131+730	05 59 44	51.5	28.3	-5.6		-73.5	50	674	01 35 51
01 36 40	NGC3735	05 59 44	50.7	31.7	-5.6		-70.5	-22	674	No stop
01 37 30	---	06 00 34	50.7	31.8	-5.6		-70.7	28	681	01 36 41
01 37 30	J1134+7249	06 00 34	51.6	28.4	-5.6		-73.7	-21	681	No stop
01 38 20	=1131+730	06 01 24	51.6	28.4	-5.6		-73.9	29	687	01 37 31
01 38 20	NGC3735	06 01 24	50.8	31.8	-5.6		-70.8	-22	687	No stop
01 39 10	---	06 02 14	50.9	31.8	-5.6		-71.0	28	694	01 38 21

Schedule for TORUN (Code Tr)

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Start UT	Source	Start / Stop					Early	Disk	TPStart	
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC

---	Thu	8 Nov 2018	Day 312	---						
01 39 10	J1134+7249	06 02 14	51.7	28.4	-5.5		-74.1	-22	694	No stop
01 40 00	=1131+730	06 03 04	51.7	28.4	-5.5		-74.3	28	700	01 39 11
01 40 00	NGC3735	06 03 04	50.9	31.9	-5.6		-71.2	-22	700	No stop
01 40 50	---	06 03 54	51.0	31.9	-5.6		-71.3	28	706	01 40 01
01 40 50	J1134+7249	06 03 54	51.8	28.5	-5.5		-74.4	-22	706	No stop
01 41 40	=1131+730	06 04 45	51.9	28.5	-5.5		-74.6	28	713	01 40 51
01 41 40	NGC3735	06 04 45	51.1	31.9	-5.5		-71.5	-22	713	No stop
01 42 30	---	06 05 35	51.1	32.0	-5.5		-71.7	28	719	01 41 41
01 42 30	J1134+7249	06 05 35	51.9	28.5	-5.5		-74.8	-22	719	No stop
01 43 20	=1131+730	06 06 25	52.0	28.5	-5.5		-75.0	28	726	01 42 31
01 43 20	NGC3735	06 06 25	51.2	32.0	-5.5		-71.8	-22	726	No stop
01 44 10	---	06 07 15	51.3	32.0	-5.5		-72.0	28	732	01 43 21
01 44 10	J1134+7249	06 07 15	52.0	28.6	-5.5		-75.1	-22	732	No stop
01 45 00	=1131+730	06 08 05	52.1	28.6	-5.5		-75.3	28	738	01 44 11
01 45 00	NGC3735	06 08 05	51.3	32.1	-5.5		-72.2	-22	738	No stop
01 45 50	---	06 08 55	51.4	32.1	-5.5		-72.3	28	745	01 45 01
01 45 50	J1134+7249	06 08 55	52.2	28.6	-5.4		-75.5	-22	745	No stop
01 46 40	=1131+730	06 09 45	52.2	28.6	-5.4		-75.7	28	751	01 45 51
01 46 40	NGC3735	06 09 45	51.5	32.1	-5.5		-72.5	-22	751	No stop
01 47 30	---	06 10 36	51.5	32.2	-5.4		-72.7	28	758	01 46 41
01 47 30	J1134+7249	06 10 36	52.3	28.7	-5.4		-75.9	-22	758	No stop
01 48 20	=1131+730	06 11 26	52.3	28.7	-5.4		-76.0	28	764	01 47 31
01 48 20	NGC3735	06 11 26	51.6	32.2	-5.4		-72.9	-22	764	No stop
01 49 10	---	06 12 16	51.7	32.2	-5.4		-73.0	28	771	01 48 21
01 49 50	J1134+7249	06 12 56	52.4	28.7	-5.4		-76.4	18	771	01 49 50
01 50 40	=1131+730	06 13 46	52.5	28.8	-5.4		-76.5	50	777	01 49 51
01 50 40	NGC3735	06 13 46	51.8	32.3	-5.4		-73.3	-22	777	No stop
01 51 30	---	06 14 36	51.8	32.3	-5.4		-73.5	28	783	01 50 41
01 51 30	J1134+7249	06 14 36	52.6	28.8	-5.3		-76.7	-22	783	No stop
01 52 20	=1131+730	06 15 26	52.6	28.8	-5.3		-76.9	28	790	01 51 31

Schedule for TORUN (Code Tr)

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Start UT	Source	Start / Stop					Early	Disk	TPStart	
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC

---	Thu	8 Nov 2018	Day 312	---						
01 52 20	NGC3735	06 15 26	51.9	32.4	-5.4		-73.7	-22	790	No stop
01 53 10	---	06 16 17	52.0	32.4	-5.3		-73.9	28	796	01 52 21
01 53 10	J1134+7249	06 16 17	52.7	28.8	-5.3		-77.1	-22	796	No stop
01 54 00	=1131+730	06 17 07	52.7	28.9	-5.3		-77.3	28	803	01 53 11
01 54 00	NGC3735	06 17 07	52.0	32.4	-5.3		-74.0	-22	803	No stop
01 54 50	---	06 17 57	52.1	32.5	-5.3		-74.2	28	809	01 54 01
01 54 50	J1134+7249	06 17 57	52.8	28.9	-5.3		-77.5	-22	809	No stop
01 55 40	=1131+730	06 18 47	52.9	28.9	-5.3		-77.6	28	815	01 54 51
01 55 40	NGC3735	06 18 47	52.2	32.5	-5.3		-74.4	-22	815	No stop
01 56 30	---	06 19 37	52.2	32.5	-5.3		-74.5	28	822	01 55 41
01 56 30	J1134+7249	06 19 37	52.9	28.9	-5.3		-77.8	-22	822	No stop
01 57 20	=1131+730	06 20 27	53.0	28.9	-5.2		-78.0	28	828	01 56 31
01 57 20	NGC3735	06 20 27	52.3	32.6	-5.3		-74.7	-22	828	No stop
01 58 10	---	06 21 17	52.4	32.6	-5.3		-74.9	28	835	01 57 21
01 58 10	J1134+7249	06 21 17	53.0	29.0	-5.2		-78.2	-22	835	No stop
01 59 00	=1131+730	06 22 07	53.1	29.0	-5.2		-78.4	28	841	01 58 11
01 59 00	NGC3735	06 22 07	52.4	32.6	-5.2		-75.1	-22	841	No stop
01 59 50	---	06 22 58	52.5	32.6	-5.2		-75.2	28	847	01 59 01
01 59 50	J1134+7249	06 22 58	53.2	29.0	-5.2		-78.5	-22	847	No stop
02 00 40	=1131+730	06 23 48	53.2	29.0	-5.2		-78.7	28	854	01 59 51
02 00 40	NGC3735	06 23 48	52.6	32.7	-5.2		-75.4	-22	854	No stop
02 01 30	---	06 24 38	52.7	32.7	-5.2		-75.6	28	860	02 00 41
02 01 30	J1134+7249	06 24 38	53.3	29.0	-5.2		-78.9	-22	860	No stop
02 02 20	=1131+730	06 25 28	53.4	29.1	-5.2		-79.1	28	867	02 01 31
02 02 20	NGC3735	06 25 28	52.7	32.7	-5.2		-75.8	-22	867	No stop
02 03 10	---	06 26 18	52.8	32.8	-5.2		-75.9	28	873	02 02 21
02 03 50	J1134+7249	06 26 58	53.5	29.1	-5.1		-79.4	18	873	02 03 50
02 04 40	=1131+730	06 27 48	53.5	29.1	-5.1		-79.6	50	879	02 03 51
02 04 40	NGC3735	06 27 48	52.9	32.8	-5.2		-76.2	-22	879	No stop
02 05 30	---	06 28 39	53.0	32.8	-5.1		-76.4	28	886	02 04 41

Schedule for TORUN (Code Tr)

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Start UT	Source	Start / Stop					Early	Disk	TPStart		
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC	

---	Thu	8 Nov 2018	Day 312			---					
02 05 30	J1134+7249	06 28 39	53.6	29.1	-5.1		-79.8	-22	886	No stop	
02 06 20	=1131+730	06 29 29	53.6	29.2	-5.1		-80.0	28	892	02 05 31	
02 06 20	NGC3735	06 29 29	53.0	32.9	-5.1		-76.6	-22	892	No stop	
02 07 10	---	06 30 19	53.1	32.9	-5.1		-76.8	28	899	02 06 21	
02 07 10	J1134+7249	06 30 19	53.7	29.2	-5.1		-80.2	-22	899	No stop	
02 08 00	=1131+730	06 31 09	53.8	29.2	-5.1		-80.4	28	905	02 07 11	
02 08 00	NGC3735	06 31 09	53.2	32.9	-5.1		-76.9	-22	905	No stop	
02 08 50	---	06 31 59	53.3	32.9	-5.1		-77.1	28	912	02 08 01	
02 08 50	J1134+7249	06 31 59	53.8	29.2	-5.1		-80.5	-22	912	No stop	
02 09 40	=1131+730	06 32 49	53.9	29.2	-5.0		-80.7	28	918	02 08 51	
02 09 40	NGC3735	06 32 49	53.3	33.0	-5.1		-77.3	-22	918	No stop	
02 10 30	---	06 33 39	53.4	33.0	-5.1		-77.5	28	924	02 09 41	
02 10 30	J1134+7249	06 33 39	54.0	29.2	-5.0		-80.9	-22	924	No stop	
02 11 20	=1131+730	06 34 29	54.0	29.3	-5.0		-81.1	28	931	02 10 31	
02 11 20	NGC3735	06 34 29	53.5	33.0	-5.0		-77.7	-22	931	No stop	
02 12 10	---	06 35 20	53.5	33.0	-5.0		-77.8	28	937	02 11 21	
02 12 10	J1134+7249	06 35 20	54.1	29.3	-5.0		-81.3	-22	937	No stop	
02 13 00	=1131+730	06 36 10	54.1	29.3	-5.0		-81.5	28	944	02 12 11	
02 13 00	NGC3735	06 36 10	53.6	33.1	-5.0		-78.0	-22	944	No stop	
02 13 50	---	06 37 00	53.7	33.1	-5.0		-78.2	28	950	02 13 01	
02 13 50	J1134+7249	06 37 00	54.2	29.3	-5.0		-81.7	-22	950	No stop	
02 14 40	=1131+730	06 37 50	54.3	29.3	-5.0		-81.8	28	956	02 13 51	
02 14 40	NGC3735	06 37 50	53.7	33.1	-5.0		-78.4	-22	956	No stop	
02 15 30	---	06 38 40	53.8	33.1	-5.0		-78.5	28	963	02 14 41	
02 15 30	J1134+7249	06 38 40	54.3	29.3	-4.9		-82.0	-22	963	No stop	
02 16 20	=1131+730	06 39 30	54.4	29.4	-4.9		-82.2	28	969	02 15 31	
02 16 20	NGC3735	06 39 30	53.9	33.2	-5.0		-78.7	-22	969	No stop	
02 17 10	---	06 40 20	53.9	33.2	-4.9		-78.9	28	976	02 16 21	
02 17 50	J1134+7249	06 41 01	54.5	29.4	-4.9		-82.6	18	976	02 17 50	
02 18 40	=1131+730	06 41 51	54.6	29.4	-4.9		-82.7	50	982	02 17 51	

Schedule for TORUN (Code Tr)

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Start UT	Source	Start / Stop					Early	Disk	TPStart	
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC

---	Thu	8 Nov 2018	Day 312	---						
02 18 40	NGC3735	06 41 51	54.1	33.2	-4.9		-79.2	-23	982	No stop
02 19 30	---	06 42 41	54.1	33.3	-4.9		-79.4	27	988	02 18 41
02 19 30	J1134+7249	06 42 41	54.6	29.4	-4.9		-82.9	-23	988	No stop
02 20 20	=1131+730	06 43 31	54.7	29.4	-4.9		-83.1	27	995	02 19 31
02 20 20	NGC3735	06 43 31	54.2	33.3	-4.9		-79.6	-23	995	No stop
02 21 10	---	06 44 21	54.3	33.3	-4.9		-79.8	27	1001	02 20 21
02 21 10	J1134+7249	06 44 21	54.7	29.4	-4.8		-83.3	-23	1001	No stop
02 22 00	=1131+730	06 45 11	54.8	29.4	-4.8		-83.5	27	1008	02 21 11
02 22 00	NGC3735	06 45 11	54.3	33.3	-4.9		-79.9	-23	1008	No stop
02 22 50	---	06 46 01	54.4	33.3	-4.8		-80.1	27	1014	02 22 01
02 22 50	J1134+7249	06 46 01	54.9	29.5	-4.8		-83.7	-23	1014	No stop
02 23 40	=1131+730	06 46 52	54.9	29.5	-4.8		-83.9	27	1021	02 22 51
02 23 40	NGC3735	06 46 52	54.5	33.4	-4.8		-80.3	-23	1021	No stop
02 24 30	---	06 47 42	54.5	33.4	-4.8		-80.5	27	1027	02 23 41
02 24 30	J1134+7249	06 47 42	55.0	29.5	-4.8		-84.1	-23	1027	No stop
02 25 20	=1131+730	06 48 32	55.0	29.5	-4.8		-84.3	27	1033	02 24 31
02 25 20	NGC3735	06 48 32	54.6	33.4	-4.8		-80.7	-23	1033	No stop
02 26 10	---	06 49 22	54.7	33.4	-4.8		-80.8	27	1040	02 25 21
02 26 10	J1134+7249	06 49 22	55.1	29.5	-4.8		-84.5	-23	1040	No stop
02 27 00	=1131+730	06 50 12	55.2	29.5	-4.8		-84.6	27	1046	02 26 11
02 27 00	NGC3735	06 50 12	54.7	33.4	-4.8		-81.0	-23	1046	No stop
02 27 50	---	06 51 02	54.8	33.5	-4.8		-81.2	27	1053	02 27 01
02 27 50	J1134+7249	06 51 02	55.2	29.5	-4.7		-84.8	-23	1053	No stop
02 28 40	=1131+730	06 51 52	55.3	29.5	-4.7		-85.0	27	1059	02 27 51
02 28 40	NGC3735	06 51 52	54.9	33.5	-4.8		-81.4	-23	1059	No stop
02 29 30	---	06 52 42	55.0	33.5	-4.7		-81.6	27	1065	02 28 41
02 29 30	J1134+7249	06 52 42	55.4	29.5	-4.7		-85.2	-23	1065	No stop
02 30 20	=1131+730	06 53 33	55.4	29.6	-4.7		-85.4	27	1072	02 29 31
02 30 20	NGC3735	06 53 33	55.0	33.5	-4.7		-81.7	-23	1072	No stop
02 31 10	---	06 54 23	55.1	33.5	-4.7		-81.9	27	1078	02 30 21

Schedule for TORUN (Code Tr)

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Start UT	Source	Start / Stop					Early	Disk	TPStart	
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC

---	Thu	8 Nov 2018	Day 312	---						
02 31 50	J1134+7249	06 55 03	55.5	29.6	-4.7		-85.8	17	1078	02 31 50
02 32 50	=1131+730	06 56 03	55.6	29.6	-4.7		-86.0	60	1086	02 31 51
02 37 55	4C39.25	07 01 09	61.3	104.5	-2.5		-48.4	141	1086	02 37 55
02 42 55	---	07 06 10	62.0	105.9	-2.4		-48.0	300	1124	02 37 56
02 46 25	J1134+7249	07 09 40	56.6	29.7	-4.4		-89.2	43	1124	02 46 25
02 47 25	=1131+730	07 10 40	56.7	29.7	-4.4		-89.4	60	1132	02 46 26
02 47 25	NGC3735	07 10 40	56.5	33.8	-4.4		-85.5	-23	1132	No stop
02 48 15	---	07 11 31	56.5	33.8	-4.4		-85.7	27	1138	02 47 26
02 48 55	J1134+7249	07 12 11	56.8	29.7	-4.4		-89.8	17	1138	02 48 55
02 49 45	=1131+730	07 13 01	56.9	29.7	-4.4		-90.0	50	1145	02 48 56
02 49 45	NGC3735	07 13 01	56.6	33.8	-4.4		-86.1	-23	1145	No stop
02 50 35	---	07 13 51	56.7	33.8	-4.4		-86.3	27	1151	02 49 46
02 50 35	J1134+7249	07 13 51	56.9	29.7	-4.4		-90.2	-23	1151	No stop
02 51 25	=1131+730	07 14 41	57.0	29.7	-4.3		-90.4	27	1158	02 50 36
02 51 25	NGC3735	07 14 41	56.8	33.8	-4.4		-86.5	-23	1158	No stop
02 52 15	---	07 15 31	56.9	33.8	-4.4		-86.6	27	1164	02 51 26
02 52 15	J1134+7249	07 15 31	57.0	29.7	-4.3		-90.6	-23	1164	No stop
02 53 05	=1131+730	07 16 21	57.1	29.7	-4.3		-90.8	27	1171	02 52 16
02 53 05	NGC3735	07 16 21	56.9	33.8	-4.3		-86.8	-23	1171	No stop
02 53 55	---	07 17 11	57.0	33.9	-4.3		-87.0	27	1177	02 53 06
02 53 55	J1134+7249	07 17 11	57.2	29.7	-4.3		-91.0	-23	1177	No stop
02 54 45	=1131+730	07 18 02	57.2	29.6	-4.3		-91.2	27	1183	02 53 56
02 54 45	NGC3735	07 18 02	57.1	33.9	-4.3		-87.2	-23	1183	No stop
02 55 35	---	07 18 52	57.1	33.9	-4.3		-87.4	27	1190	02 54 46
02 55 35	J1134+7249	07 18 52	57.3	29.6	-4.3		-91.4	-23	1190	No stop
02 56 25	=1131+730	07 19 42	57.4	29.6	-4.3		-91.6	27	1196	02 55 36
02 56 25	NGC3735	07 19 42	57.2	33.9	-4.3		-87.6	-23	1196	No stop
02 57 15	---	07 20 32	57.3	33.9	-4.3		-87.8	27	1203	02 56 26
02 57 15	J1134+7249	07 20 32	57.4	29.6	-4.2		-91.8	-23	1203	No stop
02 58 05	=1131+730	07 21 22	57.5	29.6	-4.2		-92.0	27	1209	02 57 16

Schedule for TORUN (Code Tr)

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Start UT	Source	Start / Stop					Early	Disk	TPStart	
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC

---	Thu	8 Nov 2018	Day 312		---					
02 58 05	NGC3735	07 21 22	57.3	33.9	-4.3		-88.0	-23	1209	No stop
02 58 55	---	07 22 12	57.4	33.9	-4.2		-88.2	27	1215	02 58 06
02 58 55	J1134+7249	07 22 12	57.5	29.6	-4.2		-92.2	-23	1215	No stop
02 59 45	=1131+730	07 23 02	57.6	29.6	-4.2		-92.4	27	1222	02 58 56
02 59 45	NGC3735	07 23 02	57.5	33.9	-4.2		-88.4	-23	1222	No stop
03 00 35	---	07 23 53	57.6	33.9	-4.2		-88.6	27	1228	02 59 46
03 00 35	J1134+7249	07 23 53	57.7	29.6	-4.2		-92.6	-23	1228	No stop
03 01 25	=1131+730	07 24 43	57.7	29.6	-4.2		-92.8	27	1235	03 00 36
03 01 25	NGC3735	07 24 43	57.6	33.9	-4.2		-88.8	-24	1235	No stop
03 02 15	---	07 25 33	57.7	33.9	-4.2		-89.0	26	1241	03 01 26
03 02 55	J1134+7249	07 26 13	57.8	29.6	-4.2		-93.2	16	1241	03 02 55
03 03 45	=1131+730	07 27 03	57.9	29.6	-4.1		-93.4	50	1247	03 02 56
03 03 45	NGC3735	07 27 03	57.8	33.9	-4.2		-89.3	-24	1247	No stop
03 04 35	---	07 27 53	57.9	33.9	-4.2		-89.5	26	1254	03 03 46
03 04 35	J1134+7249	07 27 53	58.0	29.6	-4.1		-93.6	-24	1254	No stop
03 05 25	=1131+730	07 28 43	58.0	29.6	-4.1		-93.8	26	1260	03 04 36
03 05 25	NGC3735	07 28 43	58.0	33.9	-4.1		-89.7	-24	1260	No stop
03 06 15	---	07 29 34	58.0	33.9	-4.1		-89.9	26	1267	03 05 26
03 06 15	J1134+7249	07 29 34	58.1	29.6	-4.1		-94.0	-24	1267	No stop
03 07 05	=1131+730	07 30 24	58.2	29.6	-4.1		-94.2	26	1273	03 06 16
03 07 05	NGC3735	07 30 24	58.1	33.9	-4.1		-90.1	-24	1273	No stop
03 07 55	---	07 31 14	58.2	33.9	-4.1		-90.3	26	1279	03 07 06
03 07 55	J1134+7249	07 31 14	58.2	29.6	-4.1		-94.4	-24	1279	No stop
03 08 45	=1131+730	07 32 04	58.3	29.6	-4.1		-94.6	26	1286	03 07 56
03 08 45	NGC3735	07 32 04	58.2	33.9	-4.1		-90.5	-24	1286	No stop
03 09 35	---	07 32 54	58.3	33.9	-4.1		-90.7	26	1292	03 08 46
03 09 35	J1134+7249	07 32 54	58.3	29.5	-4.0		-94.8	-24	1292	No stop
03 10 25	=1131+730	07 33 44	58.4	29.5	-4.0		-95.0	26	1299	03 09 36
03 10 25	NGC3735	07 33 44	58.4	33.9	-4.1		-90.9	-24	1299	No stop
03 11 15	---	07 34 34	58.5	33.9	-4.0		-91.1	26	1305	03 10 26

Schedule for TORUN (Code Tr)

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Start UT	Source	Start / Stop					Early	Disk	TPStart	
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC

---	Thu	8 Nov 2018	Day 312		---					
03 11 15	J1134+7249	07 34 34	58.5	29.5	-4.0		-95.2	-24	1305	No stop
03 12 05	=1131+730	07 35 24	58.5	29.5	-4.0		-95.4	26	1312	03 11 16
03 12 05	NGC3735	07 35 24	58.5	33.9	-4.0		-91.3	-24	1312	No stop
03 12 55	---	07 36 15	58.6	33.9	-4.0		-91.5	26	1318	03 12 06
03 12 55	J1134+7249	07 36 15	58.6	29.5	-4.0		-95.6	-24	1318	No stop
03 13 45	=1131+730	07 37 05	58.6	29.5	-4.0		-95.9	26	1324	03 12 56
03 13 45	NGC3735	07 37 05	58.7	33.9	-4.0		-91.7	-24	1324	No stop
03 14 35	---	07 37 55	58.7	33.9	-4.0		-91.9	26	1331	03 13 46
03 14 35	J1134+7249	07 37 55	58.7	29.5	-4.0		-96.1	-24	1331	No stop
03 15 25	=1131+730	07 38 45	58.8	29.5	-3.9		-96.3	26	1337	03 14 36
03 15 25	NGC3735	07 38 45	58.8	33.9	-4.0		-92.1	-24	1337	No stop
03 16 15	---	07 39 35	58.9	33.9	-4.0		-92.3	26	1344	03 15 26
03 16 55	J1134+7249	07 40 15	58.9	29.4	-3.9		-96.7	16	1344	03 16 55
03 17 45	=1131+730	07 41 05	58.9	29.4	-3.9		-96.9	50	1350	03 16 56
03 17 45	NGC3735	07 41 05	59.0	33.9	-3.9		-92.6	-24	1350	No stop
03 18 35	---	07 41 56	59.1	33.9	-3.9		-92.9	26	1356	03 17 46
03 18 35	J1134+7249	07 41 56	59.0	29.4	-3.9		-97.1	-24	1356	No stop
03 19 25	=1131+730	07 42 46	59.1	29.4	-3.9		-97.3	26	1363	03 18 36
03 19 25	NGC3735	07 42 46	59.1	33.9	-3.9		-93.1	-24	1363	No stop
03 20 15	---	07 43 36	59.2	33.8	-3.9		-93.3	26	1369	03 19 26
03 20 15	J1134+7249	07 43 36	59.1	29.4	-3.9		-97.5	-24	1369	No stop
03 21 05	=1131+730	07 44 26	59.2	29.4	-3.8		-97.7	26	1376	03 20 16
03 21 05	NGC3735	07 44 26	59.3	33.8	-3.9		-93.5	-24	1376	No stop
03 21 55	---	07 45 16	59.3	33.8	-3.9		-93.7	26	1382	03 21 06
03 21 55	J1134+7249	07 45 16	59.3	29.3	-3.8		-97.9	-24	1382	No stop
03 22 45	=1131+730	07 46 06	59.3	29.3	-3.8		-98.1	26	1388	03 21 56
03 22 45	NGC3735	07 46 06	59.4	33.8	-3.8		-93.9	-24	1388	No stop
03 23 35	---	07 46 56	59.5	33.8	-3.8		-94.1	26	1395	03 22 46
03 23 35	J1134+7249	07 46 56	59.4	29.3	-3.8		-98.4	-24	1395	No stop
03 24 25	=1131+730	07 47 46	59.4	29.3	-3.8		-98.6	26	1401	03 23 36

Schedule for TORUN (Code Tr)

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Start UT	Source	Start / Stop					Early	Disk	TPStart	
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC

---	Thu	8 Nov 2018	Day 312	---						
03 24 25	NGC3735	07 47 46	59.6	33.8	-3.8		-94.3	-24	1401	No stop
03 25 15	---	07 48 37	59.6	33.8	-3.8		-94.5	26	1408	03 24 26
03 25 15	J1134+7249	07 48 37	59.5	29.3	-3.8		-98.8	-24	1408	No stop
03 26 05	=1131+730	07 49 27	59.6	29.3	-3.8		-99.0	26	1414	03 25 16
03 26 05	NGC3735	07 49 27	59.7	33.8	-3.8		-94.7	-24	1414	No stop
03 26 55	---	07 50 17	59.8	33.8	-3.8		-94.9	26	1421	03 26 06
03 26 55	J1134+7249	07 50 17	59.6	29.2	-3.7		-99.2	-24	1421	No stop
03 27 45	=1131+730	07 51 07	59.7	29.2	-3.7		-99.4	26	1427	03 26 56
03 27 45	NGC3735	07 51 07	59.8	33.8	-3.8		-95.1	-24	1427	No stop
03 28 35	---	07 51 57	59.9	33.7	-3.8		-95.3	26	1433	03 27 46
03 28 35	J1134+7249	07 51 57	59.7	29.2	-3.7		-99.7	-24	1433	No stop
03 29 25	=1131+730	07 52 47	59.8	29.2	-3.7		-99.9	26	1440	03 28 36
03 29 25	NGC3735	07 52 47	60.0	33.7	-3.7		-95.5	-24	1440	No stop
03 30 15	---	07 53 37	60.0	33.7	-3.7		-95.7	26	1446	03 29 26
03 30 55	J1134+7249	07 54 18	59.9	29.1	-3.7		-100.3	16	1446	03 30 55
03 31 45	=1131+730	07 55 08	60.0	29.1	-3.7		-100.5	50	1453	03 30 56
03 31 45	NGC3735	07 55 08	60.2	33.7	-3.7		-96.1	-24	1453	No stop
03 32 35	---	07 55 58	60.2	33.7	-3.7		-96.3	26	1459	03 31 46
03 32 35	J1134+7249	07 55 58	60.0	29.1	-3.7		-100.7	-24	1459	No stop
03 33 25	=1131+730	07 56 48	60.1	29.1	-3.6		-100.9	26	1465	03 32 36
03 33 25	NGC3735	07 56 48	60.3	33.7	-3.7		-96.5	-24	1465	No stop
03 34 15	---	07 57 38	60.4	33.6	-3.7		-96.7	26	1472	03 33 26
03 34 15	J1134+7249	07 57 38	60.2	29.0	-3.6		-101.1	-24	1472	No stop
03 35 05	=1131+730	07 58 28	60.2	29.0	-3.6		-101.4	26	1478	03 34 16
03 35 05	NGC3735	07 58 28	60.4	33.6	-3.6		-97.0	-24	1478	No stop
03 35 55	---	07 59 18	60.5	33.6	-3.6		-97.2	26	1485	03 35 06
03 35 55	J1134+7249	07 59 18	60.3	29.0	-3.6		-101.6	-24	1485	No stop
03 36 45	=1131+730	08 00 09	60.3	29.0	-3.6		-101.8	26	1491	03 35 56
03 36 45	NGC3735	08 00 09	60.6	33.6	-3.6		-97.4	-24	1491	No stop
03 37 35	---	08 00 59	60.7	33.6	-3.6		-97.6	26	1497	03 36 46

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Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC

---	Thu	8 Nov 2018	Day 312		---					
03 37 35	J1134+7249	08 00 59	60.4	28.9	-3.6	-102.0	-24	1497	No stop	
03 38 25	=1131+730	08 01 49	60.5	28.9	-3.6	-102.3	26	1504	03 37 36	
03 38 25	NGC3735	08 01 49	60.7	33.6	-3.6	-97.8	-24	1504	No stop	
03 39 15	---	08 02 39	60.8	33.5	-3.6	-98.0	26	1510	03 38 26	
03 39 15	J1134+7249	08 02 39	60.5	28.9	-3.5	-102.5	-24	1510	No stop	
03 40 05	=1131+730	08 03 29	60.6	28.9	-3.5	-102.7	26	1517	03 39 16	
03 40 05	NGC3735	08 03 29	60.9	33.5	-3.6	-98.2	-24	1517	No stop	
03 40 55	---	08 04 19	60.9	33.5	-3.5	-98.4	26	1523	03 40 06	
03 40 55	J1134+7249	08 04 19	60.6	28.8	-3.5	-102.9	-24	1523	No stop	
03 41 45	=1131+730	08 05 09	60.7	28.8	-3.5	-103.1	26	1529	03 40 56	
03 41 45	NGC3735	08 05 09	61.0	33.5	-3.5	-98.7	-24	1529	No stop	
03 42 35	---	08 05 59	61.1	33.4	-3.5	-98.9	26	1536	03 41 46	
03 42 35	J1134+7249	08 05 59	60.8	28.8	-3.5	-103.4	-24	1536	No stop	
03 43 25	=1131+730	08 06 50	60.8	28.7	-3.5	-103.6	26	1542	03 42 36	
03 43 25	NGC3735	08 06 50	61.1	33.4	-3.5	-99.1	-24	1542	No stop	
03 44 15	---	08 07 40	61.2	33.4	-3.5	-99.3	26	1549	03 43 26	
03 44 55	J1134+7249	08 08 20	60.9	28.7	-3.4	-104.0	16	1549	03 44 55	
03 45 45	=1131+730	08 09 10	61.0	28.7	-3.4	-104.2	50	1555	03 44 56	
03 45 45	NGC3735	08 09 10	61.3	33.4	-3.5	-99.7	-24	1555	No stop	
03 46 35	---	08 10 00	61.4	33.3	-3.4	-99.9	26	1562	03 45 46	
03 46 35	J1134+7249	08 10 00	61.1	28.6	-3.4	-104.5	-24	1562	No stop	
03 47 25	=1131+730	08 10 50	61.1	28.6	-3.4	-104.7	26	1568	03 46 36	
03 47 25	NGC3735	08 10 50	61.5	33.3	-3.4	-100.1	-24	1568	No stop	
03 48 15	---	08 11 40	61.5	33.3	-3.4	-100.4	26	1574	03 47 26	
03 48 15	J1134+7249	08 11 40	61.2	28.6	-3.4	-104.9	-24	1574	No stop	
03 49 05	=1131+730	08 12 31	61.2	28.5	-3.4	-105.1	26	1581	03 48 16	
03 49 05	NGC3735	08 12 31	61.6	33.3	-3.4	-100.6	-24	1581	No stop	
03 49 55	---	08 13 21	61.7	33.2	-3.4	-100.8	26	1587	03 49 06	
03 49 55	J1134+7249	08 13 21	61.3	28.5	-3.4	-105.4	-24	1587	No stop	
03 50 45	=1131+730	08 14 11	61.4	28.5	-3.4	-105.6	26	1594	03 49 56	

Schedule for TORUN (Code Tr)

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H2O megamaser VLBI: a powerful tool to study ejection and accretion

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Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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	8 Nov 2018	Day 312		---					
03 50 45	NGC3735	08 14 11	61.7	33.2	-3.4	-101.0	-24	1594	No stop	
03 51 35	---	08 15 01	61.8	33.2	-3.4	-101.2	26	1600	03 50 46	
03 51 35	J1134+7249	08 15 01	61.4	28.4	-3.3	-105.8	-25	1600	No stop	
03 52 25	=1131+730	08 15 51	61.5	28.4	-3.3	-106.1	25	1606	03 51 36	
03 52 25	NGC3735	08 15 51	61.9	33.1	-3.4	-101.5	-24	1606	No stop	
03 53 15	---	08 16 41	62.0	33.1	-3.3	-101.7	26	1613	03 52 26	
03 53 15	J1134+7249	08 16 41	61.5	28.4	-3.3	-106.3	-25	1613	No stop	
03 54 05	=1131+730	08 17 31	61.6	28.3	-3.3	-106.5	25	1619	03 53 16	
03 54 05	NGC3735	08 17 31	62.0	33.1	-3.3	-101.9	-24	1619	No stop	
03 54 55	---	08 18 22	62.1	33.0	-3.3	-102.1	26	1626	03 54 06	
03 54 55	J1134+7249	08 18 22	61.7	28.3	-3.3	-106.8	-25	1626	No stop	
03 55 45	=1131+730	08 19 12	61.7	28.2	-3.3	-107.0	25	1632	03 54 56	
03 55 45	NGC3735	08 19 12	62.2	33.0	-3.3	-102.4	-25	1632	No stop	
03 56 35	---	08 20 02	62.2	33.0	-3.3	-102.6	25	1638	03 55 46	
03 56 35	J1134+7249	08 20 02	61.8	28.2	-3.3	-107.2	-25	1638	No stop	
03 57 25	=1131+730	08 20 52	61.8	28.2	-3.2	-107.5	25	1645	03 56 36	
03 57 25	NGC3735	08 20 52	62.3	33.0	-3.3	-102.8	-25	1645	No stop	
03 58 15	---	08 21 42	62.4	32.9	-3.3	-103.0	25	1651	03 57 26	
03 58 55	J1134+7249	08 22 22	61.9	28.1	-3.2	-107.9	15	1651	03 58 55	
03 59 45	=1131+730	08 23 12	62.0	28.1	-3.2	-108.1	50	1658	03 58 56	
03 59 45	NGC3735	08 23 12	62.5	32.9	-3.2	-103.5	-25	1658	No stop	
04 00 35	---	08 24 02	62.6	32.8	-3.2	-103.7	25	1664	03 59 46	
04 00 35	J1134+7249	08 24 02	62.1	28.0	-3.2	-108.4	-25	1664	No stop	
04 01 25	=1131+730	08 24 53	62.1	28.0	-3.2	-108.6	25	1671	04 00 36	
04 01 25	NGC3735	08 24 53	62.6	32.8	-3.2	-103.9	-25	1671	No stop	
04 02 15	---	08 25 43	62.7	32.7	-3.2	-104.1	25	1677	04 01 26	
04 02 15	J1134+7249	08 25 43	62.2	27.9	-3.2	-108.8	-25	1677	No stop	
04 03 05	=1131+730	08 26 33	62.2	27.9	-3.1	-109.1	25	1683	04 02 16	
04 03 05	NGC3735	08 26 33	62.8	32.7	-3.2	-104.4	-25	1683	No stop	
04 03 55	---	08 27 23	62.8	32.7	-3.2	-104.6	25	1690	04 03 06	

Schedule for TORUN (Code Tr)

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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	8 Nov 2018	Day 312	---						
04 03 55	J1134+7249	08 27 23	62.3	27.8	-3.1		-109.3	-25	1690	No stop
04 04 45	=1131+730	08 28 13	62.3	27.8	-3.1		-109.5	25	1696	04 03 56
04 04 45	NGC3735	08 28 13	62.9	32.6	-3.1		-104.8	-25	1696	No stop
04 05 35	---	08 29 03	63.0	32.6	-3.1		-105.1	25	1703	04 04 46
04 05 35	J1134+7249	08 29 03	62.4	27.7	-3.1		-109.8	-25	1703	No stop
04 06 25	=1131+730	08 29 53	62.5	27.7	-3.1		-110.0	25	1709	04 05 36
04 06 25	NGC3735	08 29 53	63.0	32.6	-3.1		-105.3	-25	1709	No stop
04 07 15	---	08 30 44	63.1	32.5	-3.1		-105.5	25	1715	04 06 26
04 07 15	J1134+7249	08 30 44	62.5	27.7	-3.1		-110.3	-25	1715	No stop
04 08 05	=1131+730	08 31 34	62.6	27.6	-3.1		-110.5	25	1722	04 07 16
04 08 05	NGC3735	08 31 34	63.2	32.5	-3.1		-105.8	-25	1722	No stop
04 08 55	---	08 32 24	63.2	32.4	-3.1		-106.0	25	1728	04 08 06
04 08 55	J1134+7249	08 32 24	62.6	27.6	-3.0		-110.7	-25	1728	No stop
04 09 45	=1131+730	08 33 14	62.7	27.5	-3.0		-111.0	25	1735	04 08 56
04 09 45	NGC3735	08 33 14	63.3	32.4	-3.1		-106.2	-25	1735	No stop
04 10 35	---	08 34 04	63.4	32.3	-3.0		-106.5	25	1741	04 09 46
04 10 35	J1134+7249	08 34 04	62.8	27.5	-3.0		-111.2	-25	1741	No stop
04 11 25	=1131+730	08 34 54	62.8	27.4	-3.0		-111.5	25	1747	04 10 36
04 11 25	NGC3735	08 34 54	63.4	32.3	-3.0		-106.7	-25	1747	No stop
04 12 15	---	08 35 44	63.5	32.2	-3.0		-106.9	25	1754	04 11 26
04 12 55	J1134+7249	08 36 24	62.9	27.3	-3.0		-111.9	15	1754	04 12 55
04 13 45	=1131+730	08 37 15	63.0	27.3	-3.0		-112.2	50	1760	04 12 56
04 13 45	NGC3735	08 37 15	63.6	32.2	-3.0		-107.4	-25	1760	No stop
04 14 35	---	08 38 05	63.7	32.1	-3.0		-107.6	25	1767	04 13 46
04 14 35	J1134+7249	08 38 05	63.0	27.2	-3.0		-112.4	-25	1767	No stop
04 15 25	=1131+730	08 38 55	63.1	27.2	-2.9		-112.7	25	1773	04 14 36
04 15 25	NGC3735	08 38 55	63.7	32.1	-3.0		-107.9	-25	1773	No stop
04 16 15	---	08 39 45	63.8	32.0	-3.0		-108.1	25	1779	04 15 26
04 16 15	J1134+7249	08 39 45	63.1	27.1	-2.9		-112.9	-25	1779	No stop
04 17 05	=1131+730	08 40 35	63.2	27.1	-2.9		-113.1	25	1786	04 16 16

Schedule for TORUN (Code Tr)

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Start UT	Source	Start / Stop					Early	Disk	TPStart	
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC

---	Thu	8 Nov 2018	Day 312	---						
04 17 05	NGC3735	08 40 35	63.9	32.0	-2.9		-108.3	-25	1786	No stop
04 17 55	---	08 41 25	63.9	31.9	-2.9		-108.6	25	1792	04 17 06
04 17 55	J1134+7249	08 41 25	63.3	27.0	-2.9		-113.4	-25	1792	No stop
04 18 45	=1131+730	08 42 15	63.3	27.0	-2.9		-113.6	25	1799	04 17 56
04 18 45	NGC3735	08 42 15	64.0	31.9	-2.9		-108.8	-25	1799	No stop
04 19 35	---	08 43 06	64.1	31.8	-2.9		-109.1	25	1805	04 18 46
04 19 35	J1134+7249	08 43 06	63.4	26.9	-2.9		-113.9	-25	1805	No stop
04 20 25	=1131+730	08 43 56	63.4	26.8	-2.9		-114.1	25	1812	04 19 36
04 20 25	NGC3735	08 43 56	64.1	31.8	-2.9		-109.3	-25	1812	No stop
04 21 15	---	08 44 46	64.2	31.7	-2.9		-109.6	25	1818	04 20 26
04 21 15	J1134+7249	08 44 46	63.5	26.8	-2.8		-114.4	-25	1818	No stop
04 22 05	=1131+730	08 45 36	63.5	26.7	-2.8		-114.6	25	1824	04 21 16
04 22 05	NGC3735	08 45 36	64.3	31.7	-2.9		-109.8	-25	1824	No stop
04 22 55	---	08 46 26	64.3	31.6	-2.8		-110.0	25	1831	04 22 06
04 22 55	J1134+7249	08 46 26	63.6	26.7	-2.8		-114.9	-25	1831	No stop
04 23 45	=1131+730	08 47 16	63.7	26.6	-2.8		-115.1	25	1837	04 22 56
04 23 45	NGC3735	08 47 16	64.4	31.5	-2.8		-110.3	-25	1837	No stop
04 24 35	---	08 48 06	64.5	31.5	-2.8		-110.5	25	1844	04 23 46
04 24 35	J1134+7249	08 48 06	63.7	26.5	-2.8		-115.4	-25	1844	No stop
04 25 25	=1131+730	08 48 57	63.8	26.5	-2.8		-115.7	25	1850	04 24 36
04 25 25	NGC3735	08 48 57	64.5	31.4	-2.8		-110.8	-25	1850	No stop
04 26 15	---	08 49 47	64.6	31.4	-2.8		-111.0	25	1856	04 25 26
04 26 55	J1134+7249	08 50 27	63.9	26.4	-2.7		-116.1	15	1856	04 26 55
04 27 45	=1131+730	08 51 17	63.9	26.3	-2.7		-116.4	50	1863	04 26 56
04 27 45	NGC3735	08 51 17	64.7	31.3	-2.8		-111.5	-25	1863	No stop
04 28 35	---	08 52 07	64.8	31.2	-2.7		-111.7	25	1869	04 27 46
04 28 35	J1134+7249	08 52 07	64.0	26.3	-2.7		-116.6	-25	1869	No stop
04 29 25	=1131+730	08 52 57	64.0	26.2	-2.7		-116.9	25	1876	04 28 36
04 29 25	NGC3735	08 52 57	64.9	31.1	-2.7		-112.0	-25	1876	No stop
04 30 15	---	08 53 47	64.9	31.1	-2.7		-112.2	25	1882	04 29 26

Schedule for TORUN (Code Tr)

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Start UT	Source	Start / Stop					Early	Disk	TPStart	
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC

---	Thu	8 Nov 2018	Day 312		---					
04 30 15	J1134+7249	08 53 47	64.1	26.1	-2.7	-117.1	-25	1882	No stop	
04 31 05	=1131+730	08 54 37	64.1	26.1	-2.7	-117.4	25	1888	04 30 16	
04 31 05	NGC3735	08 54 37	65.0	31.0	-2.7	-112.5	-25	1888	No stop	
04 31 55	---	08 55 28	65.0	31.0	-2.7	-112.8	25	1895	04 31 06	
04 31 55	J1134+7249	08 55 28	64.2	26.0	-2.7	-117.7	-25	1895	No stop	
04 32 45	=1131+730	08 56 18	64.3	25.9	-2.6	-117.9	25	1901	04 31 56	
04 32 45	NGC3735	08 56 18	65.1	30.9	-2.7	-113.0	-25	1901	No stop	
04 33 35	---	08 57 08	65.2	30.8	-2.7	-113.3	25	1908	04 32 46	
04 33 35	J1134+7249	08 57 08	64.3	25.9	-2.6	-118.2	-25	1908	No stop	
04 34 25	=1131+730	08 57 58	64.4	25.8	-2.6	-118.4	25	1914	04 33 36	
04 34 25	NGC3735	08 57 58	65.2	30.8	-2.7	-113.5	-25	1914	No stop	
04 35 15	---	08 58 48	65.3	30.7	-2.6	-113.8	25	1921	04 34 26	
04 35 15	J1134+7249	08 58 48	64.4	25.7	-2.6	-118.7	-25	1921	No stop	
04 36 05	=1131+730	08 59 38	64.5	25.7	-2.6	-119.0	25	1927	04 35 16	
04 36 05	NGC3735	08 59 38	65.4	30.6	-2.6	-114.0	-25	1927	No stop	
04 36 55	---	09 00 28	65.4	30.6	-2.6	-114.3	25	1933	04 36 06	
04 36 55	J1134+7249	09 00 28	64.5	25.6	-2.6	-119.2	-25	1933	No stop	
04 37 45	=1131+730	09 01 19	64.6	25.5	-2.6	-119.5	25	1940	04 36 56	
04 37 45	NGC3735	09 01 19	65.5	30.5	-2.6	-114.6	-25	1940	No stop	
04 38 35	---	09 02 09	65.6	30.4	-2.6	-114.8	25	1946	04 37 46	
04 38 35	J1134+7249	09 02 09	64.6	25.4	-2.6	-119.7	-25	1946	No stop	
04 39 25	=1131+730	09 02 59	64.7	25.4	-2.5	-120.0	25	1953	04 38 36	
04 39 25	NGC3735	09 02 59	65.6	30.3	-2.6	-115.1	-25	1953	No stop	
04 40 15	---	09 03 49	65.7	30.3	-2.6	-115.3	25	1959	04 39 26	
04 40 55	J1134+7249	09 04 29	64.8	25.2	-2.5	-120.5	15	1959	04 40 55	
04 41 45	=1131+730	09 05 19	64.8	25.2	-2.5	-120.8	50	1965	04 40 56	
04 41 45	NGC3735	09 05 19	65.8	30.1	-2.5	-115.8	-25	1965	No stop	
04 42 35	---	09 06 09	65.9	30.1	-2.5	-116.1	25	1972	04 41 46	
04 42 35	J1134+7249	09 06 09	64.9	25.1	-2.5	-121.0	-25	1972	No stop	
04 43 25	=1131+730	09 06 59	64.9	25.0	-2.5	-121.3	25	1978	04 42 36	

Schedule for TORUN (Code Tr)

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Start UT	Source	Start / Stop					Early	Disk	TPStart	
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC

---	Thu	8 Nov 2018	Day 312	---						
04 43 25	NGC3735	09 06 59	65.9	30.0	-2.5		-116.4	-25	1978	No stop
04 44 15	---	09 07 50	66.0	29.9	-2.5		-116.6	25	1985	04 43 26
04 44 15	J1134+7249	09 07 50	65.0	24.9	-2.5		-121.6	-25	1985	No stop
04 45 05	=1131+730	09 08 40	65.1	24.9	-2.4		-121.8	25	1991	04 44 16
04 45 05	NGC3735	09 08 40	66.1	29.8	-2.5		-116.9	-25	1991	No stop
04 45 55	---	09 09 30	66.1	29.8	-2.5		-117.2	25	1997	04 45 06
04 45 55	J1134+7249	09 09 30	65.1	24.8	-2.4		-122.1	-25	1997	No stop
04 46 45	=1131+730	09 10 20	65.2	24.7	-2.4		-122.4	25	2004	04 45 56
04 46 45	NGC3735	09 10 20	66.2	29.7	-2.4		-117.4	-25	2004	No stop
04 47 35	---	09 11 10	66.2	29.6	-2.4		-117.7	25	2010	04 46 46
04 47 35	J1134+7249	09 11 10	65.2	24.6	-2.4		-122.6	-25	2010	No stop
04 48 25	=1131+730	09 12 00	65.3	24.5	-2.4		-122.9	25	2017	04 47 36
04 48 25	NGC3735	09 12 00	66.3	29.5	-2.4		-118.0	-25	2017	No stop
04 49 15	---	09 12 50	66.4	29.4	-2.4		-118.2	25	2023	04 48 26
04 49 15	J1134+7249	09 12 50	65.3	24.5	-2.4		-123.2	-25	2023	No stop
04 50 05	=1131+730	09 13 41	65.4	24.4	-2.4		-123.5	25	2029	04 49 16
04 50 05	NGC3735	09 13 41	66.4	29.4	-2.4		-118.5	-25	2029	No stop
04 50 55	---	09 14 31	66.5	29.3	-2.4		-118.8	25	2036	04 50 06
04 50 55	J1134+7249	09 14 31	65.4	24.3	-2.3		-123.7	-25	2036	No stop
04 51 45	=1131+730	09 15 21	65.5	24.2	-2.3		-124.0	25	2042	04 50 56
04 51 45	NGC3735	09 15 21	66.5	29.2	-2.4		-119.1	-25	2042	No stop
04 52 35	---	09 16 11	66.6	29.1	-2.3		-119.3	25	2049	04 51 46
04 52 35	J1134+7249	09 16 11	65.5	24.1	-2.3		-124.3	-25	2049	No stop
04 53 25	=1131+730	09 17 01	65.6	24.0	-2.3		-124.6	25	2055	04 52 36
04 53 25	NGC3735	09 17 01	66.7	29.0	-2.3		-119.6	-25	2055	No stop
04 54 15	---	09 17 51	66.7	28.9	-2.3		-119.9	25	2062	04 53 26
04 54 55	J1134+7249	09 18 31	65.7	23.9	-2.3		-125.1	15	2062	04 54 55
04 55 45	=1131+730	09 19 21	65.7	23.8	-2.3		-125.3	50	2068	04 54 56
04 55 45	NGC3735	09 19 21	66.8	28.8	-2.3		-120.4	-25	2068	No stop
04 56 35	---	09 20 12	66.9	28.7	-2.3		-120.7	25	2074	04 55 46

Schedule for TORUN (Code Tr)

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Start UT	Source	Start / Stop					Early	Disk	TPStart	
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC

---	Thu	8 Nov 2018	Day 312		---					
04 56 35	J1134+7249	09 20 12	65.8	23.7	-2.3		-125.6	-25	2074	No stop
04 57 25	=1131+730	09 21 02	65.8	23.6	-2.2		-125.9	25	2081	04 56 36
04 57 25	NGC3735	09 21 02	67.0	28.6	-2.3		-121.0	-25	2081	No stop
04 58 15	---	09 21 52	67.0	28.5	-2.3		-121.2	25	2087	04 57 26
04 58 15	J1134+7249	09 21 52	65.9	23.5	-2.2		-126.2	-25	2087	No stop
04 59 05	=1131+730	09 22 42	65.9	23.4	-2.2		-126.5	25	2094	04 58 16
04 59 05	NGC3735	09 22 42	67.1	28.4	-2.2		-121.5	-25	2094	No stop
04 59 55	---	09 23 32	67.1	28.3	-2.2		-121.8	25	2100	04 59 06
04 59 55	J1134+7249	09 23 32	66.0	23.4	-2.2		-126.7	-25	2100	No stop
05 00 45	=1131+730	09 24 22	66.0	23.3	-2.2		-127.0	25	2106	04 59 56
05 00 45	NGC3735	09 24 22	67.2	28.2	-2.2		-122.1	-25	2106	No stop
05 01 35	---	09 25 12	67.3	28.1	-2.2		-122.4	25	2113	05 00 46
05 01 35	J1134+7249	09 25 12	66.1	23.2	-2.2		-127.3	-25	2113	No stop
05 02 25	=1131+730	09 26 03	66.1	23.1	-2.2		-127.6	25	2119	05 01 36
05 02 25	NGC3735	09 26 03	67.3	28.0	-2.2		-122.7	-25	2119	No stop
05 03 15	---	09 26 53	67.4	27.9	-2.2		-122.9	25	2126	05 02 26
05 03 15	J1134+7249	09 26 53	66.2	23.0	-2.1		-127.9	-25	2126	No stop
05 04 05	=1131+730	09 27 43	66.2	22.9	-2.1		-128.2	25	2132	05 03 16
05 04 05	NGC3735	09 27 43	67.4	27.8	-2.2		-123.2	-25	2132	No stop
05 04 55	---	09 28 33	67.5	27.7	-2.1		-123.5	25	2138	05 04 06
05 04 55	J1134+7249	09 28 33	66.3	22.8	-2.1		-128.5	-25	2138	No stop
05 05 45	=1131+730	09 29 23	66.3	22.7	-2.1		-128.7	25	2145	05 04 56
05 05 45	NGC3735	09 29 23	67.5	27.6	-2.1		-123.8	-25	2145	No stop
05 06 35	---	09 30 13	67.6	27.5	-2.1		-124.1	25	2151	05 05 46
05 06 35	J1134+7249	09 30 13	66.4	22.6	-2.1		-129.0	-25	2151	No stop
05 07 25	=1131+730	09 31 03	66.4	22.5	-2.1		-129.3	25	2158	05 06 36
05 07 25	NGC3735	09 31 03	67.7	27.4	-2.1		-124.4	-25	2158	No stop
05 08 15	---	09 31 54	67.7	27.3	-2.1		-124.7	25	2164	05 07 26
05 08 55	J1134+7249	09 32 34	66.5	22.3	-2.0		-129.8	15	2164	05 08 55
05 09 45	=1131+730	09 33 24	66.5	22.2	-2.0		-130.1	50	2171	05 08 56

Schedule for TORUN (Code Tr)

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H2O megamaser VLBI: a powerful tool to study ejection and accretion

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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 8 Nov 2018 Day 312 ---										
05 09 45	NGC3735	09 33 24	67.8	27.1	-2.1		-125.2	-25	2171	No stop
05 10 35	---	09 34 14	67.9	27.0	-2.0		-125.5	25	2177	05 09 46
05 10 35	J1134+7249	09 34 14	66.6	22.1	-2.0		-130.4	-25	2177	No stop
05 11 25	=1131+730	09 35 04	66.6	22.0	-2.0		-130.7	25	2183	05 10 36
05 11 25	NGC3735	09 35 04	67.9	26.9	-2.0		-125.8	-25	2183	No stop
05 12 15	---	09 35 54	68.0	26.8	-2.0		-126.1	25	2190	05 11 26
05 12 15	J1134+7249	09 35 54	66.7	21.9	-2.0		-131.0	-25	2190	No stop
05 13 05	=1131+730	09 36 44	66.7	21.8	-2.0		-131.3	25	2196	05 12 16
05 13 05	NGC3735	09 36 44	68.1	26.7	-2.0		-126.4	-25	2196	No stop
05 13 55	---	09 37 34	68.1	26.6	-2.0		-126.7	25	2203	05 13 06
05 13 55	J1134+7249	09 37 34	66.8	21.7	-2.0		-131.6	-25	2203	No stop
05 14 45	=1131+730	09 38 25	66.8	21.6	-1.9		-131.9	25	2209	05 13 56
05 14 45	NGC3735	09 38 25	68.2	26.4	-2.0		-127.0	-25	2209	No stop
05 15 35	---	09 39 15	68.2	26.3	-2.0		-127.3	25	2215	05 14 46
05 15 35	J1134+7249	09 39 15	66.9	21.5	-1.9		-132.2	-25	2215	No stop
05 16 25	=1131+730	09 40 05	66.9	21.4	-1.9		-132.5	25	2222	05 15 36
05 16 25	NGC3735	09 40 05	68.3	26.2	-1.9		-127.6	-25	2222	No stop
05 17 15	---	09 40 55	68.3	26.1	-1.9		-127.9	25	2228	05 16 26
05 17 15	J1134+7249	09 40 55	67.0	21.3	-1.9		-132.8	-25	2228	No stop
05 18 05	=1131+730	09 41 45	67.0	21.2	-1.9		-133.1	25	2235	05 17 16
05 18 05	NGC3735	09 41 45	68.4	26.0	-1.9		-128.2	-25	2235	No stop
05 18 55	---	09 42 35	68.4	25.9	-1.9		-128.5	25	2241	05 18 06
05 18 55	J1134+7249	09 42 35	67.0	21.1	-1.9		-133.4	-25	2241	No stop
05 19 45	=1131+730	09 43 25	67.1	21.0	-1.9		-133.7	25	2247	05 18 56
05 19 45	NGC3735	09 43 25	68.5	25.8	-1.9		-128.8	-24	2247	No stop
05 20 35	---	09 44 16	68.6	25.6	-1.9		-129.2	26	2254	05 19 46
05 20 35	J1134+7249	09 44 16	67.1	20.9	-1.8		-134.0	-25	2254	No stop
05 21 25	=1131+730	09 45 06	67.2	20.7	-1.8		-134.3	25	2260	05 20 36
05 21 25	NGC3735	09 45 06	68.6	25.5	-1.9		-129.5	-24	2260	No stop
05 22 15	---	09 45 56	68.7	25.4	-1.9		-129.8	26	2267	05 21 26

Schedule for TORUN (Code Tr)

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Start UT	Source	Start / Stop					Early	Disk	TPStart	
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC

---	Thu	8 Nov 2018	Day 312		---					
05 22 55	J1134+7249	09 46 36	67.3	20.5	-1.8		-134.8	15	2267	05 22 55
05 23 45	=1131+730	09 47 26	67.3	20.4	-1.8		-135.1	50	2273	05 22 56
05 23 45	NGC3735	09 47 26	68.8	25.2	-1.8		-130.3	-24	2273	No stop
05 24 35	---	09 48 16	68.8	25.0	-1.8		-130.7	26	2279	05 23 46
05 24 35	J1134+7249	09 48 16	67.3	20.3	-1.8		-135.5	-25	2279	No stop
05 25 25	=1131+730	09 49 06	67.4	20.2	-1.8		-135.8	25	2286	05 24 36
05 25 25	NGC3735	09 49 06	68.9	24.9	-1.8		-131.0	-24	2286	No stop
05 26 15	---	09 49 57	68.9	24.8	-1.8		-131.3	26	2292	05 25 26
05 26 15	J1134+7249	09 49 57	67.4	20.1	-1.8		-136.1	-24	2292	No stop
05 27 05	=1131+730	09 50 47	67.5	20.0	-1.7		-136.4	26	2299	05 26 16
05 27 05	NGC3735	09 50 47	69.0	24.7	-1.8		-131.6	-24	2299	No stop
05 27 55	---	09 51 37	69.0	24.5	-1.8		-131.9	26	2305	05 27 06
05 27 55	J1134+7249	09 51 37	67.5	19.8	-1.7		-136.7	-24	2305	No stop
05 28 45	=1131+730	09 52 27	67.6	19.7	-1.7		-137.0	26	2312	05 27 56
05 28 45	NGC3735	09 52 27	69.1	24.4	-1.7		-132.2	-24	2312	No stop
05 29 35	---	09 53 17	69.1	24.3	-1.7		-132.6	26	2318	05 28 46
05 29 35	J1134+7249	09 53 17	67.6	19.6	-1.7		-137.3	-24	2318	No stop
05 30 25	=1131+730	09 54 07	67.6	19.5	-1.7		-137.6	26	2324	05 29 36
05 30 25	NGC3735	09 54 07	69.2	24.1	-1.7		-132.9	-24	2324	No stop
05 31 15	---	09 54 57	69.2	24.0	-1.7		-133.2	26	2331	05 30 26
05 31 15	J1134+7249	09 54 57	67.7	19.4	-1.7		-137.9	-24	2331	No stop
05 32 05	=1131+730	09 55 47	67.7	19.2	-1.7		-138.2	26	2337	05 31 16
05 32 05	NGC3735	09 55 47	69.3	23.9	-1.7		-133.5	-24	2337	No stop
05 32 55	---	09 56 38	69.3	23.7	-1.7		-133.8	26	2344	05 32 06
05 32 55	J1134+7249	09 56 38	67.8	19.1	-1.6		-138.5	-24	2344	No stop
05 33 45	=1131+730	09 57 28	67.8	19.0	-1.6		-138.9	26	2350	05 32 56
05 33 45	NGC3735	09 57 28	69.4	23.6	-1.7		-134.2	-24	2350	No stop
05 34 35	---	09 58 18	69.4	23.4	-1.6		-134.5	26	2356	05 33 46
05 34 35	J1134+7249	09 58 18	67.9	18.9	-1.6		-139.2	-24	2356	No stop
05 35 25	=1131+730	09 59 08	67.9	18.7	-1.6		-139.5	26	2363	05 34 36

Schedule for TORUN (Code Tr)

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Start UT	Source	Start / Stop					Early	Disk	TPStart	
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC

---	Thu	8 Nov 2018	Day 312	---						
05 35 25	NGC3735	09 59 08	69.5	23.3	-1.6		-134.8	-24	2363	No stop
05 36 15	---	09 59 58	69.5	23.2	-1.6		-135.2	26	2369	05 35 26
05 36 55	J1134+7249	10 00 38	68.0	18.5	-1.6		-140.1	16	2369	05 36 55
05 37 45	=1131+730	10 01 28	68.0	18.4	-1.6		-140.4	50	2376	05 36 56
05 37 45	NGC3735	10 01 28	69.6	22.9	-1.6		-135.8	-24	2376	No stop
05 38 35	---	10 02 19	69.7	22.8	-1.6		-136.1	26	2382	05 37 46
05 38 35	J1134+7249	10 02 19	68.0	18.3	-1.5		-140.7	-24	2382	No stop
05 39 25	=1131+730	10 03 09	68.1	18.1	-1.5		-141.0	26	2388	05 38 36
05 39 25	NGC3735	10 03 09	69.7	22.6	-1.6		-136.4	-24	2388	No stop
05 40 15	---	10 03 59	69.8	22.5	-1.5		-136.8	26	2395	05 39 26
05 40 15	J1134+7249	10 03 59	68.1	18.0	-1.5		-141.3	-24	2395	No stop
05 41 05	=1131+730	10 04 49	68.2	17.9	-1.5		-141.7	26	2401	05 40 16
05 41 05	NGC3735	10 04 49	69.8	22.3	-1.5		-137.1	-24	2401	No stop
05 41 55	---	10 05 39	69.9	22.2	-1.5		-137.4	26	2408	05 41 06
05 41 55	J1134+7249	10 05 39	68.2	17.7	-1.5		-142.0	-24	2408	No stop
05 42 45	=1131+730	10 06 29	68.2	17.6	-1.5		-142.3	26	2414	05 41 56
05 42 45	NGC3735	10 06 29	69.9	22.0	-1.5		-137.8	-24	2414	No stop
05 43 35	---	10 07 19	69.9	21.9	-1.5		-138.1	26	2421	05 42 46
05 43 35	J1134+7249	10 07 19	68.3	17.5	-1.5		-142.6	-24	2421	No stop
05 44 25	=1131+730	10 08 09	68.3	17.3	-1.5		-142.9	26	2427	05 43 36
05 44 25	NGC3735	10 08 09	70.0	21.7	-1.5		-138.4	-24	2427	No stop
05 45 15	---	10 09 00	70.0	21.6	-1.5		-138.8	26	2433	05 44 26
05 45 15	J1134+7249	10 09 00	68.4	17.2	-1.4		-143.3	-24	2433	No stop
05 46 05	=1131+730	10 09 50	68.4	17.1	-1.4		-143.6	26	2440	05 45 16
05 46 05	NGC3735	10 09 50	70.1	21.4	-1.5		-139.1	-23	2440	No stop
05 46 55	---	10 10 40	70.1	21.3	-1.4		-139.5	27	2446	05 46 06
05 46 55	J1134+7249	10 10 40	68.4	16.9	-1.4		-143.9	-24	2446	No stop
05 47 45	=1131+730	10 11 30	68.5	16.8	-1.4		-144.2	26	2453	05 46 56
05 47 45	NGC3735	10 11 30	70.2	21.1	-1.4		-139.8	-23	2453	No stop
05 48 35	---	10 12 20	70.2	20.9	-1.4		-140.2	27	2459	05 47 46

Schedule for TORUN (Code Tr)

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Start UT	Source	Start / Stop					Early	Disk	TPStart	
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC

---	Thu	8 Nov 2018	Day 312	---						
05 48 35	J1134+7249	10 12 20	68.5	16.7	-1.4		-144.6	-24	2459	No stop
05 49 25	=1131+730	10 13 10	68.5	16.5	-1.4		-144.9	26	2465	05 48 36
05 49 25	NGC3735	10 13 10	70.3	20.8	-1.4		-140.5	-23	2465	No stop
05 50 15	---	10 14 00	70.3	20.6	-1.4		-140.9	27	2472	05 49 26
05 50 55	J1134+7249	10 14 41	68.6	16.3	-1.3		-145.5	16	2472	05 50 55
05 51 45	=1131+730	10 15 31	68.6	16.1	-1.3		-145.8	50	2478	05 50 56
05 51 45	NGC3735	10 15 31	70.4	20.3	-1.4		-141.5	-23	2478	No stop
05 52 35	---	10 16 21	70.4	20.2	-1.3		-141.8	27	2485	05 51 46
05 52 35	J1134+7249	10 16 21	68.7	16.0	-1.3		-146.2	-23	2485	No stop
05 53 25	=1131+730	10 17 11	68.7	15.9	-1.3		-146.5	27	2491	05 52 36
05 53 25	NGC3735	10 17 11	70.5	20.0	-1.3		-142.2	-23	2491	No stop
05 54 15	---	10 18 01	70.5	19.8	-1.3		-142.5	27	2497	05 53 26
05 54 15	J1134+7249	10 18 01	68.7	15.7	-1.3		-146.8	-23	2497	No stop
05 55 05	=1131+730	10 18 51	68.8	15.6	-1.3		-147.2	27	2504	05 54 16
05 55 05	NGC3735	10 18 51	70.6	19.7	-1.3		-142.9	-23	2504	No stop
05 55 55	---	10 19 41	70.6	19.5	-1.3		-143.3	27	2510	05 55 06
05 55 55	J1134+7249	10 19 41	68.8	15.4	-1.3		-147.5	-23	2510	No stop
05 56 45	=1131+730	10 20 32	68.8	15.3	-1.2		-147.8	27	2517	05 55 56
05 56 45	NGC3735	10 20 32	70.6	19.3	-1.3		-143.6	-23	2517	No stop
05 57 35	---	10 21 22	70.7	19.2	-1.3		-144.0	27	2523	05 56 46
05 57 35	J1134+7249	10 21 22	68.9	15.1	-1.2		-148.2	-23	2523	No stop
05 58 25	=1131+730	10 22 12	68.9	15.0	-1.2		-148.5	27	2529	05 57 36
05 58 25	NGC3735	10 22 12	70.7	19.0	-1.2		-144.3	-23	2529	No stop
05 59 15	---	10 23 02	70.8	18.8	-1.2		-144.7	27	2536	05 58 26
05 59 15	J1134+7249	10 23 02	68.9	14.8	-1.2		-148.8	-23	2536	No stop
06 00 05	=1131+730	10 23 52	69.0	14.7	-1.2		-149.2	27	2542	05 59 16
06 00 05	NGC3735	10 23 52	70.8	18.6	-1.2		-145.0	-23	2542	No stop
06 00 55	---	10 24 42	70.9	18.5	-1.2		-145.4	27	2549	06 00 06
06 00 55	J1134+7249	10 24 42	69.0	14.5	-1.2		-149.5	-23	2549	No stop
06 01 45	=1131+730	10 25 32	69.0	14.4	-1.2		-149.8	27	2555	06 00 56

Schedule for TORUN (Code Tr)

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Start UT	Source	Start / Stop					Early	Disk	TPStart	
Stop UT		LST	EL	AZ	HA	UP	ParA	Dwell	GBytes	SYNC

---	Thu	8 Nov 2018	Day 312	---						
06 01 45	NGC3735	10 25 32	70.9	18.3	-1.2		-145.8	-23	2555	No stop
06 02 35	---	10 26 22	70.9	18.1	-1.2		-146.1	27	2562	06 01 46
06 02 35	J1134+7249	10 26 22	69.1	14.2	-1.1		-150.2	-23	2562	No stop
06 03 25	=1131+730	10 27 13	69.1	14.1	-1.1		-150.5	27	2568	06 02 36
06 03 25	NGC3735	10 27 13	71.0	17.9	-1.2		-146.5	-22	2568	No stop
06 04 15	---	10 28 03	71.0	17.8	-1.1		-146.9	28	2574	06 03 26
06 04 55	J1134+7249	10 28 43	69.1	13.8	-1.1		-151.1	17	2574	06 04 55
06 05 45	=1131+730	10 29 33	69.2	13.7	-1.1		-151.5	50	2581	06 04 56
06 05 45	NGC3735	10 29 33	71.1	17.4	-1.1		-147.5	-22	2581	No stop
06 06 35	---	10 30 23	71.1	17.2	-1.1		-147.9	28	2587	06 05 46
06 06 35	J1134+7249	10 30 23	69.2	13.5	-1.1		-151.8	-22	2587	No stop
06 07 25	=1131+730	10 31 13	69.2	13.4	-1.1		-152.2	28	2594	06 06 36
06 07 25	NGC3735	10 31 13	71.1	17.1	-1.1		-148.3	-22	2594	No stop
06 08 15	---	10 32 03	71.2	16.9	-1.1		-148.6	28	2600	06 07 26
06 08 15	J1134+7249	10 32 03	69.3	13.2	-1.1		-152.5	-22	2600	No stop
06 09 05	=1131+730	10 32 54	69.3	13.0	-1.0		-152.9	28	2606	06 08 16
06 09 05	NGC3735	10 32 54	71.2	16.7	-1.1		-149.0	-22	2606	No stop
06 09 55	---	10 33 44	71.3	16.5	-1.1		-149.4	28	2613	06 09 06
06 09 55	J1134+7249	10 33 44	69.3	12.9	-1.0		-153.2	-22	2613	No stop
06 10 45	=1131+730	10 34 34	69.3	12.7	-1.0		-153.6	28	2619	06 09 56
06 10 45	NGC3735	10 34 34	71.3	16.3	-1.0		-149.8	-22	2619	No stop
06 11 35	---	10 35 24	71.3	16.1	-1.0		-150.1	28	2626	06 10 46
06 11 35	J1134+7249	10 35 24	69.4	12.6	-1.0		-153.9	-22	2626	No stop
06 12 25	=1131+730	10 36 14	69.4	12.4	-1.0		-154.2	28	2632	06 11 36
06 12 25	NGC3735	10 36 14	71.4	15.9	-1.0		-150.5	-22	2632	No stop
06 13 15	---	10 37 04	71.4	15.7	-1.0		-150.9	28	2638	06 12 26
06 13 15	J1134+7249	10 37 04	69.4	12.3	-1.0		-154.6	-22	2638	No stop
06 14 05	=1131+730	10 37 54	69.5	12.1	-1.0		-154.9	28	2645	06 13 16
06 14 05	NGC3735	10 37 54	71.4	15.6	-1.0		-151.3	-21	2645	No stop
06 14 55	---	10 38 45	71.5	15.4	-1.0		-151.7	29	2651	06 14 06

Schedule for TORUN (Code Tr)

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TPStart: Recording start time. Frequencies are L0 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 8 Nov 2018 Day 312 ---										
06 14 55	J1134+7249	10 38 45	69.5	11.9	-0.9		-155.3	-22	2651	No stop
06 15 45	=1131+730	10 39 35	69.5	11.8	-0.9		-155.6	28	2658	06 14 56
06 15 45	NGC3735	10 39 35	71.5	15.2	-1.0		-152.0	-21	2658	No stop
06 16 35	---	10 40 25	71.5	15.0	-0.9		-152.4	29	2664	06 15 46
06 16 35	J1134+7249	10 40 25	69.5	11.6	-0.9		-156.0	-22	2664	No stop
06 17 25	=1131+730	10 41 15	69.6	11.4	-0.9		-156.3	28	2671	06 16 36
06 17 25	NGC3735	10 41 15	71.6	14.8	-0.9		-152.8	-21	2671	No stop
06 18 15	---	10 42 05	71.6	14.6	-0.9		-153.2	29	2677	06 17 26
06 18 55	J1134+7249	10 42 45	69.6	11.2	-0.9		-157.0	19	2677	06 18 55
06 19 45	=1131+730	10 43 35	69.6	11.0	-0.9		-157.3	50	2683	06 18 56
06 19 45	NGC3735	10 43 35	71.7	14.2	-0.9		-153.9	-21	2683	No stop
06 20 35	---	10 44 25	71.7	14.0	-0.9		-154.3	29	2690	06 19 46
06 20 35	J1134+7249	10 44 25	69.6	10.8	-0.8		-157.7	-21	2690	No stop
06 21 25	=1131+730	10 45 16	69.7	10.7	-0.8		-158.0	29	2696	06 20 36
06 21 25	NGC3735	10 45 16	71.7	13.8	-0.9		-154.7	-22	2696	No stop
06 22 15	---	10 46 06	71.7	13.6	-0.8		-155.0	28	2703	06 21 26
06 22 15	J1134+7249	10 46 06	69.7	10.5	-0.8		-158.4	-21	2703	No stop
06 23 05	=1131+730	10 46 56	69.7	10.3	-0.8		-158.8	29	2709	06 22 16
06 23 05	NGC3735	10 46 56	71.8	13.4	-0.8		-155.4	-22	2709	No stop
06 23 55	---	10 47 46	71.8	13.2	-0.8		-155.8	28	2715	06 23 06
06 23 55	J1134+7249	10 47 46	69.7	10.2	-0.8		-159.1	-22	2715	No stop
06 24 45	=1131+730	10 48 36	69.8	10.0	-0.8		-159.5	28	2722	06 23 56
06 24 45	NGC3735	10 48 36	71.8	13.0	-0.8		-156.2	-22	2722	No stop
06 25 35	---	10 49 26	71.9	12.8	-0.8		-156.6	28	2728	06 24 46
06 25 35	J1134+7249	10 49 26	69.8	9.8	-0.8		-159.8	-22	2728	No stop
06 26 25	=1131+730	10 50 16	69.8	9.7	-0.7		-160.2	28	2735	06 25 36
06 26 25	NGC3735	10 50 16	71.9	12.6	-0.8		-157.0	-22	2735	No stop
06 27 15	---	10 51 07	71.9	12.4	-0.8		-157.4	28	2741	06 26 26
06 27 15	J1134+7249	10 51 07	69.8	9.5	-0.7		-160.5	-22	2741	No stop
06 28 05	=1131+730	10 51 57	69.8	9.3	-0.7		-160.9	28	2747	06 27 16

Schedule for TORUN (Code Tr)

Page 30

H2O megamaser VLBI: a powerful tool to study ejection and accretion

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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	8 Nov 2018	Day 312	---						
06 28 05	NGC3735	10 51 57	71.9	12.2	-0.8		-157.8	-22	2747	No stop
06 28 55	---	10 52 47	72.0	12.0	-0.7		-158.2	28	2754	06 28 06
06 28 55	J1134+7249	10 52 47	69.9	9.1	-0.7		-161.3	-22	2754	No stop
06 29 45	=1131+730	10 53 37	69.9	9.0	-0.7		-161.6	28	2760	06 28 56
06 29 45	NGC3735	10 53 37	72.0	11.8	-0.7		-158.6	-22	2760	No stop
06 30 35	---	10 54 27	72.0	11.5	-0.7		-159.0	28	2767	06 29 46
06 30 35	J1134+7249	10 54 27	69.9	8.8	-0.7		-162.0	-22	2767	No stop
06 31 25	=1131+730	10 55 17	69.9	8.6	-0.7		-162.3	28	2773	06 30 36
06 31 25	NGC3735	10 55 17	72.0	11.3	-0.7		-159.4	-22	2773	No stop
06 32 15	---	10 56 07	72.1	11.1	-0.7		-159.8	28	2779	06 31 26
06 32 55	J1134+7249	10 56 47	70.0	8.3	-0.6		-163.0	18	2779	06 32 55
06 33 45	=1131+730	10 57 38	70.0	8.1	-0.6		-163.4	50	2786	06 32 56
06 33 45	NGC3735	10 57 38	72.1	10.7	-0.7		-160.5	-22	2786	No stop
06 34 35	---	10 58 28	72.1	10.5	-0.6		-160.9	28	2792	06 33 46
06 34 35	J1134+7249	10 58 28	70.0	8.0	-0.6		-163.7	-22	2792	No stop
06 35 25	=1131+730	10 59 18	70.0	7.8	-0.6		-164.1	28	2799	06 34 36
06 35 25	NGC3735	10 59 18	72.2	10.3	-0.6		-161.3	-22	2799	No stop
06 36 15	---	11 00 08	72.2	10.1	-0.6		-161.7	28	2805	06 35 26
06 36 15	J1134+7249	11 00 08	70.0	7.6	-0.6		-164.4	-22	2805	No stop
06 37 05	=1131+730	11 00 58	70.0	7.4	-0.6		-164.8	28	2812	06 36 16
06 37 05	NGC3735	11 00 58	72.2	9.9	-0.6		-162.1	-22	2812	No stop
06 37 55	---	11 01 48	72.2	9.7	-0.6		-162.5	28	2818	06 37 06
06 37 55	J1134+7249	11 01 48	70.1	7.3	-0.6		-165.2	-22	2818	No stop
06 38 45	=1131+730	11 02 38	70.1	7.1	-0.5		-165.5	28	2824	06 37 56
06 38 45	NGC3735	11 02 38	72.2	9.4	-0.6		-162.9	-22	2824	No stop
06 39 35	---	11 03 29	72.3	9.2	-0.6		-163.3	28	2831	06 38 46
06 39 35	J1134+7249	11 03 29	70.1	6.9	-0.5		-165.9	-22	2831	No stop
06 40 25	=1131+730	11 04 19	70.1	6.7	-0.5		-166.3	28	2837	06 39 36
06 40 25	NGC3735	11 04 19	72.3	9.0	-0.5		-163.7	-22	2837	No stop
06 41 15	---	11 05 09	72.3	8.8	-0.5		-164.1	28	2844	06 40 26

Schedule for TORUN (Code Tr)

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H2O megamaser VLBI: a powerful tool to study ejection and accretion

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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 8 Nov 2018 Day 312 ---										
06 41 15	J1134+7249	11 05 09	70.1	6.6	-0.5		-166.6	-22	2844	No stop
06 42 05	=1131+730	11 05 59	70.1	6.4	-0.5		-167.0	28	2850	06 41 16
06 42 05	NGC3735	11 05 59	72.3	8.5	-0.5		-164.5	-22	2850	No stop
06 42 55	---	11 06 49	72.3	8.3	-0.5		-165.0	28	2856	06 42 06
06 42 55	J1134+7249	11 06 49	70.1	6.2	-0.5		-167.4	-22	2856	No stop
06 43 45	=1131+730	11 07 39	70.2	6.0	-0.5		-167.7	28	2863	06 42 56
06 43 45	NGC3735	11 07 39	72.4	8.1	-0.5		-165.4	-22	2863	No stop
06 44 35	---	11 08 29	72.4	7.9	-0.5		-165.8	28	2869	06 43 46
06 44 35	J1134+7249	11 08 29	70.2	5.9	-0.4		-168.1	-22	2869	No stop
06 45 25	=1131+730	11 09 20	70.2	5.7	-0.4		-168.5	28	2876	06 44 36
06 45 25	NGC3735	11 09 20	72.4	7.7	-0.5		-166.2	-22	2876	No stop
06 46 15	---	11 10 10	72.4	7.4	-0.4		-166.6	28	2882	06 45 26
06 47 00	J1134+7249	11 10 55	70.2	5.3	-0.4		-169.2	23	2882	06 47 00
06 47 50	=1131+730	11 11 45	70.2	5.2	-0.4		-169.5	50	2888	06 47 01
06 47 50	NGC3735	11 11 45	72.4	7.0	-0.4		-167.4	-22	2888	No stop
06 48 40	---	11 12 35	72.4	6.8	-0.4		-167.8	28	2895	06 47 51
06 48 40	J1134+7249	11 12 35	70.2	5.0	-0.4		-169.9	-22	2895	No stop
06 49 45	=1131+730	11 13 40	70.2	4.7	-0.4		-170.4	43	2903	06 48 41
06 55 20	DA193	11 19 16	36.0	-69.4	5.4		47.0	171	2903	06 55 20
07 00 00	---	11 23 57	35.3	-68.7	5.5		46.7	280	2939	06 55 21

SETUP FILE INFORMATION:

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

==== Setup file: sess318.K1024line

Setup group: 10	Station: TORUN	Total bit rate: 1024
Format: MARK5B	Bits per sample: 2	Sample rate: 32.000
Number of channels: 16	DBE type: DBBC_DDC	Speedup factor: 1.00

Disk used to record data.

1st LO=	21500.00	21500.00	21500.00	21500.00	21500.00	21500.00	21500.00	21500.00	21500.00
	21500.00	21500.00	21500.00	21500.00	21500.00	21500.00	21500.00	21500.00	21500.00
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	5	1	5	2	6	2	6	
	3	7	3	7	4	8	4	8	
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: 7 Based on FREQ, BW, and/or DOPPLER in schedule. Used with PCAL = off

LO sum=	22046.00	22046.00	22046.00	22046.00	22078.00	22078.00	22078.00	22078.00
	22110.00	22110.00	22110.00	22110.00	22142.00	22142.00	22142.00	22142.00
BBC fr=	546.00	546.00	546.00	546.00	578.00	578.00	578.00	578.00
	610.00	610.00	610.00	610.00	642.00	642.00	642.00	642.00
Bandwd=	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00
	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00

Matching frequency sets: 7

Track assignments are:

track1= 18, 26, 2, 10, 20, 28, 4, 12, 22, 30, 6, 14, 24, 32, 8, 16

barrel=roll_off

POSITIONS OF SOURCES USED IN RECORDING SCANS

Source	Source position (RA/Dec) (B1950)	(Date)	Error (mas)
* NGC3735	11 33 02.401363 * 11 35 57.300000	11 36 58.233081	0.00
	70 48 44.61683 * 70 32 09.000000	70 25 45.95089	0.00
	Doppler based on heliocentric frame and optical definition. Velocities:		
	2696.00 2696.00 2696.00 2696.00 2696.00 2696.00 2696.00 2696.00		
	2696.00 2696.00 2696.00 2696.00 2696.00 2696.00		
0552+398	05 52 01.407168 * 05 55 30.805611	05 56 49.694760	0.00
J0555+3948	39 48 21.94581 * 39 48 49.16496	39 48 46.85480	0.00
* DA193	/home/guest/rmc/SCHED/sched11.5/catalogs/sources.gsfc		
J0555+39	GSFC 2016a X/S astro solution, 415688 observations.		
	Doppler based on other sources.		
* 4C39.25	09 23 55.319216 * 09 27 03.013937	09 28 12.027652	0.31
J0927+3902	39 15 23.56644 * 39 02 20.85185	38 57 17.81841	0.16
0923+392	/home/guest/rmc/SCHED/sched11.5/catalogs/sources.gsfc		
J0927+39	GSFC 2016a X/S astro solution, 250526 observations.		
	Doppler based on other sources.		
1131+730	11 31 11.755699 * 11 34 11.407802	11 35 13.581288	2.12
* J1134+7249	73 05 54.76059 * 72 49 20.05280	72 42 56.76688	1.37
	/home/guest/rmc/SCHED/sched11.5/catalogs/sources.gsfc		
	GSFC 2016a X/S astro solution, 60 observations.		
	Doppler based on other sources.		

DOES CYGNUS A HARBOR A BINARY BLACK HOLE?

PI: Uwe Bach

Address: Max-Planck-Institut fuer Radioastronomie

Observing mode:

Schedule for TORUN (Code Tr)

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Does Cygnus A harbor a binary black hole?

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes 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   8 Nov 2018  Day 312 ---
Next scan frequencies: 22187.49 22187.49 22187.49 22187.49 22219.49 22219.49 22219.49 22219.49 22219.49 22219.49
                       22251.49 22251.49 22251.49 22251.49 22283.49 22283.49 22283.49 22283.49 22283.49
Next BBC frequencies:  687.49   687.49   687.49   687.49   719.49   719.49   719.49   719.49   719.49   719.49
                       751.49   751.49   751.49   751.49   783.49   783.49   783.49   783.49   783.49   783.49
Next scan bandwidths:  16.00    16.00    16.00    16.00    16.00    16.00    16.00    16.00    16.00    16.00
                       16.00    16.00    16.00    16.00    16.00    16.00    16.00    16.00    16.00    16.00

16 00 00  CYG-A          20 25 26  77.0 201.7 0.4    17.1   0     0    16 00 00
16 10 00  ---          20 35 27  76.3 209.5 0.6    23.0  600   77   16 00 01

16 10 30  CYG-A          20 35 57  76.3 209.8 0.6    23.2   23    77   16 10 30
16 20 30  ---          20 45 59  75.5 216.8 0.8    28.4  600  154   16 10 31

16 21 00  CYG-A          20 46 29  75.4 217.2 0.8    28.6   23   154   16 21 00
16 36 00  ---          21 01 32  73.9 226.3 1.0    35.0  900  269   16 21 01

16 37 30  2013+370      21 03 02  72.2 211.9 0.8    23.5   45   269   16 37 30
16 42 30  ---          21 08 03  71.8 214.8 0.9    25.5  300  308   16 37 31

16 44 00  CYG-A          21 09 33  73.0 230.6 1.2    37.8   44   308   16 44 00
16 54 00  ---          21 19 34  71.8 235.5 1.3    40.8  600  385   16 44 01

16 54 30  CYG-A          21 20 05  71.7 235.7 1.3    40.9   23   385   16 54 30
17 04 30  ---          21 30 06  70.5 240.0 1.5    43.4  600  462   16 54 31

17 05 00  CYG-A          21 30 36  70.4 240.2 1.5    43.5   24   462   17 05 00
17 15 00  ---          21 40 38  69.1 244.1 1.7    45.5  600  538   17 05 01

17 15 30  CYG-A          21 41 08  69.0 244.3 1.7    45.6   24   538   17 15 30
17 25 30  ---          21 51 10  67.6 247.9 1.9    47.3  600  615   17 15 31

17 26 00  CYG-A          21 51 40  67.6 248.0 1.9    47.4   24   615   17 26 00
17 36 00  ---          22 01 41  66.1 251.3 2.0    48.7  600  692   17 26 01

17 36 30  CYG-A          22 02 11  66.1 251.4 2.0    48.7   24   692   17 36 30
17 46 30  ---          22 12 13  64.6 254.4 2.2    49.8  600  769   17 36 31

----- 5-min gap for pointing -----

17 53 25  2013+370      22 19 09  63.5 245.7 2.0    43.4  378   769   17 53 25
17 58 25  ---          22 24 10  62.8 247.3 2.1    44.1  300   808   17 53 26

```

Schedule for TORUN (Code Tr)

Page 3

Does Cygnus A harbor a binary black hole?

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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	8 Nov 2018	Day 312	---						
18 00 10	CYG-A	22 25 55	62.6	258.1	2.4		50.9	69	808	18 00 10
18 10 10	---	22 35 57	61.2	260.6	2.6		51.5	600	885	18 00 11
18 10 40	CYG-A	22 36 27	61.1	260.8	2.6		51.5	24	885	18 10 40
18 20 40	---	22 46 28	59.6	263.1	2.8		51.9	600	962	18 10 41
18 21 10	CYG-A	22 46 58	59.5	263.3	2.8		52.0	24	962	18 21 10
18 31 10	---	22 57 00	58.0	265.5	2.9		52.3	600	1038	18 21 11
18 31 40	CYG-A	22 57 30	57.9	265.6	3.0		52.3	24	1038	18 31 40
18 41 40	---	23 07 32	56.4	267.8	3.1		52.4	600	1115	18 31 41
18 42 10	CYG-A	23 08 02	56.4	267.9	3.1		52.4	24	1115	18 42 10
18 52 10	---	23 18 03	54.9	269.9	3.3		52.5	600	1192	18 42 11
18 52 40	CYG-A	23 18 34	54.8	270.0	3.3		52.5	24	1192	18 52 40
19 02 40	---	23 28 35	53.3	272.0	3.5		52.4	600	1269	18 52 41
19 03 10	CYG-A	23 29 05	53.2	272.1	3.5		52.4	24	1269	19 03 10
19 13 10	---	23 39 07	51.7	274.0	3.7		52.3	600	1346	19 03 11
----- 5-min gap for pointing -----										
19 19 55	BLLAC	23 45 53	69.9	248.1	1.7		49.0	320	1346	19 19 55
19 24 55	---	23 50 54	69.2	249.9	1.8		49.7	300	1385	19 19 56
19 28 07	CYG-A	23 54 07	49.5	276.7	3.9		52.0	105	1385	19 28 07
19 38 07	---	00 04 08	48.0	278.5	4.1		51.7	600	1462	19 28 08
19 38 37	CYG-A	00 04 38	47.9	278.6	4.1		51.7	24	1462	19 38 37
19 48 37	---	00 14 40	46.4	280.3	4.2		51.3	600	1538	19 38 38
19 49 07	CYG-A	00 15 10	46.3	280.4	4.3		51.3	24	1538	19 49 07
19 59 07	---	00 25 12	44.9	282.1	4.4		50.8	600	1615	19 49 08
19 59 37	CYG-A	00 25 42	44.8	282.2	4.4		50.8	24	1615	19 59 37
20 09 37	---	00 35 43	43.3	283.9	4.6		50.4	600	1692	19 59 38
20 10 07	CYG-A	00 36 14	43.2	284.0	4.6		50.3	24	1692	20 10 07
20 20 07	---	00 46 15	41.8	285.6	4.8		49.8	600	1769	20 10 08
20 20 37	CYG-A	00 46 45	41.7	285.7	4.8		49.8	24	1769	20 20 37
20 30 37	---	00 56 47	40.3	287.3	4.9		49.2	600	1846	20 20 38
20 31 07	CYG-A	00 57 17	40.2	287.4	5.0		49.2	24	1846	20 31 07
20 41 07	---	01 07 19	38.8	289.0	5.1		48.6	600	1923	20 31 08

Schedule for TORUN (Code Tr) Page 4

Does Cygnus A harbor a binary black hole?

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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 8 Nov 2018 Day 312 ---

----- 5-min gap for pointing -----

Start UT	Source	LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
20 47 07	2013+370	01 13 20	37.8	284.0	5.0		47.0	333	1923	20 47 07
20 52 07	---	01 18 20	37.1	284.9	5.0		46.8	300	1962	20 47 08
20 53 52	CYG-A	01 20 06	37.0	291.1	5.3		47.7	78	1962	20 53 52
21 03 52	---	01 30 07	35.6	292.7	5.5		47.0	600	2038	20 53 53
21 04 22	CYG-A	01 30 37	35.5	292.7	5.5		47.0	24	2038	21 04 22
21 14 22	---	01 40 39	34.1	294.3	5.7		46.3	600	2115	21 04 23
21 14 52	CYG-A	01 41 09	34.1	294.4	5.7		46.2	24	2115	21 14 52
21 24 52	---	01 51 11	32.7	296.0	5.9		45.5	600	2192	21 14 53
21 26 52	BLLAC	01 53 11	51.1	277.9	3.8		53.6	37	2192	21 26 52
21 31 52	---	01 58 12	50.3	278.8	3.9		53.4	300	2231	21 26 53
21 33 42	CYG-A	02 00 03	31.5	297.4	6.0		44.8	26	2231	21 33 42
21 43 42	---	02 10 04	30.2	299.0	6.2		43.9	600	2308	21 33 43
21 44 12	CYG-A	02 10 35	30.1	299.0	6.2		43.9	24	2308	21 44 12
21 51 42	---	02 18 06	29.1	300.2	6.3		43.3	450	2365	21 44 13
21 52 12	CYG-A	02 18 36	29.1	300.3	6.3		43.2	24	2365	21 52 12
21 59 42	---	02 26 07	28.1	301.5	6.4		42.6	450	2423	21 52 13

SETUP FILE INFORMATION:

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

==== Setup file: sess318.K1024

```
Setup group: 11          Station: TORUN          Total bit rate: 1024
Format: MARK5B         Bits per sample: 2      Sample rate: 32.000
Number of channels: 16  DBE type: DBBC_DDC  Speedup factor: 1.00
```

Disk used to record data.

1st LO=	21500.00	21500.00	21500.00	21500.00	21500.00	21500.00	21500.00	21500.00	21500.00
	21500.00	21500.00	21500.00	21500.00	21500.00	21500.00	21500.00	21500.00	21500.00
Net SB=	L	L	U	U	L	L	U	U	U
	L	L	U	U	L	L	U	U	U
IF SB =	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	LCP
	RCP	LCP	RCP	LCP	RCP	LCP	RCP	LCP	LCP
BBC =	1	5	1	5	2	6	2	6	6
	3	7	3	7	4	8	4	8	8
BBC SB=	L	L	U	U	L	L	U	U	U
	L	L	U	U	L	L	U	U	U
IF =	A1	B1	A1	B1	A1	B1	A1	B1	B1
	A1	B1	A1	B1	A1	B1	A1	B1	B1

The following frequency sets based on these setups were used.

Frequency Set:	7	Setup file default.	Used with PCAL = off						
LO sum=	22187.49	22187.49	22187.49	22187.49	22219.49	22219.49	22219.49	22219.49	22219.49
	22251.49	22251.49	22251.49	22251.49	22283.49	22283.49	22283.49	22283.49	22283.49
BBC fr=	687.49	687.49	687.49	687.49	719.49	719.49	719.49	719.49	719.49
	751.49	751.49	751.49	751.49	783.49	783.49	783.49	783.49	783.49
Bandwd=	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00
	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00

Matching frequency sets: 7

Track assignments are:

track1= 18, 26, 2, 10, 20, 28, 4, 12, 22, 30, 6, 14, 24, 32, 8, 16

barrel=roll_off

POSITIONS OF SOURCES USED IN RECORDING SCANS

Source	Source position (RA/Dec)		Error	
	(B1950)	(J2000)	(mas)	
		(Date)		
CYGNUS-A	19 57 44.440790	* 19 59 28.356468	20 00 06.377263	0.80
J1959+4044	40 35 46.36227	* 40 44 02.09608	40 47 27.97847	0.53
* CYG-A	/home/guest/rmc/SCHED/sched11.5/catalogs/sources.gsfc			
J1959+40	GSFC 2016a X/S astro solution, 27 observations.			
1957+405				
1957+404				
1957+40				
* 2013+370	20 13 37.014517	* 20 15 28.729803	20 16 09.783715	0.09
J2015+3710	37 01 44.45878	* 37 10 59.51466	37 14 46.81774	0.12
	/home/guest/rmc/SCHED/sched11.5/catalogs/sources.gsfc			
	GSFC 2016a X/S astro solution, 131 observations.			
VR422201	22 00 39.362504	* 22 02 43.291371	22 03 29.845094	0.01
J2202+4216	42 02 08.59075	* 42 16 39.97988	42 22 23.52081	0.00
* BLLAC	/home/guest/rmc/SCHED/sched11.5/catalogs/sources.gsfc			
2200+420	GSFC 2016a X/S astro solution, 52189 observations.			
J2202+42				

1st LO=	2400.00	2400.00	2400.00	2400.00
Net SB=	L	L	U	U
IF SB =	L	L	L	L
Pol. =	RCP	LCP	RCP	LCP
BBC =	1	2	1	2
BBC SB=	U	U	L	L
IF =	C	A	C	A

The following frequency sets based on these setups were used.

Frequency Set: 7 Setup file default. Used with PCAL = 1MHz
 LO sum= 1668.00 1668.00 1668.00 1668.00
 BBC fr= 732.00 732.00 732.00 732.00
 Bandwd= 16.00 16.00 16.00 16.00
 Matching frequency sets: 7

Track assignments are:

track1= 2, 18, 3, 19
 barrel=roll_off

POSITIONS OF SOURCES USED IN RECORDING SCANS

Source	Source position (RA/Dec) (B1950)	(J2000)	(Date)	Error (mas)
* FAKERA	11 57 21.769299	* 12 00 00.000000	12 00 43.213550	0.00
	85 16 41.77889	* 85 00 00.000000	84 53 34.14012	0.00
	fake circumpolar target for a TS to look at			
* 0736+017	07 36 42.512339	* 07 39 18.033897	07 40 16.170390	0.00
J0739+0137	01 44 00.18080	* 01 37 04.61773	01 34 28.87145	0.00
	./rk23ao_sources.radioastron AGN, rfc_2013d, RA-A06-07			

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)
0736+017	108.7

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 $60 \text{ deg } F^{-0.6}$ 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

1st LO=	2400.00	2400.00	2400.00	2400.00
Net SB=	L	L	U	U
IF SB =	L	L	L	L
Pol. =	RCP	LCP	RCP	LCP
BBC =	1	2	1	2
BBC SB=	U	U	L	L
IF =	C	A	C	A

The following frequency sets based on these setups were used.

Frequency Set: 6 Setup file default. Used with PCAL = 1MHz
 LO sum= 1668.00 1668.00 1668.00 1668.00
 BBC fr= 732.00 732.00 732.00 732.00
 Bandwd= 16.00 16.00 16.00 16.00
 Matching frequency sets: 6

Track assignments are:

track1= 2, 18, 3, 19
 barrel=roll_off

POSITIONS OF SOURCES USED IN RECORDING SCANS

Source	Source position (RA/Dec) (B1950)	(J2000)	(Date)	Error (mas)
* FAKERA	11 57 21.769299	* 12 00 00.000000	12 00 43.252030	0.00
	85 16 41.77889	* 85 00 00.000000	84 53 34.05921	0.00
	fake circumpolar target for a TS to look at			
* 0736+017	07 36 42.512339	* 07 39 18.033897	07 40 16.178503	0.00
J0739+0137	01 44 00.18080	* 01 37 04.61773	01 34 28.82826	0.00
	./rk23ap_sources.radioastron AGN, rfc_2013d, RA-A06-07			

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)
0736+017	109.0

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 $60 \text{ deg } F^{-0.6}$ 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

rk23astr

RADIOASTRON AGN SCATTERING SUBSTRUCTURE

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Observing mode: C/L-band, dual-pol

Schedule for TORUN (Code Tr) Page 2

RadioAstron AGN scattering substructure

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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 10 Nov 2018 Day 314 ---

----- L-band VLBI scans -----

Next scan frequencies: 1668.00 1668.00 1668.00 1668.00

Next BBC frequencies: 732.00 732.00 732.00 732.00

Next scan bandwidths: 16.00 16.00 16.00 16.00

02 06 00	0736+017	06 37 02	36.8	160.1	-1.1	-11.8	0	0	02 06 00
02 20 30	---	06 51 34	37.5	164.6	-0.8	-9.2	870	28	02 06 01
02 21 00	0736+017	06 52 04	37.5	164.7	-0.8	-9.1	24	28	02 21 00
02 36 00	---	07 07 07	38.0	169.5	-0.6	-6.3	900	57	02 21 01

SETUP FILE INFORMATION:

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

==== Setup file: ra18cm2.set

Setup group: 8	Station: TORUN	Total bit rate: 256
Format: MKIV1:4	Bits per sample: 2	Sample rate: 32.000
Number of channels: 4	DBE type:	Speedup factor: 1.00

Disk used to record data.

```

1st LO= 2400.00 2400.00 2400.00 2400.00
Net SB=      L      L      U      U
IF SB =      L      L      L      L
Pol.  =      RCP     LCP     RCP     LCP
BBC   =      1      2      1      2
BBC SB=      U      U      L      L
IF    =      C      A      C      A

```

The following frequency sets based on these setups were used.

```

Frequency Set: 6 Setup file default. Used with PCAL = 1MHz
LO sum= 1668.00 1668.00 1668.00 1668.00
BBC fr= 732.00 732.00 732.00 732.00
Bandwd= 16.00 16.00 16.00 16.00
Matching frequency sets: 6

```

Track assignments are:

```

track1= 2, 18, 3, 19
barrel=roll_off

```

POSITIONS OF SOURCES USED IN RECORDING SCANS

Source	Source position (RA/Dec) (B1950)	(J2000)	(Date)	Error (mas)
* FAKERA	11 57 21.769299	* 12 00 00.000000	12 00 43.374028	0.00
	85 16 41.77889	* 85 00 00.000000	84 53 33.81068	0.00
	fake circumpolar target for a TS to look at			
* 0736+017	07 36 42.512339	* 07 39 18.033897	07 40 16.203776	0.00
J0739+0137	01 44 00.18080	* 01 37 04.61773	01 34 28.69844	0.00
	./rk23as_sources.radioastron			
	AGN, rfc_2013d, RA-A06-07			

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)
0736+017	109.7

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 $60 \text{ deg } F^{-0.6}$ 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

rk23attr

RADIOASTRON AGN SCATTERING SUBSTRUCTURE
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Observing mode: C/L-band, dual-pol

Schedule for TORUN (Code Tr) Page 2

RadioAstron AGN scattering substructure

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes 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 10 Nov 2018 Day 314 ---

----- L-band VLBI scans -----

Next scan frequencies: 1668.00 1668.00 1668.00 1668.00
Next BBC frequencies: 732.00 732.00 732.00 732.00
Next scan bandwidths: 16.00 16.00 16.00 16.00

08 16 00	0736+017	12 48 03	9.1	260.4	5.1	36.3	0	0	08 16 00
08 30 30	---	13 02 35	6.9	263.4	5.4	36.6	870	28	08 16 01
08 31 00	0736+017	13 03 05	6.8	263.5	5.4	36.6	24	28	08 31 00
08 46 00	---	13 18 07	4.6	266.5	5.6	36.8	900	57	08 31 01

SETUP FILE INFORMATION:

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

===== Setup file: ra18cm2.set

Setup group: 7	Station: TORUN	Total bit rate: 256
Format: MKIV1:4	Bits per sample: 2	Sample rate: 32.000
Number of channels: 4	DBE type:	Speedup factor: 1.00

Disk used to record data.

```

1st LO= 2400.00 2400.00 2400.00 2400.00
Net SB=      L      L      U      U
IF SB =      L      L      L      L
Pol.  =      RCP     LCP     RCP     LCP
BBC   =      1      2      1      2
BBC SB=      U      U      L      L
IF    =      C      A      C      A

```

The following frequency sets based on these setups were used.

```

Frequency Set: 6 Setup file default. Used with PCAL = 1MHz
LO sum= 1668.00 1668.00 1668.00 1668.00
BBC fr= 732.00 732.00 732.00 732.00
Bandwd= 16.00 16.00 16.00 16.00
Matching frequency sets: 6

```

Track assignments are:

```

track1= 2, 18, 3, 19
barrel=roll_off

```

POSITIONS OF SOURCES USED IN RECORDING SCANS

Source	Source position (RA/Dec) (B1950)	(J2000)	(Date)	Error (mas)
* FAKERA	11 57 21.769299	* 12 00 00.000000	12 00 43.415947	0.00
	85 16 41.77889	* 85 00 00.000000	84 53 33.72836	0.00
	fake circumpolar target for a TS to look at			
* 0736+017	07 36 42.512339	* 07 39 18.033897	07 40 16.212245	0.00
J0739+0137	01 44 00.18080	* 01 37 04.61773	01 34 28.65654	0.00
	./rk23at_sources.radioastron			
	AGN, rfc_2013d, RA-A06-07			

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)
0736+017	109.9

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 $60 \text{ deg } F^{-0.6}$ 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


```

1st LO= 2400.00 2400.00 2400.00 2400.00
Net SB=      L      L      U      U
IF SB =      L      L      L      L
Pol.  =      RCP     LCP     RCP     LCP
BBC   =      1      2      1      2
BBC SB=      U      U      L      L
IF    =      C      A      C      A

```

The following frequency sets based on these setups were used.

```

Frequency Set: 8 Setup file default. Used with PCAL = 1MHz
LO sum= 1668.00 1668.00 1668.00 1668.00
BBC fr= 732.00 732.00 732.00 732.00
Bandwd= 16.00 16.00 16.00 16.00
Matching frequency sets: 8

```

Track assignments are:

```

track1= 2, 18, 3, 19
barrel=roll_off

```

POSITIONS OF SOURCES USED IN RECORDING SCANS

Source	Source position (RA/Dec) (B1950)	(J2000)	(Date)	Error (mas)
* FAKERA	11 57 21.769299	* 12 00 00.000000	12 00 43.549013	0.00
	85 16 41.77889	* 85 00 00.000000	84 53 33.47787	0.00
	fake circumpolar target for a TS to look at			
* 0736+017	07 36 42.512339	* 07 39 18.033897	07 40 16.238241	0.00
J0739+0137	01 44 00.18080	* 01 37 04.61773	01 34 28.53285	0.00
	./rk23aw_sources.radioastron			
	AGN, rfc_2013d, RA-A06-07			

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)
0736+017	110.6

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 $60 \text{ deg } F^{-0.6}$ 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

rk23axtr

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Observing mode: C/L-band, dual-pol

Schedule for TORUN (Code Tr)

Page 2

RadioAstron AGN scattering substructure

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes 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 11 Nov 2018 Day 315 ---

----- L-band VLBI scans -----

Next scan frequencies: 1668.00 1668.00 1668.00 1668.00
Next BBC frequencies: 732.00 732.00 732.00 732.00
Next scan bandwidths: 16.00 16.00 16.00 16.00

08 12 00	0736+017	12 47 58	9.1	260.4	5.1	36.3	0	0	08 12 00
08 26 30	---	13 02 31	6.9	263.4	5.4	36.6	870	28	08 12 01
08 27 00	0736+017	13 03 01	6.8	263.5	5.4	36.6	24	28	08 27 00
08 42 00	---	13 18 03	4.6	266.5	5.6	36.8	900	57	08 27 01

SETUP FILE INFORMATION:

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

==== Setup file: ra18cm2.set

Setup group: 7	Station: TORUN	Total bit rate: 256
Format: MKIV1:4	Bits per sample: 2	Sample rate: 32.000
Number of channels: 4	DBE type:	Speedup factor: 1.00

Disk used to record data.

```

1st LO=  2400.00  2400.00  2400.00  2400.00
Net SB=           L           L           U           U
IF SB =           L           L           L           L
Pol.  =          RCP          LCP          RCP          LCP
BBC   =           1           2           1           2
BBC SB=           U           U           L           L
IF    =           C           A           C           A

```

The following frequency sets based on these setups were used.

```

Frequency Set:  5  Setup file default.  Used with PCAL = 1MHz
LO sum=  1668.00  1668.00  1668.00  1668.00
BBC fr=   732.00  732.00  732.00  732.00
Bandwd=   16.00  16.00  16.00  16.00
Matching frequency sets:  5

```

Track assignments are:

```

track1=  2, 18,  3, 19
barrel=roll_off

```

POSITIONS OF SOURCES USED IN RECORDING SCANS

Source	Source position (RA/Dec) (B1950)	(J2000)	(Date)	Error (mas)
* FAKERA	11 57 21.769299	* 12 00 00.000000	12 00 43.596535	0.00
	85 16 41.77889	* 85 00 00.000000	84 53 33.39236	0.00
	fake circumpolar target for a TS to look at			
* 0736+017	07 36 42.512339	* 07 39 18.033897	07 40 16.247175	0.00
J0739+0137	01 44 00.18080	* 01 37 04.61773	01 34 28.49199	0.00
	./rk23ax_sources.radioastron			
	AGN, rfc_2013d, RA-A06-07			

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)
0736+017	110.8

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 $60 \text{ deg } F^{-0.6}$ 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

rk23aztr

RADIOASTRON AGN SCATTERING SUBSTRUCTURE

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Observing mode: C/L-band, dual-pol

Schedule for TORUN (Code Tr) Page 2

RadioAstron AGN scattering substructure

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes 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 12 Nov 2018 Day 316 ---

----- L-band VLBI scans -----

Next scan frequencies: 1668.00 1668.00 1668.00 1668.00
Next BBC frequencies: 732.00 732.00 732.00 732.00
Next scan bandwidths: 16.00 16.00 16.00 16.00

01 58 00	0736+017	06 36 54	36.8	160.1	-1.1	-11.8	0	0	01 58 00
02 12 30	---	06 51 26	37.5	164.5	-0.8	-9.2	870	28	01 58 01
02 13 00	0736+017	06 51 56	37.5	164.7	-0.8	-9.1	24	28	02 13 00
02 28 00	---	07 06 58	38.0	169.4	-0.6	-6.3	900	57	02 13 01

SETUP FILE INFORMATION:

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

==== Setup file: ra18cm2.set

Setup group: 9	Station: TORUN	Total bit rate: 256
Format: MKIV1:4	Bits per sample: 2	Sample rate: 32.000
Number of channels: 4	DBE type:	Speedup factor: 1.00

Disk used to record data.

```

1st LO= 2400.00 2400.00 2400.00 2400.00
Net SB=      L      L      U      U
IF SB =      L      L      L      L
Pol.  =      RCP     LCP     RCP     LCP
BBC   =      1      2      1      2
BBC SB=      U      U      L      L
IF    =      C      A      C      A

```

The following frequency sets based on these setups were used.

```

Frequency Set: 8 Setup file default. Used with PCAL = 1MHz
LO sum= 1668.00 1668.00 1668.00 1668.00
BBC fr= 732.00 732.00 732.00 732.00
Bandwd= 16.00 16.00 16.00 16.00
Matching frequency sets: 8

```

Track assignments are:

```

track1= 2, 18, 3, 19
barrel=roll_off

```

POSITIONS OF SOURCES USED IN RECORDING SCANS

Source	Source position (RA/Dec) (B1950)	(J2000)	(Date)	Error (mas)
* FAKERA	11 57 21.769299	* 12 00 00.000000	12 00 43.738807	0.00
	85 16 41.77889	* 85 00 00.000000	84 53 33.14804	0.00
	fake circumpolar target for a TS to look at			
* 0736+017	07 36 42.512339	* 07 39 18.033897	07 40 16.272804	0.00
J0739+0137	01 44 00.18080	* 01 37 04.61773	01 34 28.37906	0.00
	./rk23az_sources.radioastron			
	AGN, rfc_2013d, RA-A06-07			

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)
0736+017	111.5

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 $60 \text{ deg } F^{-0.6}$ 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

rk23batr

RADIOASTRON AGN SCATTERING SUBSTRUCTURE
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Fax: +7-495-3332378 Phone during observation: +7-903-6614865

Observing mode: C/L-band, dual-pol

Schedule for TORUN (Code Tr) Page 2

RadioAstron AGN scattering substructure

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes 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 12 Nov 2018 Day 316 ---

----- L-band VLBI scans -----

Next scan frequencies: 1668.00 1668.00 1668.00 1668.00
Next BBC frequencies: 732.00 732.00 732.00 732.00
Next scan bandwidths: 16.00 16.00 16.00 16.00

08 08 00	0736+017	12 47 54	9.1	260.4	5.1	36.3	0	0	08 08 00
08 27 30	---	13 07 28	6.2	264.4	5.5	36.7	1170	37	08 08 01
08 28 00	0736+017	13 07 58	6.1	264.5	5.5	36.7	24	37	08 28 00
08 47 30	---	13 27 31	3.2	268.4	5.8	36.9	1170	75	08 28 01

SETUP FILE INFORMATION:

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

==== Setup file: ra18cm2.set

Setup group: 7	Station: TORUN	Total bit rate: 256
Format: MKIV1:4	Bits per sample: 2	Sample rate: 32.000
Number of channels: 4	DBE type:	Speedup factor: 1.00

Disk used to record data.

```

1st LO= 2400.00 2400.00 2400.00 2400.00
Net SB=      L      L      U      U
IF SB =      L      L      L      L
Pol.  =      RCP     LCP     RCP     LCP
BBC   =      1      2      1      2
BBC SB=      U      U      L      L
IF    =      C      A      C      A

```

The following frequency sets based on these setups were used.

```

Frequency Set: 6 Setup file default. Used with PCAL = 1MHz
LO sum= 1668.00 1668.00 1668.00 1668.00
BBC fr= 732.00 732.00 732.00 732.00
Bandwd= 16.00 16.00 16.00 16.00
Matching frequency sets: 6

```

Track assignments are:

```

track1= 2, 18, 3, 19
barrel=roll_off

```

POSITIONS OF SOURCES USED IN RECORDING SCANS

Source	Source position (RA/Dec) (B1950)	(J2000)	(Date)	Error (mas)
* FAKERA	11 57 21.769299	* 12 00 00.000000	12 00 43.787785	0.00
	85 16 41.77889	* 85 00 00.000000	84 53 33.06776	0.00
	fake circumpolar target for a TS to look at			
* 0736+017	07 36 42.512339	* 07 39 18.033897	07 40 16.281244	0.00
J0739+0137	01 44 00.18080	* 01 37 04.61773	01 34 28.34316	0.00
	./rk23ba_sources.radioastron			
	AGN, rfc_2013d, RA-A06-07			

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)
0736+017	111.8

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 $60 \text{ deg } F^{-0.6}$ 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

rd08ktr

RADIOASTRON AGN OBSERVATIONS

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Observing mode: C/L-band, dual-pol

Schedule for TORUN (Code Tr) Page 2

RadioAstron AGN 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

--- Thu 15 Nov 2018 Day 319 ---

----- C-band VLBI scans -----

Next scan frequencies: 4836.00 4836.00 4836.00 4836.00
Next BBC frequencies: 736.00 736.00 736.00 736.00
Next scan bandwidths: 16.00 16.00 16.00 16.00

05 00 00	0506+056	09 51 13	16.4	257.4	4.7	36.1	0	0	05 00 00
05 14 30	---	10 05 45	14.2	260.4	4.9	36.5	870	28	05 00 01
05 15 00	0506+056	10 06 16	14.2	260.5	4.9	36.5	24	28	05 15 00
05 25 00	---	10 16 17	12.7	262.6	5.1	36.8	600	47	05 15 01

----- L-band VLBI scans -----

Next scan frequencies: 1668.00 1668.00 1668.00 1668.00
Next BBC frequencies: 732.00 732.00 732.00 732.00

05 30 00	0506+056	10 21 18	11.9	263.6	5.2	36.8	293	47	05 30 00
05 44 30	---	10 35 50	9.8	266.5	5.4	37.0	870	75	05 30 01
05 45 00	0506+056	10 36 20	9.7	266.6	5.4	37.0	24	75	05 45 00
06 00 00	---	10 51 23	7.4	269.6	5.7	37.1	900	104	05 45 01

SETUP FILE INFORMATION:

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

===== Setup file: ra6cm2.set

Setup group: 4	Station: TORUN	Total bit rate: 256
Format: MKIV1:4	Bits per sample: 2	Sample rate: 32.000
Number of channels: 4	DBE type:	Speedup factor: 1.00

Disk used to record data.

1st LO=	4100.00	4100.00	4100.00	4100.00
Net SB=	L	L	U	U
IF SB =	U	U	U	U
Pol. =	RCP	LCP	RCP	LCP
BBC =	1	2	1	2
BBC SB=	L	L	U	U
IF =	C	A	C	A

The following frequency sets based on these setups were used.

Frequency Set: 5 Setup file default. Used with PCAL = 1MHz
 LO sum= 4836.00 4836.00 4836.00 4836.00
 BBC fr= 736.00 736.00 736.00 736.00
 Bandwd= 16.00 16.00 16.00 16.00
 Matching frequency sets: 5

Track assignments are:
 track1= 2, 18, 3, 19
 barrel=roll_off

==== Setup file: ra18cm2.set

Setup group: 10	Station: TORUN	Total bit rate: 256
Format: MKIV1:4	Bits per sample: 2	Sample rate: 32.000
Number of channels: 4	DBE type:	Speedup factor: 1.00

Disk used to record data.

1st LO=	2400.00	2400.00	2400.00	2400.00
Net SB=	L	L	U	U
IF SB =	L	L	L	L
Pol. =	RCP	LCP	RCP	LCP
BBC =	1	2	1	2
BBC SB=	U	U	L	L
IF =	C	A	C	A

The following frequency sets based on these setups were used.

Frequency Set: 8 Setup file default. Used with PCAL = 1MHz
 LO sum= 1668.00 1668.00 1668.00 1668.00
 BBC fr= 732.00 732.00 732.00 732.00
 Bandwd= 16.00 16.00 16.00 16.00
 Matching frequency sets: 8

Track assignments are:

track1= 2, 18, 3, 19
 barrel=roll_off

POSITIONS OF SOURCES USED IN RECORDING SCANS

Source	Source position (RA/Dec) (B1950)	(J2000)	(Date)	Error (mas)
* FAKERA	11 57 21.769299	* 12 00 00.000000	12 00 44.404409	0.00
	85 16 41.77889	* 85 00 00.000000	84 53 32.19001	0.00
	fake circumpolar target for a TS to look at			
* 0506+056	05 06 45.765584	* 05 09 25.964476	05 10 26.669958	0.00
J0509+0541	05 37 50.30294	* 05 41 35.33359	05 42 55.39991	0.00
	./rd08k_sources.radioastron			
	AGN, MASIV, rfc_2013d Petrov, 2013, unpublished 207 observations, RA-A03-04, RA-			

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)
0506+056	150.6

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 $60 \text{ deg } F^{-0.6}$ 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

rk23bbtr

RADIOASTRON AGN SCATTERING SUBSTRUCTURE
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Observing mode: C/L-band, dual-pol

Schedule for TORUN (Code Tr) Page 2

RadioAstron AGN scattering substructure

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes 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 15 Nov 2018 Day 319 ---

----- L-band VLBI scans -----

Next scan frequencies: 1668.00 1668.00 1668.00 1668.00
Next BBC frequencies: 732.00 732.00 732.00 732.00
Next scan bandwidths: 16.00 16.00 16.00 16.00

22 00 00	0607-157	02 54 01	9.3	132.5	-3.3		-27.4	0	0	22 00 00
22 14 30	---	03 08 33	10.9	135.6	-3.0		-25.9	870	28	22 00 01
22 15 00	0607-157	03 09 03	10.9	135.8	-3.0		-25.8	24	28	22 15 00
22 30 00	---	03 24 06	12.5	139.1	-2.8		-24.1	900	57	22 15 01

SETUP FILE INFORMATION:

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

===== Setup file: ra18cm2.set

Setup group: 5	Station: TORUN	Total bit rate: 256
Format: MKIV1:4	Bits per sample: 2	Sample rate: 32.000
Number of channels: 4	DBE type:	Speedup factor: 1.00

Disk used to record data.

```

1st LO= 2400.00 2400.00 2400.00 2400.00
Net SB=      L      L      U      U
IF SB =      L      L      L      L
Pol.  =      RCP     LCP     RCP     LCP
BBC   =      1      2      1      2
BBC SB=      U      U      L      L
IF    =      C      A      C      A

```

The following frequency sets based on these setups were used.

```

Frequency Set: 3 Setup file default. Used with PCAL = 1MHz
LO sum= 1668.00 1668.00 1668.00 1668.00
BBC fr= 732.00 732.00 732.00 732.00
Bandwd= 16.00 16.00 16.00 16.00
Matching frequency sets: 3

```

Track assignments are:

```

track1= 2, 18, 3, 19
barrel=roll_off

```

POSITIONS OF SOURCES USED IN RECORDING SCANS

Source	Source position (RA/Dec) (B1950)	(J2000)	(Date)	Error (mas)
* FAKERA	11 57 21.769299	* 12 00 00.000000	12 00 44.561995	0.00
	85 16 41.77889	* 85 00 00.000000	84 53 31.99558	0.00
	fake circumpolar target for a TS to look at			
* 0607-157	06 07 25.981282	* 06 09 40.949536	06 10 32.150707	0.00
J0609-1542	-15 42 03.30591	*-15 42 40.67271	-15 42 53.91644	0.00
	./rk23bb_sources.radioastron AGN, rfc_2013d, RA-A06-07			

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)
0607-157	126.6

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 $60 \text{ deg } F^{-0.6}$ 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

rk23bctr

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Observing mode: C/L-band, dual-pol

Schedule for TORUN (Code Tr) Page 2

RadioAstron AGN scattering substructure

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes recorded to this point.

TPStart: Recording start time. Frequencies are L0 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 16 Nov 2018 Day 320 ---

----- L-band VLBI scans -----

Next scan frequencies: 1668.00 1668.00 1668.00 1668.00

Next BBC frequencies: 732.00 732.00 732.00 732.00

Next scan bandwidths: 16.00 16.00 16.00 16.00

04 19 00	0607-157	09 14 03	10.7	224.7	3.1		26.0	0	0	04 19 00
04 36 50	---	09 31 56	8.8	228.6	3.4		27.9	1070	34	04 19 01
04 37 20	0607-157	09 32 26	8.7	228.7	3.4		27.9	24	34	04 37 20
04 55 10	---	09 50 19	6.6	232.5	3.7		29.7	1070	68	04 37 21
04 55 40	0607-157	09 50 49	6.6	232.6	3.7		29.7	24	68	04 55 40
05 14 00	---	10 09 12	4.3	236.4	4.0		31.3	1100	104	04 55 41

----- L-band VLBI scans -----

05 14 30	0607-157	10 09 42	4.3	236.5	4.0		31.4	24	104	05 14 30
05 24 00	---	10 19 14	3.1	238.5	4.1		32.1	570	122	05 14 31

SETUP FILE INFORMATION:

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

===== Setup file: ra18cm2.set

Setup group: 8	Station: TORUN	Total bit rate: 256
Format: MKIV1:4	Bits per sample: 2	Sample rate: 32.000
Number of channels: 4	DBE type:	Speedup factor: 1.00

Disk used to record data.

```

1st LO= 2400.00 2400.00 2400.00 2400.00
Net SB=      L      L      U      U
IF SB =      L      L      L      L
Pol.  =      RCP     LCP     RCP     LCP
BBC   =      1      2      1      2
BBC SB=      U      U      L      L
IF    =      C      A      C      A

```

The following frequency sets based on these setups were used.

```

Frequency Set: 7 Setup file default. Used with PCAL = 1MHz
LO sum= 1668.00 1668.00 1668.00 1668.00
BBC fr= 732.00 732.00 732.00 732.00
Bandwd= 16.00 16.00 16.00 16.00
Matching frequency sets: 7

```

Track assignments are:

```

track1= 2, 18, 3, 19
barrel=roll_off

```

POSITIONS OF SOURCES USED IN RECORDING SCANS

Source	Source position (RA/Dec) (B1950)	(J2000)	(Date)	Error (mas)
* FAKERA	11 57 21.769299	* 12 00 00.000000	12 00 44.618070	0.00
	85 16 41.77889	* 85 00 00.000000	84 53 31.92845	0.00
	fake circumpolar target for a TS to look at			
* 0607-157	06 07 25.981282	* 06 09 40.949536	06 10 32.156094	0.00
J0609-1542	-15 42 03.30591	*-15 42 40.67271	-15 42 53.95722	0.00
	./rk23bc_sources.radioastron AGN, rfc_2013d, RA-A06-07			

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)
0607-157	126.8

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 $60 \text{ deg } F^{-0.6}$ 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

RADIOASTRON AGN SCATTERING SUBSTRUCTURE

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Observing mode: C/L-band, dual-pol

Schedule for TORUN (Code Tr) Page 2

RadioAstron AGN scattering substructure

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes 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 16 Nov 2018 Day 320 ---

----- L-band VLBI scans -----

```
Next scan frequencies: 1668.00 1668.00 1668.00 1668.00
Next BBC frequencies:  732.00  732.00  732.00  732.00
Next scan bandwidths:  16.00  16.00  16.00  16.00
```

```
21 56 00 0607-157    02 53 57   9.3 132.5 -3.3   -27.4   0   0  21 56 00
22 10 30 ---           03 08 29  10.9 135.6 -3.0   -25.9  870  28  21 56 01

22 11 00 0607-157    03 08 59  10.9 135.7 -3.0   -25.8  24  28  22 11 00
22 26 00 ---           03 24 01  12.4 139.1 -2.8   -24.1  900  57  22 11 01
```

SETUP FILE INFORMATION:

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

===== Setup file: ra18cm2.set

```
Setup group: 6           Station: TORUN           Total bit rate: 256
Format: MKIV1:4         Bits per sample: 2      Sample rate: 32.000
Number of channels: 4    DBE type:                Speedup factor: 1.00
```

Disk used to record data.

1st LO=	2400.00	2400.00	2400.00	2400.00
Net SB=	L	L	U	U
IF SB =	L	L	L	L
Pol. =	RCP	LCP	RCP	LCP
BBC =	1	2	1	2
BBC SB=	U	U	L	L
IF =	C	A	C	A

The following frequency sets based on these setups were used.

Frequency Set: 4 Setup file default. Used with PCAL = 1MHz
 LO sum= 1668.00 1668.00 1668.00 1668.00
 BBC fr= 732.00 732.00 732.00 732.00
 Bandwd= 16.00 16.00 16.00 16.00
 Matching frequency sets: 4

Track assignments are:

track1= 2, 18, 3, 19
 barrel=roll_off

POSITIONS OF SOURCES USED IN RECORDING SCANS

Source	Source position (RA/Dec) (B1950)	(J2000)	(Date)	Error (mas)
* FAKERA	11 57 21.769299	* 12 00 00.000000	12 00 44.782406	0.00
	85 16 41.77889	* 85 00 00.000000	84 53 31.73669	0.00
	fake circumpolar target for a TS to look at			
* 0607-157	06 07 25.981282	* 06 09 40.949536	06 10 32.171262	0.00
J0609-1542	-15 42 03.30591	*-15 42 40.67271	-15 42 54.08000	0.00
	./rk23bd_sources.radioastron AGN, rfc_2013d, RA-A06-07			

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)
0607-157	127.2

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 $60 \text{ deg } F^{-0.6}$ 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

rk23betr

RADIOASTRON AGN SCATTERING SUBSTRUCTURE

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Observing mode: C/L-band, dual-pol

Schedule for TORUN (Code Tr) Page 2

RadioAstron AGN scattering substructure

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes 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 17 Nov 2018 Day 321 ---

----- L-band VLBI scans -----

Next scan frequencies: 1668.00 1668.00 1668.00 1668.00
Next BBC frequencies: 732.00 732.00 732.00 732.00
Next scan bandwidths: 16.00 16.00 16.00 16.00

04 41 00	0607-157	09 40 03	7.8	230.3	3.5	28.7	0	0	04 41 00
04 55 30	---	09 54 35	6.1	233.4	3.7	30.0	870	28	04 41 01
04 56 00	0607-157	09 55 06	6.1	233.5	3.7	30.1	24	28	04 56 00
05 11 00	---	10 10 08	4.2	236.6	4.0	31.4	900	57	04 56 01

SETUP FILE INFORMATION:

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

===== Setup file: ra18cm2.set

Setup group: 7 Station: TORUN Total bit rate: 256
Format: MKIV1:4 Bits per sample: 2 Sample rate: 32.000
Number of channels: 4 DBE type: Speedup factor: 1.00

Disk used to record data.

```

1st LO= 2400.00 2400.00 2400.00 2400.00
Net SB=      L      L      U      U
IF SB =      L      L      L      L
Pol.  =      RCP     LCP     RCP     LCP
BBC   =      1      2      1      2
BBC SB=      U      U      L      L
IF    =      C      A      C      A

```

The following frequency sets based on these setups were used.

```

Frequency Set: 6 Setup file default. Used with PCAL = 1MHz
LO sum= 1668.00 1668.00 1668.00 1668.00
BBC fr= 732.00 732.00 732.00 732.00
Bandwd= 16.00 16.00 16.00 16.00
Matching frequency sets: 6

```

Track assignments are:

```

track1= 2, 18, 3, 19
barrel=roll_off

```

POSITIONS OF SOURCES USED IN RECORDING SCANS

Source	Source position (RA/Dec) (B1950)	(J2000)	(Date)	Error (mas)
* FAKERA	11 57 21.769299	* 12 00 00.000000	12 00 44.841606	0.00
	85 16 41.77889	* 85 00 00.000000	84 53 31.66908	0.00
	fake circumpolar target for a TS to look at			
* 0607-157	06 07 25.981282	* 06 09 40.949536	06 10 32.176534	0.00
J0609-1542	-15 42 03.30591	*-15 42 40.67271	-15 42 54.12595	0.00
	./rk23be_sources.radioastron			
	AGN, rfc_2013d, RA-A06-07			

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)
0607-157	127.4

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 $60 \text{ deg } F^{-0.6}$ 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

rk23bgtr

RADIOASTRON AGN SCATTERING SUBSTRUCTURE

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Observing mode: C/L-band, dual-pol

Schedule for TORUN (Code Tr) Page 2

RadioAstron AGN scattering substructure

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes 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				ParA	Early	Disk	TPStart
		LST	EL	AZ	HA		Dwell	GBytes	SYNC

--- Sat 17 Nov 2018 Day 321 ---

----- L-band VLBI scans -----

Next scan frequencies: 1668.00 1668.00 1668.00 1668.00										
Next BBC frequencies: 732.00 732.00 732.00 732.00										
Next scan bandwidths: 16.00 16.00 16.00 16.00										
21 52 00	0607-157	02 53 52	9.3	132.4	-3.3	-27.4	0	0	21 52 00	
22 06 30	---	03 08 25	10.9	135.6	-3.0	-25.9	870	28	21 52 01	
22 07 00	0607-157	03 08 55	10.9	135.7	-3.0	-25.8	24	28	22 07 00	
22 22 00	---	03 23 57	12.4	139.1	-2.8	-24.1	900	57	22 07 01	

SETUP FILE INFORMATION:

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

=====
Setup file: ra18cm2.set

Setup group: 5	Station: TORUN	Total bit rate: 256
Format: MKIV1:4	Bits per sample: 2	Sample rate: 32.000
Number of channels: 4	DBE type:	Speedup factor: 1.00

Disk used to record data.

1st LO=	2400.00	2400.00	2400.00	2400.00
Net SB=	L	L	U	U
IF SB =	L	L	L	L
Pol. =	RCP	LCP	RCP	LCP
BBC =	1	2	1	2
BBC SB=	U	U	L	L
IF =	C	A	C	A

The following frequency sets based on these setups were used.

Frequency Set: 3 Setup file default. Used with PCAL = 1MHz
 LO sum= 1668.00 1668.00 1668.00 1668.00
 BBC fr= 732.00 732.00 732.00 732.00
 Bandwd= 16.00 16.00 16.00 16.00
 Matching frequency sets: 3

Track assignments are:

track1= 2, 18, 3, 19
 barrel=roll_off

POSITIONS OF SOURCES USED IN RECORDING SCANS

Source	Source position (RA/Dec) (B1950)	(J2000)	(Date)	Error (mas)
* FAKERA	11 57 21.769299	* 12 00 00.000000	12 00 44.997707	0.00
	85 16 41.77889	* 85 00 00.000000	84 53 31.49316	0.00
	fake circumpolar target for a TS to look at			
* 0607-157	06 07 25.981282	* 06 09 40.949536	06 10 32.190084	0.00
J0609-1542	-15 42 03.30591	*-15 42 40.67271	-15 42 54.25330	0.00
	./rk23bg_sources.radioastron AGN, rfc_2013d, RA-A06-07			

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)
0607-157	127.8

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 $60 \text{ deg } F^{-0.6}$ 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

RADIOASTRON AGN SCATTERING SUBSTRUCTURE

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Observing mode: C/L-band, dual-pol

Schedule for TORUN (Code Tr) Page 2

RadioAstron AGN scattering substructure

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes 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 18 Nov 2018 Day 322 ---

----- L-band VLBI scans -----

Next scan frequencies: 1668.00 1668.00 1668.00 1668.00
Next BBC frequencies: 732.00 732.00 732.00 732.00
Next scan bandwidths: 16.00 16.00 16.00 16.00

04 37 00	0607-157	09 39 59	7.8	230.3	3.5		28.7	0	0	04 37 00
04 51 30	---	09 54 31	6.1	233.4	3.7		30.0	870	28	04 37 01
04 52 00	0607-157	09 55 01	6.1	233.5	3.7		30.1	24	28	04 52 00
05 07 00	---	10 10 04	4.2	236.6	4.0		31.4	900	57	04 52 01

SETUP FILE INFORMATION:

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

===== Setup file: ra18cm2.set

Setup group: 4	Station: TORUN	Total bit rate: 256
Format: MKIV1:4	Bits per sample: 2	Sample rate: 32.000
Number of channels: 4	DBE type:	Speedup factor: 1.00

Disk used to record data.

```

1st LO=  2400.00  2400.00  2400.00  2400.00
Net SB=      L      L      U      U
IF SB =      L      L      L      L
Pol.  =      RCP     LCP     RCP     LCP
BBC   =      1      2      1      2
BBC SB=      U      U      L      L
IF    =      C      A      C      A

```

The following frequency sets based on these setups were used.

```

Frequency Set:  3  Setup file default.  Used with PCAL = 1MHz
LO sum=  1668.00  1668.00  1668.00  1668.00
BBC fr=   732.00  732.00  732.00  732.00
Bandwd=   16.00  16.00  16.00  16.00
Matching frequency sets:  3

```

Track assignments are:

```

track1=  2, 18,  3, 19
barrel=roll_off

```

POSITIONS OF SOURCES USED IN RECORDING SCANS

Source	Source position (RA/Dec) (B1950)	(J2000)	(Date)	Error (mas)
* FAKERA	11 57 21.769299	* 12 00 00.000000	12 00 45.057060	0.00
	85 16 41.77889	* 85 00 00.000000	84 53 31.42675	0.00
	fake circumpolar target for a TS to look at			
* 0607-157	06 07 25.981282	* 06 09 40.949536	06 10 32.195147	0.00
J0609-1542	-15 42 03.30591	*-15 42 40.67271	-15 42 54.30463	0.00
	./rk23bh_sources.radioastron			
	AGN, rfc_2013d, RA-A06-07			

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)
0607-157	128.0

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 $60 \text{ deg } F^{-0.6}$ 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

rk23bitr

RADIOASTRON AGN SCATTERING SUBSTRUCTURE

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Observing mode: C/L-band, dual-pol

Schedule for TORUN (Code Tr) Page 2

RadioAstron AGN scattering substructure

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes 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 18 Nov 2018 Day 322 ---

----- L-band VLBI scans -----

Next scan frequencies: 1668.00 1668.00 1668.00 1668.00
Next BBC frequencies: 732.00 732.00 732.00 732.00
Next scan bandwidths: 16.00 16.00 16.00 16.00

21 48 00	0607-157	02 53 48	9.3	132.4	-3.3	-27.4	0	0	21 48 00
22 02 30	---	03 08 21	10.8	135.6	-3.0	-25.9	870	28	21 48 01
22 03 00	0607-157	03 08 51	10.9	135.7	-3.0	-25.8	24	28	22 03 00
22 18 00	---	03 23 53	12.4	139.1	-2.8	-24.1	900	57	22 03 01

SETUP FILE INFORMATION:

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

=====
Setup file: ra18cm2.set

Setup group: 8	Station: TORUN	Total bit rate: 256
Format: MKIV1:4	Bits per sample: 2	Sample rate: 32.000
Number of channels: 4	DBE type:	Speedup factor: 1.00

Disk used to record data.

1st LO=	2400.00	2400.00	2400.00	2400.00
Net SB=	L	L	U	U
IF SB =	L	L	L	L
Pol. =	RCP	LCP	RCP	LCP
BBC =	1	2	1	2
BBC SB=	U	U	L	L
IF =	C	A	C	A

The following frequency sets based on these setups were used.

Frequency Set: 6 Setup file default. Used with PCAL = 1MHz
 LO sum= 1668.00 1668.00 1668.00 1668.00
 BBC fr= 732.00 732.00 732.00 732.00
 Bandwd= 16.00 16.00 16.00 16.00
 Matching frequency sets: 6

Track assignments are:

track1= 2, 18, 3, 19
 barrel=roll_off

POSITIONS OF SOURCES USED IN RECORDING SCANS

Source	Source position (RA/Dec) (B1950)	(J2000)	(Date)	Error (mas)
* FAKERA	11 57 21.769299	* 12 00 00.000000	12 00 45.204873	0.00
	85 16 41.77889	* 85 00 00.000000	84 53 31.26099	0.00
	fake circumpolar target for a TS to look at			
* 0607-157	06 07 25.981282	* 06 09 40.949536	06 10 32.207719	0.00
J0609-1542	-15 42 03.30591	*-15 42 40.67271	-15 42 54.44118	0.00
	./rk23bi_sources.radioastron AGN, rfc_2013d, RA-A06-07			

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)
0607-157	128.4

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 $60 \text{ deg } F^{-0.6}$ 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

rk23bjtr

RADIOASTRON AGN SCATTERING SUBSTRUCTURE

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Observing mode: C/L-band, dual-pol

Schedule for TORUN (Code Tr) Page 2

RadioAstron AGN scattering substructure

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes 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 19 Nov 2018 Day 323 ---

----- L-band VLBI scans -----

Next scan frequencies: 1668.00 1668.00 1668.00 1668.00
Next BBC frequencies: 732.00 732.00 732.00 732.00
Next scan bandwidths: 16.00 16.00 16.00 16.00

04 33 00	0607-157	09 39 55	7.8	230.3	3.5	28.7	0	0	04 33 00
04 47 30	---	09 54 27	6.1	233.4	3.7	30.0	870	28	04 33 01
04 48 00	0607-157	09 54 57	6.1	233.5	3.7	30.1	24	28	04 48 00
05 03 00	---	10 10 00	4.2	236.6	4.0	31.4	900	57	04 48 01

SETUP FILE INFORMATION:

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

==== Setup file: ra18cm2.set

Setup group: 7	Station: TORUN	Total bit rate: 256
Format: MKIV1:4	Bits per sample: 2	Sample rate: 32.000
Number of channels: 4	DBE type:	Speedup factor: 1.00

Disk used to record data.

1st LO=	2400.00	2400.00	2400.00	2400.00
Net SB=	L	L	U	U
IF SB =	L	L	L	L
Pol. =	RCP	LCP	RCP	LCP
BBC =	1	2	1	2
BBC SB=	U	U	L	L
IF =	C	A	C	A

The following frequency sets based on these setups were used.

Frequency Set: 6 Setup file default. Used with PCAL = 1MHz
 LO sum= 1668.00 1668.00 1668.00 1668.00
 BBC fr= 732.00 732.00 732.00 732.00
 Bandwd= 16.00 16.00 16.00 16.00
 Matching frequency sets: 6

Track assignments are:

track1= 2, 18, 3, 19
 barrel=roll_off

POSITIONS OF SOURCES USED IN RECORDING SCANS

Source	Source position (RA/Dec) (B1950)	(J2000)	(Date)	Error (mas)
* FAKERA	11 57 21.769299	* 12 00 00.000000	12 00 45.259545	0.00
	85 16 41.77889	* 85 00 00.000000	84 53 31.19910	0.00
	fake circumpolar target for a TS to look at			
* 0607-157	06 07 25.981282	* 06 09 40.949536	06 10 32.212409	0.00
J0609-1542	-15 42 03.30591	*-15 42 40.67271	-15 42 54.49529	0.00
	./rk23bj_sources.radioastron AGN, rfc_2013d, RA-A06-07			

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)
0607-157	128.6

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 $60 \text{ deg } F^{-0.6}$ 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

1st LO=	2400.00	2400.00	2400.00	2400.00
Net SB=	L	L	U	U
IF SB =	L	L	L	L
Pol. =	RCP	LCP	RCP	LCP
BBC =	1	2	1	2
BBC SB=	U	U	L	L
IF =	C	A	C	A

The following frequency sets based on these setups were used.

Frequency Set: 7 Setup file default. Used with PCAL = 1MHz
 LO sum= 1668.00 1668.00 1668.00 1668.00
 BBC fr= 732.00 732.00 732.00 732.00
 Bandwd= 16.00 16.00 16.00 16.00
 Matching frequency sets: 7

Track assignments are:

track1= 2, 18, 3, 19
 barrel=roll_off

POSITIONS OF SOURCES USED IN RECORDING SCANS

Source	Source position (RA/Dec) (B1950)	(J2000)	(Date)	Error (mas)
* FAKERA	11 57 21.769299	* 12 00 00.000000	12 00 45.402287	0.00
	85 16 41.77889	* 85 00 00.000000	84 53 31.03433	0.00
	fake circumpolar target for a TS to look at			
* 0607-157	06 07 25.981282	* 06 09 40.949536	06 10 32.224964	0.00
J0609-1542	-15 42 03.30591	*-15 42 40.67271	-15 42 54.64707	0.00
	./rk23bl_sources.radioastron AGN, rfc_2013d, RA-A06-07			

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)
0607-157	129.0

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 $60 \text{ deg } F^{-0.6}$ 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

rk23bmtr

RADIOASTRON AGN SCATTERING SUBSTRUCTURE

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Observing mode: C/L-band, dual-pol

Schedule for TORUN (Code Tr) Page 2

RadioAstron AGN scattering substructure

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes 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 20 Nov 2018 Day 324 ---

----- L-band VLBI scans -----

```
Next scan frequencies: 1668.00 1668.00 1668.00 1668.00
Next BBC frequencies:  732.00  732.00  732.00  732.00
Next scan bandwidths:  16.00   16.00   16.00   16.00
```

```
04 29 00  0607-157    09 39 51  7.9 230.3  3.5      28.7    0      0  04 29 00
04 43 30  ---              09 54 23  6.1 233.3  3.7      30.0   870    28  04 29 01

04 44 00  0607-157    09 54 53  6.1 233.5  3.7      30.1   24    28  04 44 00
04 59 00  ---              10 09 56  4.2 236.6  4.0      31.4   900    57  04 44 01
```

SETUP FILE INFORMATION:

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

===== Setup file: ra18cm2.set

```
Setup group:    6          Station: TORUN          Total bit rate:  256
Format: MKIV1:4  Bits per sample: 2    Sample rate: 32.000
Number of channels: 4  DBE type:          Speedup factor:  1.00
```

Disk used to record data.

```

1st LO=  2400.00  2400.00  2400.00  2400.00
Net SB=           L           L           U           U
IF SB =           L           L           L           L
Pol.  =          RCP          LCP          RCP          LCP
BBC   =           1           2           1           2
BBC SB=           U           U           L           L
IF    =           C           A           C           A

```

The following frequency sets based on these setups were used.

```

Frequency Set:  5  Setup file default.  Used with PCAL = 1MHz
LO sum=  1668.00  1668.00  1668.00  1668.00
BBC fr=   732.00   732.00   732.00   732.00
Bandwd=   16.00   16.00   16.00   16.00
Matching frequency sets:  5

```

Track assignments are:

```

track1=  2, 18,  3, 19
barrel=roll_off

```

POSITIONS OF SOURCES USED IN RECORDING SCANS

Source	Source position (RA/Dec) (B1950)	(J2000)	(Date)	Error (mas)
* FAKERA	11 57 21.769299	* 12 00 00.000000	12 00 45.454290	0.00
	85 16 41.77889	* 85 00 00.000000	84 53 30.97271	0.00
	fake circumpolar target for a TS to look at			
* 0607-157	06 07 25.981282	* 06 09 40.949536	06 10 32.229713	0.00
J0609-1542	-15 42 03.30591	*-15 42 40.67271	-15 42 54.70637	0.00
	./rk23bm_sources.radioastron			
	AGN, rfc_2013d, RA-A06-07			

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)
0607-157	129.2

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 $60 \text{ deg } F^{-0.6}$ 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

rk23botr

RADIOASTRON AGN SCATTERING SUBSTRUCTURE

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Observing mode: C/L-band, dual-pol

Schedule for TORUN (Code Tr) Page 2

 RadioAstron AGN scattering substructure

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes 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 20 Nov 2018 Day 324 ---

----- L-band VLBI scans -----

Next scan frequencies: 1668.00 1668.00 1668.00 1668.00
Next BBC frequencies: 732.00 732.00 732.00 732.00
Next scan bandwidths: 16.00 16.00 16.00 16.00

```
21 40 00 0607-157    02 53 40    9.3 132.4 -3.3    -27.4    0        0    21 40 00  
21 54 30 ---        03 08 13   10.8 135.6 -3.0    -25.9   870       28    21 40 01  
  
21 55 00 0607-157    03 08 43   10.9 135.7 -3.0    -25.8   24       28    21 55 00  
22 10 00 ---        03 23 45   12.4 139.0 -2.8    -24.1   900       57    21 55 01
```

SETUP FILE INFORMATION:

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

=====
Setup file: ra18cm2.set

```
Setup group:    5                    Station: TORUN                    Total bit rate:  256  
Format: MKIV1:4                    Bits per sample: 2                    Sample rate: 32.000  
Number of channels: 4                DBE type:                            Speedup factor:  1.00
```

Disk used to record data.

1st LO=	2400.00	2400.00	2400.00	2400.00
Net SB=	L	L	U	U
IF SB =	L	L	L	L
Pol. =	RCP	LCP	RCP	LCP
BBC =	1	2	1	2
BBC SB=	U	U	L	L
IF =	C	A	C	A

The following frequency sets based on these setups were used.

Frequency Set: 3 Setup file default. Used with PCAL = 1MHz
 LO sum= 1668.00 1668.00 1668.00 1668.00
 BBC fr= 732.00 732.00 732.00 732.00
 Bandwd= 16.00 16.00 16.00 16.00
 Matching frequency sets: 3

Track assignments are:

track1= 2, 18, 3, 19
 barrel=roll_off

POSITIONS OF SOURCES USED IN RECORDING SCANS

Source	Source position (RA/Dec) (B1950)	(J2000)	(Date)	Error (mas)
* FAKERA	11 57 21.769299	* 12 00 00.000000	12 00 45.590469	0.00
	85 16 41.77889	* 85 00 00.000000	84 53 30.80589	0.00
	fake circumpolar target for a TS to look at			
* 0607-157	06 07 25.981282	* 06 09 40.949536	06 10 32.242803	0.00
J0609-1542	-15 42 03.30591	*-15 42 40.67271	-15 42 54.87190	0.00
	./rk23bo_sources.radioastron			
	AGN, rfc_2013d, RA-A06-07			

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)
0607-157	129.6

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 $60 \text{ deg } F^{-0.6}$ 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

rk23bptr

RADIOASTRON AGN SCATTERING SUBSTRUCTURE

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Observing mode: C/L-band, dual-pol

Schedule for TORUN (Code Tr) Page 2

RadioAstron AGN scattering substructure

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are L0 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 21 Nov 2018 Day 325 ---

----- L-band VLBI scans -----

Next scan frequencies: 1668.00 1668.00 1668.00 1668.00
Next BBC frequencies: 732.00 732.00 732.00 732.00
Next scan bandwidths: 16.00 16.00 16.00 16.00

Table with columns: Start UT, Stop UT, Source, LST, EL, AZ, HA, UP, ParA, Dwell, GBytes, TPStart, SYNC. Contains scan data for 03 55 00, 04 14 30, 04 15 00, 04 34 30, 04 35 00, 04 55 00.

SETUP FILE INFORMATION:

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

==== Setup file: ra18cm2.set

Setup group: 4 Station: TORUN Total bit rate: 256
Format: MKIV1:4 Bits per sample: 2 Sample rate: 32.000
Number of channels: 4 DBE type: Speedup factor: 1.00

Disk used to record data.

1st LO=	2400.00	2400.00	2400.00	2400.00
Net SB=	L	L	U	U
IF SB =	L	L	L	L
Pol. =	RCP	LCP	RCP	LCP
BBC =	1	2	1	2
BBC SB=	U	U	L	L
IF =	C	A	C	A

The following frequency sets based on these setups were used.

Frequency Set: 3 Setup file default. Used with PCAL = 1MHz
 LO sum= 1668.00 1668.00 1668.00 1668.00
 BBC fr= 732.00 732.00 732.00 732.00
 Bandwd= 16.00 16.00 16.00 16.00
 Matching frequency sets: 3

Track assignments are:

track1= 2, 18, 3, 19
 barrel=roll_off

POSITIONS OF SOURCES USED IN RECORDING SCANS

Source	Source position (RA/Dec) (B1950)	(J2000)	(Date)	Error (mas)
* FAKERA	11 57 21.769299	* 12 00 00.000000	12 00 45.636582	0.00
	85 16 41.77889	* 85 00 00.000000	84 53 30.74735	0.00
	fake circumpolar target for a TS to look at			
* 0607-157	06 07 25.981282	* 06 09 40.949536	06 10 32.247496	0.00
J0609-1542	-15 42 03.30591	*-15 42 40.67271	-15 42 54.93109	0.00
	./rk23bp_sources.radioastron AGN, rfc_2013d, RA-A06-07			

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)
0607-157	129.8

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 $60 \text{ deg } F^{-0.6}$ 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

rd07dtr

RADIOASTRON AGN OBSERVATIONS

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Observing mode: C/L-band, dual-pol

Schedule for TORUN (Code Tr) Page 2

 RadioAstron AGN 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 21 Nov 2018 Day 325 ---

----- C-band VLBI scans -----

Next scan frequencies: 4836.00 4836.00 4836.00 4836.00
Next BBC frequencies: 736.00 736.00 736.00 736.00
Next scan bandwidths: 16.00 16.00 16.00 16.00

```
22 20 00 0134+329 03 37 43 61.0 238.8 2.0 37.9 0 0 22 20 00
22 35 00 --- 03 52 46 59.0 243.7 2.2 40.1 900 29 22 20 01
```

----- L-band VLBI scans -----

Next scan frequencies: 1668.00 1668.00 1668.00 1668.00
Next BBC frequencies: 732.00 732.00 732.00 732.00

```
22 40 00 0134+329 03 57 47 58.3 245.2 2.3 40.7 293 29 22 40 00
23 00 00 --- 04 17 50 55.5 250.9 2.7 42.7 1200 67 22 40 01
```

SETUP FILE INFORMATION:

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

===== Setup file: ra6cm2.set

Setup group: 6	Station: TORUN	Total bit rate: 256
Format: MKIV1:4	Bits per sample: 2	Sample rate: 32.000
Number of channels: 4	DBE type:	Speedup factor: 1.00

Disk used to record data.

1st LO=	4100.00	4100.00	4100.00	4100.00
Net SB=	L	L	U	U
IF SB =	U	U	U	U
Pol. =	RCP	LCP	RCP	LCP
BBC =	1	2	1	2
BBC SB=	L	L	U	U
IF =	C	A	C	A

The following frequency sets based on these setups were used.

Frequency Set: 7 Setup file default. Used with PCAL = 1MHz
 LO sum= 4836.00 4836.00 4836.00 4836.00
 BBC fr= 736.00 736.00 736.00 736.00
 Bandwd= 16.00 16.00 16.00 16.00
 Matching frequency sets: 7

Track assignments are:
 track1= 2, 18, 3, 19
 barrel=roll_off

==== Setup file: ra18cm2.set

Setup group: 13	Station: TORUN	Total bit rate: 256
Format: MKIV1:4	Bits per sample: 2	Sample rate: 32.000
Number of channels: 4	DBE type:	Speedup factor: 1.00

Disk used to record data.

1st LO=	2400.00	2400.00	2400.00	2400.00
Net SB=	L	L	U	U
IF SB =	L	L	L	L
Pol. =	RCP	LCP	RCP	LCP
BBC =	1	2	1	2
BBC SB=	U	U	L	L
IF =	C	A	C	A

The following frequency sets based on these setups were used.

Frequency Set: 10 Setup file default. Used with PCAL = 1MHz
 LO sum= 1668.00 1668.00 1668.00 1668.00
 BBC fr= 732.00 732.00 732.00 732.00
 Bandwd= 16.00 16.00 16.00 16.00
 Matching frequency sets: 10

Track assignments are:

track1= 2, 18, 3, 19
 barrel=roll_off

POSITIONS OF SOURCES USED IN RECORDING SCANS

Source	Source position (RA/Dec) (B1950)	(J2000)	(Date)	Error (mas)
* FAKERA	11 57 21.769299	* 12 00 00.000000	12 00 45.776413	0.00
	85 16 41.77889	* 85 00 00.000000	84 53 30.56310	0.00
	fake circumpolar target for a TS to look at			
* 0134+329	01 34 49.826590	* 01 37 41.299646	01 38 46.581433	0.00
J0137+3309	32 54 20.20189	* 33 09 35.07607	33 15 21.59279	0.00
3C48	./rd07d_sources.radioastron CSS QSO, r4844 position by Petrov			

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)
0134+329	148.1

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 $60 \text{ deg } F^{-0.6}$ 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

rd07etr

RADIOASTRON AGN OBSERVATIONS

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Observing mode: C/L-band, dual-pol

Schedule for TORUN (Code Tr) Page 2

RadioAstron AGN 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

--- Fri 30 Nov 2018 Day 334 ---

----- C-band VLBI scans -----

Next scan frequencies: 4836.00 4836.00 4836.00 4836.00
Next BBC frequencies: 736.00 736.00 736.00 736.00
Next scan bandwidths: 16.00 16.00 16.00 16.00

22 00 00	0134+329	03 53 09	59.0	243.8	2.2	40.1	0	0	22 00 00
22 14 30	---	04 07 41	57.0	248.1	2.5	41.8	870	28	22 00 01
22 15 00	0134+329	04 08 11	56.9	248.3	2.5	41.8	24	28	22 15 00
22 25 00	---	04 18 13	55.5	251.1	2.7	42.8	600	47	22 15 01

----- L-band VLBI scans -----

Next scan frequencies: 1668.00 1668.00 1668.00 1668.00
Next BBC frequencies: 732.00 732.00 732.00 732.00

22 30 00	0134+329	04 23 14	54.8	252.4	2.7	43.2	293	47	22 30 00
22 44 30	---	04 37 46	52.7	256.1	3.0	44.2	870	75	22 30 01
22 45 00	0134+329	04 38 16	52.6	256.2	3.0	44.2	24	75	22 45 00
23 00 00	---	04 53 19	50.4	259.8	3.2	45.0	900	104	22 45 01

SETUP FILE INFORMATION:

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

=====
Setup file: ra6cm2.set

Setup group: 4	Station: TORUN	Total bit rate: 256
Format: MKIV1:4	Bits per sample: 2	Sample rate: 32.000
Number of channels: 4	DBE type:	Speedup factor: 1.00

Disk used to record data.

1st LO=	4100.00	4100.00	4100.00	4100.00
Net SB=	L	L	U	U
IF SB =	U	U	U	U
Pol. =	RCP	LCP	RCP	LCP
BBC =	1	2	1	2
BBC SB=	L	L	U	U
IF =	C	A	C	A

The following frequency sets based on these setups were used.

Frequency Set: 5 Setup file default. Used with PCAL = 1MHz
 LO sum= 4836.00 4836.00 4836.00 4836.00
 BBC fr= 736.00 736.00 736.00 736.00
 Bandwd= 16.00 16.00 16.00 16.00
 Matching frequency sets: 5

Track assignments are:
 track1= 2, 18, 3, 19
 barrel=roll_off

==== Setup file: ra18cm2.set

Setup group: 9	Station: TORUN	Total bit rate: 256
Format: MKIV1:4	Bits per sample: 2	Sample rate: 32.000
Number of channels: 4	DBE type:	Speedup factor: 1.00

Disk used to record data.

1st LO=	2400.00	2400.00	2400.00	2400.00
Net SB=	L	L	U	U
IF SB =	L	L	L	L
Pol. =	RCP	LCP	RCP	LCP
BBC =	1	2	1	2
BBC SB=	U	U	L	L
IF =	C	A	C	A

The following frequency sets based on these setups were used.

Frequency Set: 7 Setup file default. Used with PCAL = 1MHz
 LO sum= 1668.00 1668.00 1668.00 1668.00
 BBC fr= 732.00 732.00 732.00 732.00
 Bandwd= 16.00 16.00 16.00 16.00
 Matching frequency sets: 7

Track assignments are:

track1= 2, 18, 3, 19
 barrel=roll_off

POSITIONS OF SOURCES USED IN RECORDING SCANS

Source	Source position (RA/Dec) (B1950)	(J2000)	(Date)	Error (mas)
* FAKERA	11 57 21.769299	* 12 00 00.000000	12 00 47.878818	0.00
	85 16 41.77889	* 85 00 00.000000	84 53 28.28354	0.00
	fake circumpolar target for a TS to look at			
* 0134+329	01 34 49.826590	* 01 37 41.299646	01 38 46.564282	0.00
J0137+3309	32 54 20.20189	* 33 09 35.07607	33 15 22.62200	0.00
3C48	./rd07e_sources.radioastron			
	CSS QSO, r4844 position by Petrov			

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)
0134+329	141.1

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 $60 \text{ deg } F^{-0.6}$ 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

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