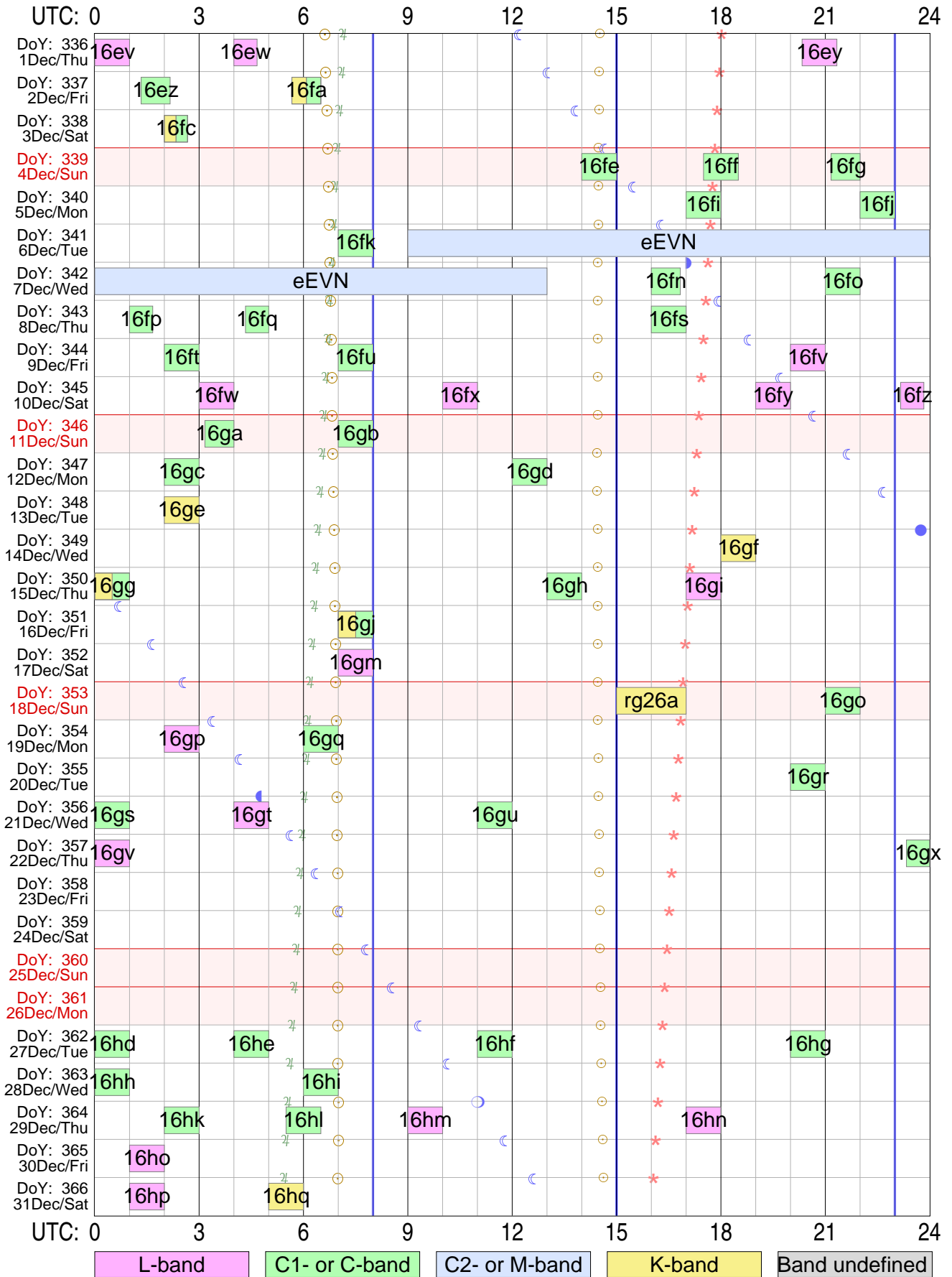


Tr VLBI plan for Dec 2016



Version: 2016.12.02

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: 85.2 hours in 60 experiments scheduled

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

Strona zostawiona celowo pusta

RadioAstron & EVN Experiments

Dec 2016

Uytownik 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

246	06	12	Wto	09	00	113	00	"eEVN"	"M	"
336	1	12	Czw	0	00	1	00	rk16ev	"L	"
336	1	12	Czw	4	00	4	40	rk16ew	"L	"
336	1	12	Czw	20	20	21	20	rk16ey	"L	"
337	2	12	Pia	1	20	2	10	rk16ez	"C	"
337	2	12	Pia	5	40	6	30	rk16fa	"K>C	"
338	3	12	Sob	2	00	2	40	rk16fc	"K>C	"
339	4	12	Nie	14	00	15	00	rk16fe	"C	"
339	4	12	Nie	17	30	18	30	rk16ff	"C	"
339	4	12	Nie	21	10	22	00	rk16fg	"C	"
340	5	12	Pon	17	00	18	00	rk16fi	"C	"
340	5	12	Pon	22	00	23	00	rk16fj	"C	"
341	6	12	Wto	7	00	8	00	rk16fk	"C	"
341	6	12	Wto	11	00	12	00	rk16fl	"L	"
342	7	12	Sro	16	00	16	50	rk16fn	"C	"
342	7	12	Sro	21	00	22	00	rk16fo	"C	"
343	8	12	Czw	1	00	1	40	rk16fp	"C	"
343	8	12	Czw	4	20	5	00	rk16fq	"C	"
343	8	12	Czw	16	00	17	00	rk16fs	"C	"
344	9	12	Pia	2	00	3	00	rk16ft	"C	"
344	9	12	Pia	7	00	8	00	rk16fu	"C	"
344	9	12	Pia	20	00	21	00	rk16fv	"L	"
345	10	12	Sob	3	00	4	00	rk16fw	"L	"
345	10	12	Sob	10	00	11	00	rk16fx	"L	"
345	10	12	Sob	19	00	20	00	rk16fy	"L	"
345	10	12	Sob	23	10	23	50	rk16fz	"L	"
346	11	12	Nie	3	10	4	00	rk16ga	"C	"
346	11	12	Nie	7	00	8	00	rk16gb	"C	"
347	12	12	Pon	2	00	3	00	rk16gc	"C	"
347	12	12	Pon	12	00	13	00	rk16gd	"C	"
348	13	12	Wto	2	00	3	00	rk16ge	"K	"
349	14	12	Sro	18	00	19	00	rk16gf	"K	"
350	15	12	Czw	0	00	1	00	rk16gg	"K>C	"
350	15	12	Czw	13	00	14	00	rk16gh	"C	"
350	15	12	Czw	17	00	18	00	rk16gi	"L	"
351	16	12	Pia	7	00	8	00	rk16gj	"K>C	"
352	17	12	Sob	7	00	8	00	rk16gm	"L	"
353	18	12	Nie	15	00	17	00	rg26a	"K	"

353	18	12	Nie	21	00	22	00	rk16go	"C	"
354	19	12	Pon	2	00	3	00	rk16gp	"L	"
354	19	12	Pon	6	00	7	00	rk16gq	"C	"
355	20	12	Wto	20	00	21	00	rk16gr	"C	"
356	21	12	Sro	0	00	1	00	rk16gs	"C	"
356	21	12	Sro	4	00	5	00	rk16gt	"L	"
356	21	12	Sro	11	00	12	00	rk16gu	"C	"
357	22	12	Czw	0	00	1	00	rk16gv	"L	"
357	22	12	Czw	23	20	24	00	rk16gx	"C	"
362	27	12	Wto	0	00	1	00	rk16hd	"C	"
362	27	12	Wto	4	00	5	00	rk16he	"C	"
362	27	12	Wto	11	00	12	00	rk16hf	"C	"
362	27	12	Wto	20	00	21	00	rk16hg	"C	"
363	28	12	Sro	0	00	1	00	rk16hh	"C	"
363	28	12	Sro	6	00	7	00	rk16hi	"C	"
364	29	12	Czw	2	00	3	00	rk16hk	"C	"
364	29	12	Czw	5	30	6	30	rk16hl	"C	"
364	29	12	Czw	9	00	10	00	rk16hm	"L	"
364	29	12	Czw	17	00	18	00	rk16hn	"L	"
365	30	12	Pia	1	00	2	00	rk16ho	"L	"
366	31	12	Sob	1	00	2	00	rk16hp	"L	"
366	31	12	Sob	5	00	6	00	rk16hq	"K	"

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

<http://paulo.astro.uni.torun.pl/~pw/VLBI/schedules/dec16.pdf>

rk16fetr

RADIOASTRON AGN MONITORING

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

Schedule for TORUN (Code Tr) Page 2

RadioAstron AGN Monitoring

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

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

Disk: GBytes 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 Dec 2016 Day 339 ---

----- 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

14 00 00	2230+114	20 09 31	39.7	131.6	-2.4		-27.3	0	0	14 00 00
14 14 30	---	20 24 03	41.3	135.8	-2.2		-25.3	870	28	14 00 01
14 15 00	2230+114	20 24 33	41.4	135.9	-2.1		-25.3	24	28	14 15 00
14 29 30	---	20 39 06	42.8	140.3	-1.9		-23.1	870	56	14 15 01
14 30 00	2230+114	20 39 36	42.9	140.5	-1.9		-23.0	24	56	14 30 00
14 44 30	---	20 54 08	44.2	145.0	-1.7		-20.6	870	84	14 30 01
14 45 00	2230+114	20 54 38	44.2	145.2	-1.6		-20.5	24	84	14 45 00
15 00 00	---	21 09 41	45.5	150.1	-1.4		-17.8	900	112	14 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:  1  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:  1

```

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 40.159957	0.00
	85 16 41.77889	* 85 00 00.000000	84 54 04.15867	0.00
	fake circumpolar target for a TS to look at			
* 2230+114	22 30 07.803947	* 22 32 36.408905	22 33 26.232149	0.00
J2232+1143	11 28 22.81067	* 11 43 50.90395	11 49 13.11608	0.00
CTA102	./rk16fe_sources.radioastron			
	AGN, rfc_2013d Petrov, 2013, unpublished 5100 observations, RA-A04-06, RA-A03-04			

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)
2230+114    91.7

```

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

```

rk16fftr

RADIOASTRON AGN MONITORING

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

Schedule for TORUN (Code Tr) Page 2

RadioAstron AGN Monitoring

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

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

Disk: GBytes 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 Dec 2016 Day 339 ---

----- 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								
17 30 00	0106+013	23 40 05	35.3	152.2	-1.5	-16.3	0	0	17 30 00			
17 44 30	---	23 54 38	36.3	156.5	-1.2	-13.8	870	28	17 30 01			
17 45 00	0106+013	23 55 08	36.3	156.7	-1.2	-13.7	24	28	17 45 00			
17 59 30	---	00 09 40	37.1	161.1	-1.0	-11.2	870	56	17 45 01			
18 00 00	0106+013	00 10 10	37.1	161.3	-1.0	-11.1	24	56	18 00 00			
18 14 30	---	00 24 43	37.7	165.8	-0.7	-8.5	870	84	18 00 01			
18 15 00	0106+013	00 25 13	37.8	165.9	-0.7	-8.4	24	84	18 15 00			
18 30 00	---	00 40 15	38.2	170.7	-0.5	-5.6	900	112	18 15 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:  1  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:  1

```

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 40.199234	0.00
	85 16 41.77889	* 85 00 00.000000	84 54 04.13097	0.00
	fake circumpolar target for a TS to look at			
* 0106+013	01 06 04.517938	* 01 08 38.771107	01 09 31.311704	0.00
J0108+0135	01 19 01.13979	* 01 35 00.31717	01 40 21.56398	0.00
	./rk16ff_sources.radioastron			
	AGN, rfc_2013d Petrov, 2013, unpublished 46104 observations, RA-A03-04, RA-A02-1			

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)
0106+013        123.5

```

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

```


rk16fgtr

RADIOASTRON AGN MONITORING

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

Schedule for TORUN (Code Tr) Page 2

RadioAstron AGN Monitoring

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
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 Dec 2016 Day 339 ---

----- 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							
21 10 00	2251+158	03 20 42	27.0	261.1	4.4		38.2	0	0	21 10 00	
21 22 00	---	03 32 44	25.2	263.6	4.6		38.4	720	23	21 10 01	
21 22 30	2251+158	03 33 14	25.1	263.7	4.6		38.4	24	23	21 22 30	
21 34 30	---	03 45 16	23.3	266.2	4.8		38.6	720	46	21 22 31	
21 35 00	2251+158	03 45 46	23.2	266.3	4.8		38.6	24	46	21 35 00	
21 47 00	---	03 57 48	21.4	268.7	5.0		38.7	720	69	21 35 01	
21 47 30	2251+158	03 58 18	21.4	268.8	5.1		38.7	24	69	21 47 30	
22 00 00	---	04 10 50	19.5	271.3	5.3		38.7	750	93	21 47 31	

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:  3  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:  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 40.237737	0.00
	85 16 41.77889	* 85 00 00.000000	84 54 04.10426	0.00
	fake circumpolar target for a TS to look at			
* 2251+158	22 51 29.519741	* 22 53 57.747940	22 54 47.641744	0.00
J2253+1608	15 52 54.34791	* 16 08 53.56074	16 14 26.71346	0.00
3C454.3	./rk16fg_sources.radioastron			
	AGN, rfc_2013d Petrov, 2013, unpublished 40570 observations, RA-A04-06, RA-A03-0			

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)
2251+158    97.8

```

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

```

rk16ftr

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

Schedule for TORUN (Code Tr) Page 2

RadioAstron AGN Monitoring

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes 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 Dec 2016 Day 340 ---

----- 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						
17 00 00	2200+420	23 13 57	74.1	234.7	1.2		41.6	0	0	17 00 00
17 14 30	---	23 28 29	72.2	241.4	1.4		45.5	870	28	17 00 01
17 15 00	2200+420	23 29 00	72.2	241.6	1.4		45.7	23	28	17 15 00
17 29 30	---	23 43 32	70.2	247.3	1.7		48.6	870	56	17 15 01
17 30 00	2200+420	23 44 02	70.1	247.5	1.7		48.7	24	56	17 30 00
17 44 30	---	23 58 34	68.1	252.4	1.9		50.8	870	84	17 30 01
17 45 00	2200+420	23 59 04	68.0	252.5	1.9		50.8	24	84	17 45 00
18 00 00	---	00 14 07	65.8	256.9	2.2		52.3	900	112	17 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:	3	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:  1  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:  1

```

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 40.463936	0.00
	85 16 41.77889	* 85 00 00.000000	84 54 03.95577	0.00
	fake circumpolar target for a TS to look at			
* 2200+420	22 00 39.362504	* 22 02 43.291371	22 03 24.926516	0.00
J2202+4216	42 02 08.59073	* 42 16 39.97987	42 21 52.99916	0.00
BLLAC	./rk16fi_sources.radioastron			
	AGN, rfc_2013d Petrov, 2013, unpublished 59417 observations, RA-A04-07, RA-A03-0			

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)
2200+420        96.8

```

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

```

rk16fjtr

RADIOASTRON AGN MONITORING

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

Schedule for TORUN (Code Tr) Page 2
RadioAstron AGN Monitoring

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
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 Dec 2016 Day 340 ---

----- 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 2251+158 04 14 46 18.9 272.1 5.3 38.7 0 0 22 00 00
22 19 30 --- 04 34 20 16.0 275.9 5.7 38.5 1170 37 22 00 01
22 20 00 2251+158 04 34 50 15.9 276.0 5.7 38.5 24 37 22 20 00
22 39 30 --- 04 54 23 13.0 279.8 6.0 38.0 1170 75 22 20 01
22 40 00 2251+158 04 54 53 12.9 279.9 6.0 38.0 24 75 22 40 00
23 00 00 --- 05 14 56 10.0 283.8 6.3 37.4 1200 113 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: 2 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: 3 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: 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 40.521116	0.00
	85 16 41.77889	* 85 00 00.000000	84 54 03.92041	0.00
	fake circumpolar target for a TS to look at			
* 2251+158	22 51 29.519741	* 22 53 57.747940	22 54 47.626350	0.00
J2253+1608	15 52 54.34791	* 16 08 53.56074	16 14 26.62962	0.00
3C454.3	./rk16fj_sources.radioastron AGN, rfc_2013d Petrov, 2013, unpublished 40570 observations, RA-A04-06, RA-A03-0			

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)
2251+158	96.9

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

rk16fctr

RADIOASTRON AGN MONITORING
PI: *Yuri Kovalev*

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Phone: +7-495-3332512 EMAIL: kirx@scan.sai.msu.ru
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Observing mode: C/K-band, dual-pol

Schedule for TORUN (Code Tr) Page 2
RadioAstron AGN Monitoring

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes 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 6 Dec 2016 Day 341 ---

----- 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

07 00 00 0851+202 13 16 15 30.8 262.6 4.3 39.3 0 0 07 00 00
07 19 30 --- 13 35 48 27.8 266.7 4.7 39.7 1170 37 07 00 01

07 20 00 0851+202 13 36 18 27.8 266.8 4.7 39.7 24 37 07 20 00
07 39 30 --- 13 55 52 24.8 270.7 5.0 39.7 1170 75 07 20 01

07 40 00 0851+202 13 56 22 24.8 270.8 5.0 39.7 24 75 07 40 00
08 00 00 --- 14 16 25 21.7 274.8 5.3 39.6 1200 113 07 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: 2 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: 2 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: 2

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 40.621970	0.00
	85 16 41.77889	* 85 00 00.000000	84 54 03.86001	0.00
	fake circumpolar target for a TS to look at			
* 0851+202	08 51 57.250618	* 08 54 48.874930	08 55 47.025918	0.00
J0854+2006	20 17 58.41733	* 20 06 30.64078	20 02 27.22646	0.00
OJ287	./rk16fk_sources.radioastron AGN, rfc_2013d Petrov, 2013, unpublished 213710 observations, RA-A04-06, RA-A03-			

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)
0851+202	123.8

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

eo014tr

E-EVN: EO014
PI: *Olech*

Address: Torun Centre for Astronomy

Observing mode: realtime e-vlbi
Schedule for TORUN (Code Tr)
e-EVN: eo014

Page 2

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
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 Dec 2016 Day 341 ---										
Next scan frequencies: 6661.97 6661.97 6661.97 6661.97 6669.97 6669.97 6669.97 6669.97										
6677.97 6677.97 6677.97 6677.97 6685.97 6685.97 6685.97 6685.97										
Next BBC frequencies: 761.97 761.97 761.97 761.97 769.97 769.97 769.97 769.97										
777.97 777.97 777.97 777.97 785.97 785.97 785.97 785.97										
Next scan bandwidths: 4.00 4.00 4.00 4.00 4.00 4.00 4.00 4.00										
4.00 4.00 4.00 4.00 4.00 4.00 4.00 4.00										

09 00 00	J1734+3857	15 16 35	62.5	106.9	-2.3	-47.6	0	0	09 00 00	
09 10 00	=1732+389	15 26 36	64.0	109.9	-2.1	-46.6	600	19	09 00 01	
09 11 00	J1734+3857	15 27 37	64.1	110.2	-2.1	-46.4	54	19	09 11 00	
09 20 00	=1732+389	15 36 38	65.4	113.1	-2.0	-45.3	540	37	09 11 01	
09 21 00	J1734+3857	15 37 38	65.5	113.4	-2.0	-45.1	53	37	09 21 00	
09 30 00	=1732+389	15 46 40	66.7	116.5	-1.8	-43.7	540	54	09 21 01	
09 31 00	J1734+3857	15 47 40	66.9	116.8	-1.8	-43.6	53	54	09 31 00	
09 40 00	=1732+389	15 56 41	68.1	120.2	-1.6	-41.9	540	71	09 31 01	
09 41 00	J1734+3857	15 57 41	68.2	120.6	-1.6	-41.7	53	71	09 41 00	
09 50 00	=1732+389	16 06 43	69.3	124.3	-1.5	-39.7	540	88	09 41 01	
09 51 00	J1734+3857	16 07 43	69.4	124.7	-1.5	-39.4	53	88	09 51 00	
10 00 00	=1732+389	16 16 45	70.5	128.7	-1.3	-37.0	540	106	09 51 01	
10 01 00	J1734+3857	16 17 45	70.7	129.2	-1.3	-36.8	53	106	10 01 00	
10 10 00	=1732+389	16 26 46	71.7	133.6	-1.1	-34.0	540	123	10 01 01	
10 11 00	J1734+3857	16 27 46	71.8	134.1	-1.1	-33.7	53	123	10 11 00	
10 20 00	=1732+389	16 36 48	72.7	139.0	-1.0	-30.4	540	140	10 11 01	
10 21 00	J1734+3857	16 37 48	72.8	139.6	-1.0	-30.0	53	140	10 21 00	
10 30 00	=1732+389	16 46 50	73.6	144.9	-0.8	-26.3	540	158	10 21 01	
10 31 00	J1734+3857	16 47 50	73.7	145.6	-0.8	-25.9	53	158	10 31 00	
10 40 00	=1732+389	16 56 51	74.4	151.4	-0.6	-21.7	540	175	10 31 01	
10 41 00	J1734+3857	16 57 51	74.5	152.1	-0.6	-21.2	52	175	10 41 00	
10 50 00	=1732+389	17 06 53	75.1	158.4	-0.5	-16.5	540	192	10 41 01	
10 51 00	J1734+3857	17 07 53	75.1	159.2	-0.4	-15.9	52	192	10 51 00	
11 00 00	=1732+389	17 16 54	75.5	165.9	-0.3	-10.8	540	210	10 51 01	
11 01 00	J1734+3857	17 17 55	75.6	166.7	-0.3	-10.3	52	210	11 01 00	
11 10 00	=1732+389	17 26 56	75.8	173.7	-0.1	-4.9	540	227	11 01 01	

Schedule for TORUN (Code Tr)
e-EVN: eo014

Page 3

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
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 Dec 2016 Day 341 ---										
11 11 00	J1734+3857	17 27 56	75.8	174.5	-0.1		-4.3	52	227	11 11 00
11 20 00	=1732+389	17 36 58	75.9	181.7	0.0		1.3	540	244	11 11 01
11 21 00	J1734+3857	17 37 58	75.9	182.5	0.1		1.9	52	244	11 21 00
11 30 00	=1732+389	17 46 59	75.7	189.6	0.2		7.4	540	262	11 21 01
11 31 00	J1734+3857	17 48 00	75.7	190.4	0.2		8.0	52	262	11 31 00
11 40 00	=1732+389	17 57 01	75.4	197.3	0.4		13.3	540	279	11 31 01
11 41 00	J1734+3857	17 58 01	75.3	198.0	0.4		13.8	52	279	11 41 00
11 50 00	=1732+389	18 07 03	74.8	204.6	0.5		18.7	540	296	11 41 01
11 51 00	J1734+3857	18 08 03	74.8	205.3	0.6		19.2	52	296	11 51 00
12 00 00	=1732+389	18 17 04	74.1	211.3	0.7		23.7	540	313	11 51 01
12 01 00	J1734+3857	18 18 04	74.0	212.0	0.7		24.2	52	313	12 01 00
12 10 00	=1732+389	18 27 06	73.3	217.6	0.9		28.1	540	331	12 01 01
12 11 00	J1734+3857	18 28 06	73.2	218.2	0.9		28.5	53	331	12 11 00
12 20 00	=1732+389	18 37 08	72.3	223.3	1.0		32.0	540	348	12 11 01
12 21 00	J1734+3857	18 38 08	72.2	223.8	1.1		32.3	53	348	12 21 00
12 30 00	=1732+389	18 47 09	71.2	228.5	1.2		35.3	540	365	12 21 01
12 31 00	J1734+3857	18 48 09	71.1	229.0	1.2		35.6	53	365	12 31 00
12 40 00	=1732+389	18 57 11	70.0	233.2	1.4		38.2	540	383	12 31 01
12 41 00	J1734+3857	18 58 11	69.9	233.6	1.4		38.4	53	383	12 41 00
12 50 00	=1732+389	19 07 13	68.8	237.5	1.5		40.6	540	400	12 41 01
12 53 00	J1946+2300	19 10 13	59.2	163.4	-0.6		-10.7	17	400	12 53 00
12 59 30	=1943+228	19 16 44	59.4	166.3	-0.5		-8.9	390	412	12 53 01
----- E0014 -----										
13 00 00	J1946+2300	19 17 14	59.4	166.5	-0.5		-8.7	23	412	13 00 00
13 01 45	=1943+228	19 18 59	59.5	167.3	-0.5		-8.2	105	416	13 00 01
13 01 45	G59.63	19 18 59	60.0	168.2	-0.4		-7.7	-14	416	No stop
13 05 00	---	19 22 15	60.1	169.7	-0.4		-6.7	181	422	13 01 46
13 05 00	J1946+2300	19 22 15	59.6	168.8	-0.4		-7.3	-13	422	No stop
13 06 45	=1943+228	19 24 00	59.6	169.6	-0.4		-6.8	92	425	13 05 01

Schedule for TORUN (Code Tr)
e-EVN: eo014

Page 4

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
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 Dec 2016	Day 341		---					
13 06 45	G59.63	19 24 00	60.2	170.5	-0.3		-6.2	-14	425	No stop
13 10 00	---	19 27 16	60.2	172.0	-0.3		-5.2	181	432	13 06 46
13 10 30	J1946+2300	19 27 46	59.7	171.3	-0.3		-5.7	17	432	13 10 30
13 12 15	=1943+228	19 29 31	59.8	172.1	-0.3		-5.2	105	435	13 10 31
13 12 15	G59.63	19 29 31	60.3	173.0	-0.3		-4.5	-14	435	No stop
13 15 30	---	19 32 47	60.3	174.5	-0.2		-3.6	181	441	13 12 16
13 15 30	J1946+2300	19 32 47	59.8	173.6	-0.2		-4.2	-14	441	No stop
13 17 15	=1943+228	19 34 32	59.9	174.4	-0.2		-3.7	91	445	13 15 31
13 17 15	G59.63	19 34 32	60.4	175.4	-0.2		-3.0	-14	445	No stop
13 20 30	---	19 37 48	60.4	176.9	-0.1		-2.0	181	451	13 17 16
13 21 00	J1946+2300	19 38 18	59.9	176.1	-0.1		-2.5	16	451	13 21 00
13 22 45	=1943+228	19 40 03	59.9	176.9	-0.1		-2.0	105	454	13 21 01
13 22 45	G59.63	19 40 03	60.4	177.9	-0.1		-1.4	-14	454	No stop
13 26 00	---	19 43 18	60.4	179.4	-0.0		-0.4	181	461	13 22 46
13 26 00	J1946+2300	19 43 18	59.9	178.4	-0.1		-1.0	-14	461	No stop
13 27 45	=1943+228	19 45 04	60.0	179.2	-0.0		-0.5	91	464	13 26 01
13 27 45	G59.63	19 45 04	60.4	180.2	0.0		0.2	-14	464	No stop
13 31 00	---	19 48 19	60.4	181.8	0.1		1.2	181	470	13 27 46
13 31 30	J1946+2300	19 48 49	59.9	180.9	0.0		0.6	16	470	13 31 30
13 33 15	=1943+228	19 50 35	59.9	181.7	0.1		1.1	105	474	13 31 31
13 33 15	G59.63	19 50 35	60.4	182.8	0.1		1.8	-15	474	No stop
13 36 30	---	19 53 50	60.4	184.3	0.2		2.8	180	480	13 33 16
13 36 30	J1946+2300	19 53 50	59.9	183.2	0.1		2.1	-14	480	No stop
13 38 15	=1943+228	19 55 35	59.9	184.0	0.1		2.6	91	483	13 36 31
13 38 15	G59.63	19 55 35	60.4	185.1	0.2		3.4	-15	483	No stop
13 41 30	---	19 58 51	60.3	186.6	0.2		4.3	180	489	13 38 16
13 42 00	J1946+2300	19 59 21	59.9	185.8	0.2		3.8	16	489	13 42 00
13 43 45	=1943+228	20 01 06	59.8	186.6	0.2		4.3	105	493	13 42 01
13 43 45	G59.63	20 01 06	60.3	187.7	0.3		5.0	-15	493	No stop
13 47 00	---	20 04 22	60.2	189.2	0.3		6.0	180	499	13 43 46

Schedule for TORUN (Code Tr)
e-EVN: eo014

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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
--- Tue 6 Dec 2016 Day 341 ---										
13 47 00	J1946+2300	20 04 22	59.8	188.0	0.3		5.2	-14	499	No stop
13 48 45	=1943+228	20 06 07	59.7	188.8	0.3		5.8	91	502	13 47 01
13 48 45	G59.63	20 06 07	60.1	190.0	0.4		6.5	-15	502	No stop
13 52 00	---	20 09 23	60.1	191.5	0.4		7.5	180	509	13 48 46
13 52 30	J1946+2300	20 09 53	59.6	190.5	0.4		6.9	16	509	13 52 30
13 54 15	=1943+228	20 11 38	59.6	191.3	0.4		7.4	105	512	13 52 31
13 57 15	3C454.3	20 14 39	41.7	124.2	-2.7		-31.1	30	512	13 57 15
14 04 15	---	20 21 40	42.5	126.2	-2.6		-30.3	420	525	13 57 16
14 07 30	J1946+2300	20 24 56	59.1	197.3	0.6		11.2	39	525	14 07 30
14 09 05	=1943+228	20 26 41	59.0	198.0	0.7		11.6	95	529	14 07 31
14 09 05	G59.63	20 26 31	59.4	199.1	0.7		12.4	-15	529	No stop
14 12 20	---	20 29 46	59.2	200.6	0.8		13.3	180	535	14 09 06
14 12 20	J1946+2300	20 29 46	58.9	199.4	0.7		12.5	-14	535	No stop
14 14 05	=1943+228	20 31 32	58.8	200.1	0.7		13.0	91	538	14 12 21
14 14 05	G59.63	20 31 32	59.1	201.3	0.8		13.8	-15	538	No stop
14 17 20	---	20 34 47	58.9	202.7	0.8		14.7	180	544	14 14 06
14 17 50	J1946+2300	20 35 17	58.6	201.7	0.8		14.0	15	544	14 17 50
14 19 35	=1943+228	20 37 03	58.5	202.5	0.8		14.5	105	548	14 17 51
14 19 35	G59.63	20 37 03	58.8	203.7	0.9		15.3	-15	548	No stop
14 22 50	---	20 40 18	58.6	205.1	0.9		16.1	180	554	14 19 36
14 22 50	J1946+2300	20 40 18	58.3	203.9	0.9		15.3	-15	554	No stop
14 24 35	=1943+228	20 42 03	58.2	204.6	0.9		15.8	90	557	14 22 51
14 24 35	G59.63	20 42 03	58.5	205.8	1.0		16.6	-15	557	No stop
14 27 50	---	20 45 19	58.3	207.2	1.0		17.4	180	564	14 24 36
14 28 20	J1946+2300	20 45 49	57.9	206.2	1.0		16.7	15	564	14 28 20
14 30 05	=1943+228	20 47 34	57.8	206.9	1.0		17.2	105	567	14 28 21
14 30 05	G59.63	20 47 34	58.1	208.1	1.1		18.0	-15	567	No stop
14 33 20	---	20 50 50	57.9	209.5	1.1		18.8	180	573	14 30 06
14 33 20	J1946+2300	20 50 50	57.6	208.3	1.1		18.0	-15	573	No stop
14 35 05	=1943+228	20 52 35	57.5	209.0	1.1		18.4	90	577	14 33 21

Schedule for TORUN (Code Tr)

Page 6

e-EVN: eo014

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

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 Dec 2016	Day 341			---					
14 35 05	G59.63	20 52 35	57.7	210.2	1.1		19.2	-15	577	No stop	
14 38 20	---	20 55 51	57.5	211.5	1.2		20.0	180	583	14 35 06	
14 38 50	J1946+2300	20 56 21	57.2	210.5	1.2		19.3	15	583	14 38 50	
14 40 35	=1943+228	20 58 06	57.0	211.2	1.2		19.7	105	586	14 38 51	
14 40 35	G59.63	20 58 06	57.3	212.4	1.2		20.5	-15	586	No stop	
14 43 50	---	21 01 22	57.0	213.7	1.3		21.3	180	592	14 40 36	
14 43 50	J1946+2300	21 01 22	56.8	212.5	1.2		20.5	-15	592	No stop	
14 45 35	=1943+228	21 03 07	56.6	213.2	1.3		20.9	90	596	14 43 51	
14 45 35	G59.63	21 03 07	56.9	214.4	1.3		21.7	-15	596	No stop	
14 48 50	---	21 06 22	56.6	215.6	1.4		22.4	180	602	14 45 36	
14 49 20	J1946+2300	21 06 53	56.3	214.6	1.3		21.8	15	602	14 49 20	
14 51 05	=1943+228	21 08 38	56.2	215.3	1.4		22.1	105	605	14 49 21	
14 51 05	G59.63	21 08 38	56.4	216.5	1.4		22.9	-15	605	No stop	
14 54 20	---	21 11 53	56.1	217.7	1.5		23.6	180	612	14 51 06	
14 54 20	J1946+2300	21 11 53	55.9	216.5	1.4		22.9	-15	612	No stop	
14 56 05	=1943+228	21 13 39	55.7	217.2	1.4		23.2	90	615	14 54 21	
14 56 05	G59.63	21 13 39	56.0	218.4	1.5		24.0	-15	615	No stop	
14 59 20	---	21 16 54	55.7	219.6	1.5		24.7	180	621	14 56 06	
14 59 50	J1946+2300	21 17 24	55.4	218.6	1.5		24.0	15	621	14 59 50	
15 01 35	=1943+228	21 19 10	55.2	219.2	1.5		24.4	105	625	14 59 51	
15 01 35	G59.63	21 19 10	55.4	220.4	1.6		25.1	-15	625	No stop	
15 04 50	---	21 22 25	55.1	221.6	1.6		25.8	180	631	15 01 36	
15 04 50	J1946+2300	21 22 25	54.9	220.4	1.6		25.0	-14	631	No stop	
15 06 35	=1943+228	21 24 10	54.7	221.1	1.6		25.4	91	634	15 04 51	
15 06 35	G59.63	21 24 10	54.9	222.2	1.7		26.1	-15	634	No stop	
15 09 50	---	21 27 26	54.6	223.4	1.7		26.7	180	641	15 06 36	
15 10 20	J1946+2300	21 27 56	54.4	222.4	1.7		26.1	16	641	15 10 20	
15 12 05	=1943+228	21 29 41	54.2	223.0	1.7		26.4	105	644	15 10 21	
15 12 05	G59.63	21 29 41	54.4	224.2	1.8		27.2	-15	644	No stop	
15 15 20	---	21 32 57	54.0	225.3	1.8		27.8	180	650	15 12 06	

Schedule for TORUN (Code Tr)

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e-EVN: eo014

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

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 Dec 2016 Day 341 ---										
15 15 20	J1946+2300	21 32 57	53.8	224.2	1.8		27.0	-14	650	No stop
15 17 05	=1943+228	21 34 42	53.7	224.8	1.8		27.4	91	654	15 15 21
15 17 05	G59.63	21 34 42	53.8	225.9	1.8		28.1	-15	654	No stop
15 20 20	---	21 37 58	53.5	227.0	1.9		28.6	180	660	15 17 06
15 20 50	J1946+2300	21 38 28	53.3	226.1	1.9		28.0	16	660	15 20 50
15 22 35	=1943+228	21 40 13	53.1	226.7	1.9		28.3	105	663	15 20 51
15 22 35	G59.63	21 40 13	53.2	227.8	1.9		29.0	-15	663	No stop
15 25 50	---	21 43 29	52.9	228.9	2.0		29.6	180	669	15 22 36
15 25 50	J1946+2300	21 43 29	52.7	227.7	1.9		28.9	-14	669	No stop
15 27 35	=1943+228	21 45 14	52.5	228.3	2.0		29.2	91	673	15 25 51
15 27 35	G59.63	21 45 14	52.7	229.5	2.0		29.8	-15	673	No stop
15 30 50	---	21 48 29	52.3	230.5	2.1		30.4	180	679	15 27 36
15 31 20	J1946+2300	21 48 59	52.1	229.6	2.0		29.8	16	679	15 31 20
15 33 05	=1943+228	21 50 45	51.9	230.1	2.1		30.1	105	682	15 31 21
15 33 05	G59.63	21 50 45	52.0	231.2	2.1		30.7	-15	682	No stop
15 36 20	---	21 54 00	51.6	232.3	2.2		31.2	180	689	15 33 06
15 36 20	J1946+2300	21 54 00	51.5	231.2	2.1		30.6	-14	689	No stop
15 38 05	=1943+228	21 55 46	51.3	231.7	2.1		30.8	91	692	15 36 21
15 38 05	G59.63	21 55 46	51.4	232.8	2.2		31.5	-15	692	No stop
15 41 20	---	21 59 01	51.0	233.9	2.2		31.9	180	698	15 38 06
15 41 50	J1946+2300	21 59 31	50.9	232.9	2.2		31.4	16	698	15 41 50
15 43 35	=1943+228	22 01 16	50.6	233.4	2.2		31.6	105	702	15 41 51
15 43 35	G59.63	22 01 16	50.8	234.5	2.3		32.2	-15	702	No stop
15 46 50	---	22 04 32	50.4	235.5	2.3		32.7	180	708	15 43 36
15 46 50	J1946+2300	22 04 32	50.2	234.4	2.3		32.1	-14	708	No stop
15 48 35	=1943+228	22 06 17	50.0	235.0	2.3		32.3	91	711	15 46 51
15 48 35	G59.63	22 06 17	50.1	236.1	2.4		32.9	-15	711	No stop
15 51 50	---	22 09 33	49.7	237.0	2.4		33.3	180	717	15 48 36
15 52 20	J1946+2300	22 10 03	49.6	236.1	2.4		32.8	16	717	15 52 20
15 54 05	=1943+228	22 11 48	49.3	236.6	2.4		33.0	105	721	15 52 21

Schedule for TORUN (Code Tr)

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e-EVN: eo014

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

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).

SYNC: Time correlator 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 Dec 2016	Day 341			---					
15 54 05	G59.63	22 11 48	49.5	237.7	2.5		33.6	-14	721	No stop	
15 57 20	---	22 15 04	49.0	238.7	2.5		34.0	181	727	15 54 06	
15 57 20	J1946+2300	22 15 04	48.9	237.6	2.5		33.4	-14	727	No stop	
15 59 05	=1943+228	22 16 49	48.7	238.1	2.5		33.6	91	730	15 57 21	
15 59 05	G59.63	22 16 49	48.8	239.2	2.5		34.2	-14	730	No stop	
16 02 20	---	22 20 05	48.4	240.1	2.6		34.6	181	737	15 59 06	
16 02 50	J1946+2300	22 20 35	48.2	239.2	2.6		34.1	16	737	16 02 50	
16 04 35	=1943+228	22 22 20	48.0	239.7	2.6		34.3	105	740	16 02 51	
16 04 35	G59.63	22 22 20	48.1	240.7	2.6		34.8	-14	740	No stop	
16 07 50	---	22 25 35	47.7	241.6	2.7		35.2	181	746	16 04 36	
16 07 50	J1946+2300	22 25 35	47.6	240.6	2.6		34.7	-14	746	No stop	
16 09 35	=1943+228	22 27 21	47.3	241.1	2.7		34.8	91	750	16 07 51	
16 09 35	G59.63	22 27 21	47.4	242.1	2.7		35.4	-14	750	No stop	
16 12 50	---	22 30 36	47.0	243.0	2.8		35.7	181	756	16 09 36	
16 13 20	J1946+2300	22 31 06	46.9	242.1	2.7		35.2	16	756	16 13 20	
16 15 05	=1943+228	22 32 52	46.6	242.6	2.8		35.4	105	759	16 13 21	
16 15 05	G59.63	22 32 52	46.7	243.6	2.8		35.9	-14	759	No stop	
16 18 20	---	22 36 07	46.3	244.5	2.9		36.2	181	766	16 15 06	
16 18 20	J1946+2300	22 36 07	46.2	243.5	2.8		35.7	-14	766	No stop	
16 20 05	=1943+228	22 37 52	45.9	244.0	2.9		35.9	91	769	16 18 21	
16 20 05	G59.63	22 37 52	46.0	245.0	2.9		36.4	-14	769	No stop	
16 23 20	---	22 41 08	45.6	245.8	2.9		36.7	181	775	16 20 06	
16 23 50	J1946+2300	22 41 38	45.4	245.0	2.9		36.3	16	775	16 23 50	
16 25 35	=1943+228	22 43 23	45.2	245.4	2.9		36.4	105	779	16 23 51	
16 25 35	G59.63	22 43 23	45.3	246.4	3.0		36.9	-14	779	No stop	
16 28 50	---	22 46 39	44.8	247.3	3.0		37.2	181	785	16 25 36	
16 28 50	J1946+2300	22 46 39	44.8	246.3	3.0		36.7	-14	785	No stop	
16 30 35	=1943+228	22 48 24	44.5	246.7	3.0		36.8	91	788	16 28 51	
16 30 35	G59.63	22 48 24	44.6	247.7	3.1		37.3	-14	788	No stop	
16 33 50	---	22 51 40	44.1	248.6	3.1		37.6	181	794	16 30 36	

Schedule for TORUN (Code Tr)

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e-EVN: eo014

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

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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

--- Tue 6 Dec 2016 Day 341 ---										
16 34 20	J1946+2300	22 52 10	44.0	247.7	3.1		37.1	16	794	16 34 20
16 36 05	=1943+228	22 53 55	43.7	248.2	3.1		37.3	105	798	16 34 21
16 36 05	G59.63	22 53 55	43.8	249.1	3.2		37.7	-14	798	No stop
16 39 20	---	22 57 11	43.3	249.9	3.2		38.0	181	804	16 36 06
16 39 20	J1946+2300	22 57 11	43.3	249.0	3.2		37.5	-14	804	No stop
16 41 05	=1943+228	22 58 56	43.0	249.4	3.2		37.7	91	807	16 39 21
16 41 05	G59.63	22 58 56	43.1	250.4	3.2		38.1	-14	807	No stop
16 44 20	---	23 02 11	42.6	251.2	3.3		38.3	181	814	16 41 06
16 44 50	J1946+2300	23 02 42	42.5	250.3	3.3		37.9	16	814	16 44 50
16 46 35	=1943+228	23 04 27	42.3	250.8	3.3		38.0	105	817	16 44 51
16 46 35	G59.63	23 04 27	42.3	251.7	3.3		38.5	-14	817	No stop
16 49 50	---	23 07 42	41.8	252.5	3.4		38.7	181	823	16 46 36
16 49 50	J1946+2300	23 07 42	41.8	251.6	3.3		38.3	-14	823	No stop
16 51 35	=1943+228	23 09 28	41.6	252.0	3.4		38.4	91	827	16 49 51
16 51 35	G59.63	23 09 28	41.6	252.9	3.4		38.8	-14	827	No stop
16 54 50	---	23 12 43	41.1	253.7	3.5		38.9	181	833	16 51 36
16 55 20	J1946+2300	23 13 13	41.0	252.9	3.4		38.6	17	833	16 55 20
16 57 05	=1943+228	23 14 59	40.8	253.3	3.5		38.7	105	836	16 55 21
16 57 05	G59.63	23 14 59	40.8	254.2	3.5		39.1	-14	836	No stop
17 00 20	---	23 18 14	40.3	255.0	3.6		39.2	181	842	16 57 06
17 00 20	J1946+2300	23 18 14	40.3	254.1	3.5		38.9	-13	842	No stop
17 02 05	=1943+228	23 19 59	40.0	254.5	3.6		39.0	92	846	17 00 21
17 02 05	G59.63	23 19 59	40.1	255.4	3.6		39.3	-14	846	No stop
17 05 20	---	23 23 15	39.6	256.2	3.6		39.5	181	852	17 02 06
17 05 50	J1946+2300	23 23 45	39.5	255.4	3.6		39.2	17	852	17 05 50
17 07 35	=1943+228	23 25 30	39.2	255.8	3.6		39.2	105	855	17 05 51
17 10 35	3C454.3	23 28 31	52.6	193.4	0.6		8.3	40	855	17 10 35
17 17 35	---	23 35 32	52.3	196.1	0.7		10.0	420	869	17 10 36
17 21 42	J1946+2300	23 39 39	37.2	259.0	3.9		39.8	107	869	17 21 42
17 23 27	=1943+228	23 41 24	36.9	259.4	3.9		39.9	105	872	17 21 43

Schedule for TORUN (Code Tr)
e-EVN: eo014

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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

---	Tue	6 Dec 2016	Day 341		---					
17 23 27	G59.63	23 41 24	36.9	260.2	3.9		40.2	-14	872	No stop
17 26 42	---	23 44 40	36.5	260.9	4.0		40.3	181	879	17 23 28
17 26 42	J1946+2300	23 44 40	36.4	260.1	4.0		40.0	-13	879	No stop
17 28 27	=1943+228	23 46 25	36.2	260.5	4.0		40.1	92	882	17 26 43
17 28 27	G59.63	23 46 25	36.2	261.3	4.0		40.3	-14	882	No stop
17 31 42	---	23 49 41	35.7	262.0	4.1		40.4	181	888	17 28 28
17 32 12	J1946+2300	23 50 11	35.6	261.3	4.1		40.2	17	888	17 32 12
17 33 57	=1943+228	23 51 56	35.3	261.6	4.1		40.2	105	892	17 32 13
17 33 57	G59.63	23 51 56	35.4	262.5	4.1		40.5	-13	892	No stop
17 37 12	---	23 55 12	34.9	263.2	4.2		40.6	182	898	17 33 58
17 37 12	J1946+2300	23 55 12	34.9	262.3	4.1		40.3	-13	898	No stop
17 38 57	=1943+228	23 56 57	34.6	262.7	4.2		40.3	92	901	17 37 13
17 38 57	G59.63	23 56 57	34.6	263.6	4.2		40.6	-13	901	No stop
17 42 12	---	00 00 13	34.1	264.3	4.3		40.7	182	907	17 38 58
17 42 42	J1946+2300	00 00 43	34.0	263.5	4.2		40.4	17	907	17 42 42
17 44 27	=1943+228	00 02 28	33.8	263.9	4.3		40.5	105	911	17 42 43
17 44 27	G59.63	00 02 28	33.8	264.7	4.3		40.7	-13	911	No stop
17 47 42	---	00 05 43	33.3	265.4	4.4		40.8	182	917	17 44 28
17 47 42	J1946+2300	00 05 43	33.3	264.6	4.3		40.5	-13	917	No stop
17 49 27	=1943+228	00 07 29	33.0	264.9	4.3		40.5	92	920	17 47 43
17 49 27	G59.63	00 07 29	33.1	265.8	4.4		40.8	-13	920	No stop
17 52 42	---	00 10 44	32.6	266.5	4.4		40.8	182	927	17 49 28
17 53 12	J1946+2300	00 11 14	32.5	265.7	4.4		40.6	17	927	17 53 12
17 54 57	=1943+228	00 13 00	32.2	266.1	4.4		40.6	105	930	17 53 13
17 54 57	G59.63	00 13 00	32.2	266.9	4.5		40.8	-13	930	No stop
17 58 12	---	00 16 15	31.7	267.6	4.5		40.9	182	936	17 54 58
17 58 12	J1946+2300	00 16 15	31.7	266.8	4.5		40.7	-13	936	No stop
17 59 57	=1943+228	00 18 00	31.5	267.1	4.5		40.7	92	940	17 58 13
17 59 57	G59.63	00 18 00	31.5	267.9	4.6		40.9	-13	940	No stop
18 03 12	---	00 21 16	31.0	268.6	4.6		40.9	182	946	17 59 58

Schedule for TORUN (Code Tr)
e-EVN: eo014

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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

--- Tue 6 Dec 2016 Day 341 ---										
18 03 42	J1946+2300	00 21 46	30.9	267.9	4.6		40.7	17	946	18 03 42
18 05 27	=1943+228	00 23 31	30.6	268.2	4.6		40.7	105	949	18 03 43
18 05 27	G59.63	00 23 31	30.6	269.1	4.6		40.9	-13	949	No stop
18 08 42	---	00 26 47	30.2	269.7	4.7		40.9	182	955	18 05 28
18 08 42	J1946+2300	00 26 47	30.1	268.9	4.7		40.7	-13	955	No stop
18 10 27	=1943+228	00 28 32	29.9	269.3	4.7		40.7	92	959	18 08 43
18 10 27	G59.63	00 28 32	29.9	270.1	4.7		40.9	-13	959	No stop
18 13 42	---	00 31 48	29.4	270.7	4.8		40.9	182	965	18 10 28
18 14 12	J1946+2300	00 32 18	29.3	270.0	4.8		40.7	17	965	18 14 12
18 15 57	=1943+228	00 34 03	29.0	270.4	4.8		40.7	105	968	18 14 13
18 15 57	G59.63	00 34 03	29.1	271.2	4.8		40.9	-13	968	No stop
18 19 12	---	00 37 19	28.6	271.8	4.9		40.9	182	975	18 15 58
18 19 12	J1946+2300	00 37 19	28.6	271.0	4.8		40.7	-13	975	No stop
18 20 57	=1943+228	00 39 04	28.3	271.4	4.9		40.7	92	978	18 19 13
18 20 57	G59.63	00 39 04	28.3	272.2	4.9		40.9	-13	978	No stop
18 24 12	---	00 42 19	27.8	272.8	5.0		40.9	182	984	18 20 58
18 24 42	J1946+2300	00 42 50	27.7	272.1	4.9		40.7	17	984	18 24 42
18 26 27	=1943+228	00 44 35	27.5	272.4	5.0		40.7	105	988	18 24 43
18 26 27	G59.63	00 44 35	27.5	273.2	5.0		40.8	-13	988	No stop
18 29 42	---	00 47 50	27.0	273.9	5.1		40.8	182	994	18 26 28
18 29 42	J1946+2300	00 47 50	27.0	273.1	5.0		40.7	-13	994	No stop
18 31 27	=1943+228	00 49 36	26.7	273.4	5.0		40.6	92	997	18 29 43
18 31 27	G59.63	00 49 36	26.7	274.2	5.1		40.8	-13	997	No stop
18 34 42	---	00 52 51	26.2	274.8	5.1		40.7	182	1004	18 31 28
18 35 12	J1946+2300	00 53 21	26.2	274.2	5.1		40.6	17	1004	18 35 12
18 36 57	=1943+228	00 55 07	25.9	274.5	5.1		40.6	105	1007	18 35 13
18 36 57	G59.63	00 55 07	25.9	275.3	5.2		40.7	-13	1007	No stop
18 40 12	---	00 58 22	25.4	275.9	5.2		40.6	182	1013	18 36 58
18 40 12	J1946+2300	00 58 22	25.4	275.1	5.2		40.5	-13	1013	No stop
18 41 57	=1943+228	01 00 07	25.1	275.5	5.2		40.5	92	1017	18 40 13

Schedule for TORUN (Code Tr)
e-EVN: eo014

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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

--- Tue 6 Dec 2016 Day 341 ---										
18 41 57	G59.63	01 00 07	25.2	276.2	5.3		40.6	-13	1017	No stop
18 45 12	---	01 03 23	24.7	276.9	5.3		40.6	182	1023	18 41 58
18 45 42	J1946+2300	01 03 53	24.6	276.2	5.3		40.4	17	1023	18 45 42
18 47 27	=1943+228	01 05 38	24.3	276.5	5.3		40.4	105	1026	18 45 43
18 47 27	G59.63	01 05 38	24.3	277.3	5.4		40.5	-13	1026	No stop
18 50 42	---	01 08 54	23.9	277.9	5.4		40.4	182	1032	18 47 28
18 50 42	J1946+2300	01 08 54	23.8	277.2	5.4		40.4	-13	1032	No stop
18 52 27	=1943+228	01 10 39	23.6	277.5	5.4		40.3	92	1036	18 50 43
18 52 27	G59.63	01 10 39	23.6	278.3	5.4		40.4	-13	1036	No stop
18 55 42	---	01 13 55	23.1	278.9	5.5		40.3	182	1042	18 52 28
18 56 12	J1946+2300	01 14 25	23.0	278.2	5.5		40.2	17	1042	18 56 12
18 58 57	=1943+228	01 17 10	22.6	278.7	5.5		40.2	165	1047	18 56 13
----- FRINGE-FINDER -----										
19 04 57	J0121+1149	01 23 11	48.8	180.2	0.0		0.1	146	1047	19 04 57
19 18 57	=0119+115	01 37 13	48.7	185.4	0.2		3.3	840	1074	19 04 58
19 19 57	J0121+1149	01 38 14	48.7	185.8	0.3		3.6	53	1074	19 19 57
19 28 57	=0119+115	01 47 15	48.5	189.1	0.4		5.6	540	1092	19 19 58
19 29 57	J0121+1149	01 48 15	48.5	189.5	0.4		5.8	53	1092	19 29 57
19 38 57	=0119+115	01 57 17	48.2	192.8	0.6		7.8	540	1109	19 29 58
19 39 57	J0121+1149	01 58 17	48.2	193.2	0.6		8.0	53	1109	19 39 57
19 48 57	=0119+115	02 07 18	47.9	196.4	0.7		10.0	540	1126	19 39 58
19 49 57	J0121+1149	02 08 19	47.8	196.8	0.8		10.2	53	1126	19 49 57
19 58 57	=0119+115	02 17 20	47.4	200.0	0.9		12.1	540	1143	19 49 58
19 59 57	J0121+1149	02 18 20	47.3	200.3	0.9		12.3	53	1143	19 59 57
20 08 57	=0119+115	02 27 22	46.8	203.5	1.1		14.2	540	1161	19 59 58
20 09 57	J0121+1149	02 28 22	46.8	203.9	1.1		14.4	53	1161	20 09 57
20 18 57	=0119+115	02 37 23	46.2	206.9	1.2		16.1	540	1178	20 09 58
20 19 57	J0121+1149	02 38 23	46.1	207.3	1.3		16.3	53	1178	20 19 57
20 28 57	=0119+115	02 47 25	45.5	210.3	1.4		18.0	540	1195	20 19 58

Schedule for TORUN (Code Tr)
e-EVN: eo014

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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

--- Tue 6 Dec 2016 Day 341 ---										
20 29 57	J0121+1149	02 48 25	45.4	210.6	1.4		18.2	53	1195	20 29 57
20 38 57	=0119+115	02 57 27	44.7	213.6	1.6		19.9	540	1213	20 29 58
20 39 57	J0121+1149	02 58 27	44.6	213.9	1.6		20.0	54	1213	20 39 57
20 48 57	=0119+115	03 07 28	43.8	216.8	1.7		21.6	540	1230	20 39 58
20 49 57	J0121+1149	03 08 28	43.7	217.1	1.8		21.7	54	1230	20 49 57
20 58 57	=0119+115	03 17 30	42.9	219.9	1.9		23.2	540	1247	20 49 58
20 59 57	J0121+1149	03 18 30	42.8	220.2	1.9		23.3	54	1247	20 59 57
21 08 57	=0119+115	03 27 32	41.9	223.0	2.1		24.7	540	1265	20 59 58
21 09 57	J0121+1149	03 28 32	41.8	223.2	2.1		24.9	54	1265	21 09 57
21 18 57	=0119+115	03 37 33	40.8	225.9	2.2		26.2	540	1282	21 09 58
21 19 57	J0121+1149	03 38 33	40.7	226.2	2.3		26.3	54	1282	21 19 57
21 28 57	=0119+115	03 47 35	39.7	228.8	2.4		27.5	540	1299	21 19 58
21 29 57	J0121+1149	03 48 35	39.6	229.1	2.4		27.6	54	1299	21 29 57
21 38 57	=0119+115	03 57 36	38.6	231.6	2.6		28.7	540	1317	21 29 58
21 39 57	J0121+1149	03 58 37	38.4	231.8	2.6		28.9	54	1317	21 39 57
21 48 57	=0119+115	04 07 38	37.4	234.3	2.8		29.9	540	1334	21 39 58
21 49 57	J0121+1149	04 08 38	37.2	234.5	2.8		30.0	54	1334	21 49 57
21 58 57	=0119+115	04 17 40	36.1	236.9	2.9		30.9	540	1351	21 49 58
21 59 57	J0121+1149	04 18 40	36.0	237.2	2.9		31.0	54	1351	21 59 57
22 08 57	=0119+115	04 27 41	34.8	239.5	3.1		31.9	540	1368	21 59 58
22 09 57	J0121+1149	04 28 42	34.7	239.7	3.1		32.0	54	1368	22 09 57
22 18 57	=0119+115	04 37 43	33.5	242.0	3.3		32.8	540	1386	22 09 58
22 19 57	J0121+1149	04 38 43	33.4	242.2	3.3		32.9	54	1386	22 19 57
22 28 57	=0119+115	04 47 45	32.2	244.4	3.4		33.6	540	1403	22 19 58
22 29 57	J0121+1149	04 48 45	32.0	244.7	3.4		33.7	54	1403	22 29 57
22 38 57	=0119+115	04 57 46	30.8	246.8	3.6		34.3	540	1420	22 29 58
22 39 57	J0121+1149	04 58 46	30.7	247.1	3.6		34.4	54	1420	22 39 57
22 48 57	=0119+115	05 07 48	29.4	249.1	3.8		35.0	540	1438	22 39 58
22 49 57	J0121+1149	05 08 48	29.3	249.4	3.8		35.1	54	1438	22 49 57
22 58 57	=0119+115	05 17 50	28.0	251.4	3.9		35.6	540	1455	22 49 58

Schedule for TORUN (Code Tr)
 e-EVN: eo014

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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

--- Tue 6 Dec 2016 Day 341 ---										
22 59 57	J0121+1149	05 18 50	27.9	251.7	3.9		35.6	54	1455	22 59 57
23 08 57	=0119+115	05 27 51	26.6	253.7	4.1		36.1	540	1472	22 59 58
23 09 57	J0121+1149	05 28 51	26.4	253.9	4.1		36.1	54	1472	23 09 57
23 18 57	=0119+115	05 37 53	25.1	255.9	4.3		36.5	540	1490	23 09 58
23 27 57	J0927+3902	05 46 54	50.2	87.9	-3.7		-50.5	188	1490	23 27 57
23 37 57	=4C39.25	05 56 56	51.7	89.9	-3.5		-50.6	600	1509	23 27 58
23 38 57	J0927+3902	05 57 56	51.9	90.1	-3.5		-50.6	54	1509	23 38 57
23 47 57	=4C39.25	06 06 58	53.2	91.9	-3.4		-50.5	540	1526	23 38 58
23 48 57	J0927+3902	06 07 58	53.4	92.1	-3.3		-50.5	54	1526	23 48 57
23 57 57	=4C39.25	06 16 59	54.7	94.0	-3.2		-50.4	540	1543	23 48 58

--- Start: Tue 6 Dec 2016 Day 341 -- Stop: Wed 7 Dec 2016 Day 342 ---										
23 58 57	J0927+3902	06 17 59	54.9	94.2	-3.2		-50.4	54	1543	23 58 57
00 07 57	=4C39.25	06 27 01	56.2	96.2	-3.0		-50.2	540	1561	23 58 58
00 08 57	J0927+3902	06 28 01	56.4	96.4	-3.0		-50.1	54	1561	00 08 57
00 17 57	=4C39.25	06 37 03	57.7	98.5	-2.9		-49.8	540	1578	00 08 58
00 18 57	J0927+3902	06 38 03	57.9	98.7	-2.8		-49.8	54	1578	00 18 57
00 27 57	=4C39.25	06 47 04	59.2	100.9	-2.7		-49.3	540	1595	00 18 58
00 28 57	J0927+3902	06 48 04	59.4	101.2	-2.7		-49.3	54	1595	00 28 57
00 37 57	=4C39.25	06 57 06	60.7	103.5	-2.5		-48.7	540	1613	00 28 58
00 38 57	J0927+3902	06 58 06	60.8	103.7	-2.5		-48.6	54	1613	00 38 57
00 47 57	=4C39.25	07 07 08	62.1	106.2	-2.3		-47.9	540	1630	00 38 58
00 48 57	J0927+3902	07 08 08	62.3	106.5	-2.3		-47.8	54	1630	00 48 57
00 57 57	=4C39.25	07 17 09	63.6	109.1	-2.2		-46.9	540	1647	00 48 58
00 58 57	J0927+3902	07 18 09	63.7	109.4	-2.2		-46.8	54	1647	00 58 57
01 07 57	=4C39.25	07 27 11	65.0	112.2	-2.0		-45.7	540	1665	00 58 58
01 08 57	J0927+3902	07 28 11	65.1	112.5	-2.0		-45.5	54	1665	01 08 57
01 17 57	=4C39.25	07 37 12	66.4	115.5	-1.8		-44.2	540	1682	01 08 58
01 18 57	J0927+3902	07 38 13	66.5	115.9	-1.8		-44.0	53	1682	01 18 57
01 27 57	=4C39.25	07 47 14	67.7	119.2	-1.7		-42.4	540	1699	01 18 58

Schedule for TORUN (Code Tr)
e-EVN: eo014

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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
--- Wed 7 Dec 2016 Day 342 ---										
01 28 57	J0927+3902	07 48 14	67.8	119.6	-1.7		-42.2	53	1699	01 28 57
01 37 57	=4C39.25	07 57 16	69.0	123.1	-1.5		-40.3	540	1717	01 28 58
01 38 57	J0927+3902	07 58 16	69.1	123.6	-1.5		-40.1	53	1717	01 38 57
01 47 57	=4C39.25	08 07 17	70.2	127.5	-1.3		-37.8	540	1734	01 38 58
01 48 57	J0927+3902	08 08 18	70.3	127.9	-1.3		-37.5	53	1734	01 48 57
01 57 57	=4C39.25	08 17 19	71.4	132.3	-1.2		-34.9	540	1751	01 48 58
01 58 57	J0927+3902	08 18 19	71.5	132.8	-1.2		-34.5	53	1751	01 58 57
02 07 57	=4C39.25	08 27 21	72.4	137.5	-1.0		-31.4	540	1768	01 58 58
02 08 57	J0927+3902	08 28 21	72.5	138.1	-1.0		-31.1	53	1768	02 08 57
02 17 57	=4C39.25	08 37 22	73.4	143.3	-0.8		-27.5	540	1786	02 08 58
02 18 57	J0927+3902	08 38 22	73.5	143.9	-0.8		-27.1	53	1786	02 18 57
02 27 57	=4C39.25	08 47 24	74.2	149.6	-0.7		-23.0	540	1803	02 18 58
02 28 57	J0927+3902	08 48 24	74.3	150.3	-0.7		-22.5	52	1803	02 28 57
02 37 57	=4C39.25	08 57 26	74.9	156.5	-0.5		-17.9	540	1820	02 28 58
02 38 57	J0927+3902	08 58 26	75.0	157.2	-0.5		-17.4	52	1820	02 38 57
02 47 57	=4C39.25	09 07 27	75.4	163.9	-0.3		-12.4	540	1838	02 38 58
02 48 57	J0927+3902	09 08 27	75.5	164.6	-0.3		-11.8	52	1838	02 48 57
02 57 57	=4C39.25	09 17 29	75.7	171.6	-0.2		-6.5	540	1855	02 48 58
02 58 57	J0927+3902	09 18 29	75.8	172.4	-0.2		-5.9	52	1855	02 58 57
03 07 57	=4C39.25	09 27 31	75.9	179.5	-0.0		-0.4	540	1872	02 58 58
03 08 57	J0927+3902	09 28 31	75.9	180.3	0.0		0.3	52	1872	03 08 57
03 17 57	=4C39.25	09 37 32	75.8	187.5	0.2		5.8	540	1890	03 08 58
03 18 57	J0927+3902	09 38 32	75.8	188.3	0.2		6.4	52	1890	03 18 57
03 27 57	=4C39.25	09 47 34	75.5	195.2	0.3		11.7	540	1907	03 18 58
03 28 57	J0927+3902	09 48 34	75.4	196.0	0.3		12.3	52	1907	03 28 57
03 37 57	=4C39.25	09 57 35	75.0	202.7	0.5		17.3	540	1924	03 28 58
03 38 57	J0927+3902	09 58 36	74.9	203.4	0.5		17.8	52	1924	03 38 57
03 47 57	=4C39.25	10 07 37	74.3	209.6	0.7		22.4	540	1941	03 38 58
03 48 57	J0927+3902	10 08 37	74.2	210.2	0.7		22.9	52	1941	03 48 57
03 57 57	=4C39.25	10 17 39	73.5	216.0	0.8		27.0	540	1959	03 48 58

Schedule for TORUN (Code Tr)

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e-EVN: eo014

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

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 Dec 2016 Day 342 ---										
03 58 57	J0927+3902	10 18 39	73.4	216.6	0.8		27.4	53	1959	03 58 57
04 07 57	=4C39.25	10 27 40	72.6	221.8	1.0		31.0	540	1976	03 58 58
04 08 57	J0927+3902	10 28 41	72.5	222.4	1.0		31.4	53	1976	04 08 57
04 17 57	=4C39.25	10 37 42	71.5	227.1	1.2		34.5	540	1993	04 08 58
04 18 57	J0927+3902	10 38 42	71.4	227.6	1.2		34.8	53	1993	04 18 57
04 27 57	=4C39.25	10 47 44	70.4	232.0	1.3		37.5	540	2011	04 18 58
04 28 57	J0927+3902	10 48 44	70.2	232.4	1.3		37.7	53	2011	04 28 57
04 37 57	=4C39.25	10 57 45	69.1	236.4	1.5		40.0	540	2028	04 28 58
04 38 57	J0927+3902	10 58 45	69.0	236.8	1.5		40.2	53	2028	04 38 57
04 47 57	=4C39.25	11 07 47	67.9	240.4	1.7		42.2	540	2045	04 38 58
04 49 57	3C345	11 09 47	34.4	67.6	-5.6		-46.3	-239	2045	04 49 57
04 56 57	---	11 16 48	35.3	68.8	-5.4		-46.8	181	2059	04 49 58
04 57 57	3C345	11 17 49	35.5	68.9	-5.4		-46.8	54	2059	04 57 57
05 07 57	---	11 27 50	36.9	70.6	-5.3		-47.5	600	2078	04 57 58
05 08 57	3C345	11 28 50	37.0	70.7	-5.2		-47.5	54	2078	05 08 57
05 18 57	---	11 38 52	38.5	72.4	-5.1		-48.1	600	2097	05 08 58
05 19 57	3C345	11 39 52	38.6	72.5	-5.1		-48.2	54	2097	05 19 57
05 29 57	---	11 49 54	40.1	74.2	-4.9		-48.7	600	2116	05 19 58
05 30 57	3C345	11 50 54	40.2	74.3	-4.9		-48.8	54	2116	05 30 57
05 40 57	---	12 00 56	41.7	76.0	-4.7		-49.3	600	2136	05 30 58
05 41 57	3C345	12 01 56	41.8	76.2	-4.7		-49.4	54	2136	05 41 57
05 51 57	---	12 11 57	43.3	77.9	-4.5		-49.8	600	2155	05 41 58
05 52 57	3C345	12 12 58	43.4	78.0	-4.5		-49.9	54	2155	05 52 57
06 02 57	---	12 22 59	44.9	79.8	-4.3		-50.3	600	2174	05 52 58
06 03 57	3C345	12 23 59	45.0	79.9	-4.3		-50.3	54	2174	06 03 57
06 13 57	---	12 34 01	46.5	81.7	-4.2		-50.6	600	2193	06 03 58
06 14 57	3C345	12 35 01	46.7	81.9	-4.1		-50.7	54	2193	06 14 57
06 24 57	---	12 45 03	48.2	83.7	-4.0		-51.0	600	2213	06 14 58
06 25 57	3C345	12 46 03	48.3	83.9	-4.0		-51.0	54	2213	06 25 57
06 35 57	---	12 56 05	49.8	85.7	-3.8		-51.2	600	2232	06 25 58

Schedule for TORUN (Code Tr)

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e-EVN: eo014

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

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 Dec 2016 Day 342 ---										
06 36 57	3C345	12 57 05	50.0	85.9	-3.8		-51.2	54	2232	06 36 57
06 46 57	---	13 07 06	51.5	87.8	-3.6		-51.3	600	2251	06 36 58
06 47 57	3C345	13 08 07	51.6	88.0	-3.6		-51.3	54	2251	06 47 57
06 57 57	---	13 18 08	53.1	90.0	-3.4		-51.4	600	2270	06 47 58
06 58 57	3C345	13 19 08	53.3	90.2	-3.4		-51.4	54	2270	06 58 57
07 08 57	---	13 29 10	54.8	92.2	-3.2		-51.3	600	2290	06 58 58
07 09 57	3C345	13 30 10	54.9	92.4	-3.2		-51.3	54	2290	07 09 57
07 19 57	---	13 40 12	56.4	94.6	-3.1		-51.2	600	2309	07 09 58
07 20 57	3C345	13 41 12	56.6	94.8	-3.0		-51.1	54	2309	07 20 57
07 30 57	---	13 51 14	58.1	97.0	-2.9		-50.9	600	2328	07 20 58
07 31 57	3C345	13 52 14	58.2	97.3	-2.9		-50.8	54	2328	07 31 57
07 41 57	---	14 02 16	59.7	99.6	-2.7		-50.4	600	2347	07 31 58
07 42 57	3C345	14 03 16	59.9	99.9	-2.7		-50.3	54	2347	07 42 57
07 52 57	---	14 13 17	61.3	102.4	-2.5		-49.7	600	2366	07 42 58
07 53 57	3C345	14 14 17	61.5	102.7	-2.5		-49.7	54	2366	07 53 57
08 03 57	---	14 24 19	62.9	105.3	-2.3		-48.9	600	2386	07 53 58
08 04 57	3C345	14 25 19	63.1	105.6	-2.3		-48.8	54	2386	08 04 57
08 14 57	---	14 35 21	64.5	108.5	-2.1		-47.8	600	2405	08 04 58
08 15 57	3C345	14 36 21	64.7	108.8	-2.1		-47.7	54	2405	08 15 57
08 25 57	---	14 46 23	66.1	112.0	-2.0		-46.4	600	2424	08 15 58
08 26 57	3C345	14 47 23	66.2	112.3	-1.9		-46.3	54	2424	08 26 57
08 36 57	---	14 57 25	67.6	115.8	-1.8		-44.7	600	2443	08 26 58
08 37 57	3C345	14 58 25	67.7	116.1	-1.8		-44.6	53	2443	08 37 57
08 47 57	---	15 08 26	69.1	119.9	-1.6		-42.6	600	2463	08 37 58
08 48 57	3C345	15 09 27	69.2	120.3	-1.6		-42.4	53	2463	08 48 57
08 58 57	---	15 19 28	70.5	124.5	-1.4		-40.1	600	2482	08 48 58
----- E0014 -----										
08 59 27	3C345	15 19 58	70.5	124.7	-1.4		-40.0	23	2482	08 59 27
09 06 17	---	15 26 49	71.4	127.9	-1.3		-38.1	410	2495	08 59 28

Schedule for TORUN (Code Tr)
e-EVN: eo014

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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

--- Wed 7 Dec 2016 Day 342 ---										
09 17 07	J1946+2300	15 37 41	34.8	97.5	-4.2		-40.3	494	2495	09 17 07
09 18 52	=1943+228	15 39 26	35.0	97.9	-4.1		-40.3	105	2498	09 17 08
09 18 52	G59.63	15 39 26	35.7	98.0	-4.1		-40.4	-15	2498	No stop
09 22 07	---	15 42 42	36.2	98.7	-4.0		-40.3	180	2505	09 18 53
09 22 07	J1946+2300	15 42 42	35.5	98.6	-4.1		-40.2	-14	2505	No stop
09 23 52	=1943+228	15 44 27	35.8	99.0	-4.0		-40.1	91	2508	09 22 08
09 23 52	G59.63	15 44 27	36.5	99.1	-4.0		-40.3	-15	2508	No stop
09 27 07	---	15 47 43	36.9	99.8	-3.9		-40.2	180	2514	09 23 53
09 27 37	J1946+2300	15 48 13	36.3	99.8	-4.0		-40.0	15	2514	09 27 37
09 29 22	=1943+228	15 49 58	36.6	100.2	-3.9		-40.0	105	2518	09 27 38
09 29 22	G59.63	15 49 58	37.3	100.3	-3.9		-40.1	-15	2518	No stop
09 32 37	---	15 53 14	37.8	101.0	-3.9		-40.0	180	2524	09 29 23
09 32 37	J1946+2300	15 53 14	37.1	100.9	-3.9		-39.9	-14	2524	No stop
09 34 22	=1943+228	15 54 59	37.3	101.3	-3.9		-39.8	91	2527	09 32 38
09 34 22	G59.63	15 54 59	38.0	101.4	-3.8		-39.9	-15	2527	No stop
09 37 37	---	15 58 15	38.5	102.1	-3.8		-39.8	180	2533	09 34 23
09 38 07	J1946+2300	15 58 45	37.9	102.1	-3.8		-39.6	16	2533	09 38 07
09 39 52	=1943+228	16 00 30	38.1	102.5	-3.8		-39.6	105	2537	09 38 08
09 39 52	G59.63	16 00 30	38.8	102.6	-3.7		-39.7	-15	2537	No stop
09 43 07	---	16 03 45	39.3	103.4	-3.7		-39.6	180	2543	09 39 53
09 43 07	J1946+2300	16 03 45	38.6	103.2	-3.7		-39.4	-14	2543	No stop
09 44 52	=1943+228	16 05 31	38.9	103.6	-3.7		-39.4	91	2546	09 43 08
09 44 52	G59.63	16 05 31	39.6	103.8	-3.7		-39.5	-15	2546	No stop
09 48 07	---	16 08 46	40.0	104.5	-3.6		-39.3	180	2553	09 44 53
09 48 37	J1946+2300	16 09 16	39.4	104.5	-3.6		-39.2	16	2553	09 48 37
09 50 22	=1943+228	16 11 02	39.7	104.9	-3.6		-39.1	105	2556	09 48 38
09 50 22	G59.63	16 11 02	40.4	105.0	-3.6		-39.2	-15	2556	No stop
09 53 37	---	16 14 17	40.8	105.8	-3.5		-39.1	180	2562	09 50 23
09 53 37	J1946+2300	16 14 17	40.1	105.7	-3.5		-38.9	-14	2562	No stop
09 55 22	=1943+228	16 16 02	40.4	106.1	-3.5		-38.8	91	2566	09 53 38

Schedule for TORUN (Code Tr)

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e-EVN: eo014

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

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 Dec 2016 Day 342 ---										
09 55 22	G59.63	16 16 02	41.1	106.2	-3.5		-39.0	-15	2566	No stop
09 58 37	---	16 19 18	41.6	107.0	-3.4		-38.8	180	2572	09 55 23
09 59 07	J1946+2300	16 19 48	40.9	107.0	-3.5		-38.6	16	2572	09 59 07
10 00 52	=1943+228	16 21 33	41.2	107.4	-3.4		-38.5	105	2575	09 59 08
10 00 52	G59.63	16 21 33	41.9	107.5	-3.4		-38.6	-15	2575	No stop
10 04 07	---	16 24 49	42.3	108.3	-3.3		-38.4	180	2582	10 00 53
10 04 07	J1946+2300	16 24 49	41.6	108.2	-3.4		-38.3	-14	2582	No stop
10 05 52	=1943+228	16 26 34	41.9	108.6	-3.3		-38.2	91	2585	10 04 08
10 05 52	G59.63	16 26 34	42.6	108.7	-3.3		-38.3	-15	2585	No stop
10 09 07	---	16 29 50	43.1	109.5	-3.2		-38.1	180	2591	10 05 53
10 09 37	J1946+2300	16 30 20	42.4	109.5	-3.3		-38.0	16	2591	10 09 37
10 11 22	=1943+228	16 32 05	42.7	109.9	-3.2		-37.8	105	2595	10 09 38
10 11 22	G59.63	16 32 05	43.4	110.1	-3.2		-38.0	-15	2595	No stop
10 14 37	---	16 35 21	43.8	110.9	-3.2		-37.7	180	2601	10 11 23
10 14 37	J1946+2300	16 35 21	43.1	110.8	-3.2		-37.6	-14	2601	No stop
10 16 22	=1943+228	16 37 06	43.4	111.2	-3.2		-37.5	91	2604	10 14 38
10 16 22	G59.63	16 37 06	44.1	111.4	-3.1		-37.6	-15	2604	No stop
10 19 37	---	16 40 21	44.5	112.2	-3.1		-37.3	180	2610	10 16 23
10 20 07	J1946+2300	16 40 52	43.9	112.1	-3.1		-37.2	16	2610	10 20 07
10 21 52	=1943+228	16 42 37	44.2	112.6	-3.1		-37.0	105	2614	10 20 08
10 21 52	G59.63	16 42 37	44.8	112.8	-3.0		-37.1	-15	2614	No stop
10 25 07	---	16 45 52	45.3	113.6	-3.0		-36.9	180	2620	10 21 53
10 25 07	J1946+2300	16 45 52	44.6	113.4	-3.0		-36.8	-14	2620	No stop
10 26 52	=1943+228	16 47 38	44.8	113.9	-3.0		-36.6	91	2623	10 25 08
10 26 52	G59.63	16 47 38	45.5	114.1	-2.9		-36.7	-15	2623	No stop
10 30 07	---	16 50 53	46.0	114.9	-2.9		-36.4	180	2630	10 26 53
10 30 37	J1946+2300	16 51 23	45.4	114.9	-2.9		-36.3	16	2630	10 30 37
10 32 22	=1943+228	16 53 09	45.6	115.3	-2.9		-36.1	105	2633	10 30 38
10 32 22	G59.63	16 53 09	46.3	115.5	-2.9		-36.2	-15	2633	No stop
10 35 37	---	16 56 24	46.7	116.4	-2.8		-35.9	180	2639	10 32 23

Schedule for TORUN (Code Tr)
e-EVN: eo014

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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

--- Wed 7 Dec 2016 Day 342 ---										
10 35 37	J1946+2300	16 56 24	46.0	116.2	-2.8		-35.8	-14	2639	No stop
10 37 22	=1943+228	16 58 09	46.3	116.7	-2.8		-35.7	91	2643	10 35 38
10 37 22	G59.63	16 58 09	47.0	116.9	-2.8		-35.7	-15	2643	No stop
10 40 37	---	17 01 25	47.4	117.8	-2.7		-35.4	180	2649	10 37 23
10 41 07	J1946+2300	17 01 55	46.8	117.7	-2.7		-35.3	16	2649	10 41 07
10 42 52	=1943+228	17 03 40	47.0	118.2	-2.7		-35.1	105	2652	10 41 08
10 42 52	G59.63	17 03 40	47.7	118.4	-2.7		-35.2	-15	2652	No stop
10 46 07	---	17 06 56	48.1	119.3	-2.6		-34.8	180	2658	10 42 53
10 46 07	J1946+2300	17 06 56	47.4	119.1	-2.7		-34.8	-14	2658	No stop
10 47 52	=1943+228	17 08 41	47.7	119.6	-2.6		-34.6	91	2662	10 46 08
10 47 52	G59.63	17 08 41	48.4	119.8	-2.6		-34.6	-15	2662	No stop
10 51 07	---	17 11 57	48.8	120.8	-2.5		-34.3	180	2668	10 47 53
10 51 37	J1946+2300	17 12 27	48.2	120.6	-2.6		-34.2	16	2668	10 51 37
10 53 22	=1943+228	17 14 12	48.4	121.1	-2.5		-34.0	105	2671	10 51 38
10 53 22	G59.63	17 14 12	49.1	121.4	-2.5		-34.0	-15	2671	No stop
10 56 37	---	17 17 28	49.5	122.4	-2.5		-33.6	180	2678	10 53 23
10 56 37	J1946+2300	17 17 28	48.8	122.1	-2.5		-33.6	-14	2678	No stop
10 58 22	=1943+228	17 19 13	49.0	122.6	-2.5		-33.3	91	2681	10 56 38
10 58 22	G59.63	17 19 13	49.7	122.9	-2.4		-33.4	-15	2681	No stop
11 01 37	---	17 22 28	50.1	123.8	-2.4		-33.0	180	2687	10 58 23
11 02 07	J1946+2300	17 22 58	49.5	123.7	-2.4		-32.9	16	2687	11 02 07
11 03 52	=1943+228	17 24 44	49.7	124.2	-2.4		-32.6	105	2691	11 02 08
11 03 52	G59.63	17 24 44	50.4	124.5	-2.3		-32.7	-15	2691	No stop
11 07 07	---	17 27 59	50.8	125.5	-2.3		-32.2	180	2697	11 03 53
11 07 07	J1946+2300	17 27 59	50.1	125.2	-2.3		-32.2	-14	2697	No stop
11 08 52	=1943+228	17 29 45	50.3	125.8	-2.3		-32.0	91	2700	11 07 08
11 08 52	G59.63	17 29 45	51.0	126.1	-2.2		-32.0	-15	2700	No stop
11 12 07	---	17 33 00	51.4	127.1	-2.2		-31.5	180	2707	11 08 53
11 12 37	J1946+2300	17 33 30	50.8	126.9	-2.2		-31.5	16	2707	11 12 37
11 14 22	=1943+228	17 35 15	51.0	127.5	-2.2		-31.2	105	2710	11 12 38

Schedule for TORUN (Code Tr)
e-EVN: eo014

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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

--- Wed 7 Dec 2016 Day 342 ---										
11 14 22	G59.63	17 35 15	51.7	127.8	-2.2		-31.2	-15	2710	No stop
11 17 37	---	17 38 31	52.1	128.8	-2.1		-30.7	180	2716	11 14 23
11 17 37	J1946+2300	17 38 31	51.4	128.5	-2.1		-30.7	-14	2716	No stop
11 19 22	=1943+228	17 40 16	51.6	129.0	-2.1		-30.5	91	2720	11 17 38
11 19 22	G59.63	17 40 16	52.3	129.4	-2.1		-30.4	-15	2720	No stop
11 22 37	---	17 43 32	52.6	130.4	-2.0		-29.9	180	2726	11 19 23
11 23 07	J1946+2300	17 44 02	52.0	130.3	-2.0		-29.9	16	2726	11 23 07
11 24 52	=1943+228	17 45 47	52.2	130.8	-2.0		-29.6	105	2729	11 23 08
11 24 52	G59.63	17 45 47	52.9	131.2	-2.0		-29.5	-15	2729	No stop
11 28 07	---	17 49 03	53.3	132.3	-1.9		-29.0	180	2735	11 24 53
11 28 07	J1946+2300	17 49 03	52.6	131.9	-2.0		-29.1	-14	2735	No stop
11 29 52	=1943+228	17 50 48	52.8	132.5	-1.9		-28.8	91	2739	11 28 08
11 29 52	G59.63	17 50 48	53.4	132.9	-1.9		-28.7	-15	2739	No stop
11 33 07	---	17 54 04	53.8	134.0	-1.8		-28.1	180	2745	11 29 53
11 33 37	J1946+2300	17 54 34	53.2	133.7	-1.9		-28.1	16	2745	11 33 37
11 35 22	=1943+228	17 56 19	53.4	134.3	-1.8		-27.8	105	2748	11 33 38
11 35 22	G59.63	17 56 19	54.0	134.7	-1.8		-27.7	-15	2748	No stop
11 38 37	---	17 59 34	54.4	135.9	-1.7		-27.1	180	2755	11 35 23
11 38 37	J1946+2300	17 59 34	53.7	135.5	-1.8		-27.2	-14	2755	No stop
11 40 22	=1943+228	18 01 20	53.9	136.1	-1.8		-26.9	91	2758	11 38 38
11 40 22	G59.63	18 01 20	54.6	136.5	-1.7		-26.8	-14	2758	No stop
11 43 37	---	18 04 35	54.9	137.7	-1.7		-26.2	181	2764	11 40 23
11 44 07	J1946+2300	18 05 05	54.3	137.4	-1.7		-26.2	16	2764	11 44 07
11 45 52	=1943+228	18 06 51	54.5	138.0	-1.7		-25.9	105	2768	11 44 08
11 45 52	G59.63	18 06 51	55.1	138.5	-1.6		-25.7	-14	2768	No stop
11 49 07	---	18 10 06	55.5	139.6	-1.6		-25.1	181	2774	11 45 53
11 49 07	J1946+2300	18 10 06	54.8	139.2	-1.6		-25.3	-14	2774	No stop
11 50 52	=1943+228	18 11 51	55.0	139.8	-1.6		-24.9	91	2777	11 49 08
11 50 52	G59.63	18 11 51	55.6	140.3	-1.5		-24.7	-14	2777	No stop
11 54 07	---	18 15 07	55.9	141.5	-1.5		-24.1	181	2783	11 50 53

Schedule for TORUN (Code Tr)
e-EVN: eo014

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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

--- Wed 7 Dec 2016 Day 342 ---										
11 54 37	J1946+2300	18 15 37	55.3	141.2	-1.5		-24.1	16	2783	11 54 37
11 56 22	=1943+228	18 17 22	55.5	141.8	-1.5		-23.8	105	2787	11 54 38
11 56 22	G59.63	18 17 22	56.1	142.3	-1.5		-23.6	-14	2787	No stop
11 59 37	---	18 20 38	56.4	143.6	-1.4		-22.9	181	2793	11 56 23
11 59 37	J1946+2300	18 20 38	55.8	143.1	-1.4		-23.1	-14	2793	No stop
12 01 22	=1943+228	18 22 23	55.9	143.7	-1.4		-22.7	91	2796	11 59 38
12 01 22	G59.63	18 22 23	56.6	144.3	-1.4		-22.5	-14	2796	No stop
12 04 37	---	18 25 39	56.9	145.5	-1.3		-21.8	181	2803	12 01 23
12 05 07	J1946+2300	18 26 09	56.3	145.2	-1.3		-21.9	16	2803	12 05 07
12 06 52	=1943+228	18 27 54	56.4	145.8	-1.3		-21.5	105	2806	12 05 08
12 06 52	G59.63	18 27 54	57.1	146.4	-1.3		-21.2	-14	2806	No stop
12 10 07	---	18 31 10	57.3	147.7	-1.2		-20.5	181	2812	12 06 53
12 10 07	J1946+2300	18 31 10	56.7	147.1	-1.3		-20.8	-14	2812	No stop
12 11 52	=1943+228	18 32 55	56.8	147.8	-1.2		-20.4	91	2816	12 10 08
12 11 52	G59.63	18 32 55	57.5	148.4	-1.2		-20.1	-14	2816	No stop
12 15 07	---	18 36 10	57.7	149.7	-1.1		-19.3	181	2822	12 11 53
12 15 37	J1946+2300	18 36 41	57.1	149.3	-1.2		-19.5	16	2822	12 15 37
12 17 22	=1943+228	18 38 26	57.3	150.0	-1.1		-19.1	105	2825	12 15 38
12 17 22	G59.63	18 38 26	57.9	150.6	-1.1		-18.7	-14	2825	No stop
12 20 37	---	18 41 41	58.1	152.0	-1.0		-17.9	181	2832	12 17 23
12 20 37	J1946+2300	18 41 41	57.5	151.3	-1.1		-18.3	-14	2832	No stop
12 22 22	=1943+228	18 43 27	57.6	152.0	-1.1		-17.8	91	2835	12 20 38
12 22 22	G59.63	18 43 27	58.2	152.7	-1.0		-17.5	-14	2835	No stop
12 25 37	---	18 46 42	58.5	154.0	-1.0		-16.7	181	2841	12 22 23
12 26 07	J1946+2300	18 47 12	57.9	153.6	-1.0		-16.9	16	2841	12 26 07
12 27 52	=1943+228	18 48 58	58.0	154.3	-1.0		-16.4	105	2845	12 26 08
12 27 52	G59.63	18 48 58	58.6	155.0	-0.9		-16.1	-14	2845	No stop
12 31 07	---	18 52 13	58.8	156.4	-0.9		-15.2	181	2851	12 27 53
12 31 07	J1946+2300	18 52 13	58.2	155.7	-0.9		-15.6	-14	2851	No stop
12 32 52	=1943+228	18 53 58	58.3	156.4	-0.9		-15.1	91	2854	12 31 08

Schedule for TORUN (Code Tr)
e-EVN: eo014

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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 Dec 2016 Day 342 ---

12 32 52	G59.63	18 53 58	58.9	157.1	-0.8	-14.7	-14	2854	No stop
12 36 07	---	18 57 14	59.1	158.5	-0.8	-13.9	181	2860	12 32 53
12 36 37	J1946+2300	18 57 44	58.5	158.0	-0.8	-14.2	16	2860	12 36 37
12 38 22	=1943+228	18 59 29	58.6	158.8	-0.8	-13.7	105	2864	12 36 38
12 38 22	G59.63	18 59 29	59.2	159.5	-0.8	-13.2	-14	2864	No stop
12 41 37	---	19 02 45	59.4	160.9	-0.7	-12.3	181	2870	12 38 23
12 41 37	J1946+2300	19 02 45	58.8	160.2	-0.7	-12.8	-14	2870	No stop
12 43 22	=1943+228	19 04 30	58.9	160.9	-0.7	-12.3	91	2873	12 41 38
12 43 22	G59.63	19 04 30	59.5	161.7	-0.7	-11.9	-14	2873	No stop
12 46 37	---	19 07 46	59.6	163.2	-0.6	-10.9	181	2880	12 43 23
12 47 07	J1946+2300	19 08 16	59.1	162.6	-0.6	-11.3	16	2880	12 47 07
12 48 52	=1943+228	19 10 01	59.1	163.3	-0.6	-10.8	105	2883	12 47 08
12 51 32	3C454.3	19 12 41	33.4	108.6	-3.7	-36.3	35	2883	12 51 32
13 00 02	---	19 21 13	34.6	110.6	-3.6	-35.8	510	2899	12 51 33

SETUP FILE INFORMATION:

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

==== Setup file: sess316.M256e

Setup group: 7	Station: TORUN	Total bit rate: 256
Format: MARK5B	Bits per sample: 2	Sample rate: 8.000
Number of channels: 16	DBE type: DBBC_DDC	Speedup factor: 1.00

Disk used to record data.

1st LO=	5900.00	5900.00	5900.00	5900.00	5900.00	5900.00	5900.00	5900.00	5900.00
	5900.00	5900.00	5900.00	5900.00	5900.00	5900.00	5900.00	5900.00	5900.00
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: 5 Based on FREQ, BW, and/or DOPPLER in schedule. Used with PCAL = off

LO sum=	6661.97	6661.97	6661.97	6661.97	6669.97	6669.97	6669.97	6669.97
	6677.97	6677.97	6677.97	6677.97	6685.97	6685.97	6685.97	6685.97
BBC fr=	761.97	761.97	761.97	761.97	769.97	769.97	769.97	769.97
	777.97	777.97	777.97	777.97	785.97	785.97	785.97	785.97
Bandwd=	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00

Matching frequency sets: 5

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)	
* G59.63	19 41 42.373914	* 19 43 50.090000	19 44 31.898501	0.00
	23 21 22.75896	* 23 28 37.22000	23 31 20.28947	0.00
	Doppler based on LSR frame and radio definition. Velocities:			
	26.70	26.70	26.70	26.70
	26.70	26.70	26.70	26.70
0119+115	01 19 03.080127	* 01 21 41.595043	01 22 35.770461	0.00
* J0121+1149	11 34 09.31518	* 11 49 50.41317	11 55 07.81823	0.01
J0121+11	/home/guest/rmc/SCHED/sched11.4/catalogs/sources.gsfc			
	GSFC 2015a astro solution, unpublished 48826 observations.			
	Doppler based on other sources.			
4C39.25	09 23 55.319215	* 09 27 03.013936	09 28 06.173152	0.30
* J0927+3902	39 15 23.56645	* 39 02 20.85186	38 57 40.40221	0.16
0923+392	/home/guest/rmc/SCHED/sched11.4/catalogs/sources.gsfc			
J0927+39	GSFC 2015a astro solution, unpublished 245753 observations.			
	Doppler based on other sources.			
* 3C345	16 41 17.606228	* 16 42 58.809966	16 43 30.822919	0.76
J1642+3948	39 54 10.81496	* 39 48 36.99402	39 46 55.39980	0.52
1641+399	/home/guest/rmc/SCHED/sched11.4/catalogs/sources.gsfc			
J1642+39	GSFC 2015a astro solution, unpublished 53430 observations.			
	Doppler based on other sources.			

1732+389	17 32 40.487475	* 17 34 20.578541	17 34 52.351823	0.01
* J1734+3857	38 59 46.93242	* 38 57 51.44310	38 57 26.60557	0.01
J1734+38	/home/guest/rmc/SCHED/sched11.4/catalogs/sources.gsfc			
	GSFC 2015a astro solution, unpublished 4984 observations.			
	Doppler based on other sources.			
1943+228	19 43 57.820046	* 19 46 06.251402	19 46 48.313190	0.15
* J1946+2300	22 52 41.05675	* 23 00 04.41441	23 02 50.39904	0.24
J1946+23	/home/guest/rmc/SCHED/sched11.4/catalogs/sources.gsfc			
	GSFC 2015a astro solution, unpublished 172 observations.			
	Doppler based on other sources.			
* 3C454.3	22 51 29.519738	* 22 53 57.747938	22 54 47.619044	0.67
J2253+1608	15 52 54.34810	* 16 08 53.56093	16 14 26.58852	0.70
2251+158	/home/guest/rmc/SCHED/sched11.4/catalogs/sources.gsfc			
J2253+16	GSFC 2015a astro solution, unpublished 40748 observations.			
	Doppler based on other sources.			

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)
G59.63	61.7
J0121+1149	128.2
J0927+3902	120.7
3C345	62.5
J1734+3857	62.2
J1946+2300	61.7
3C454.3	95.9

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

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