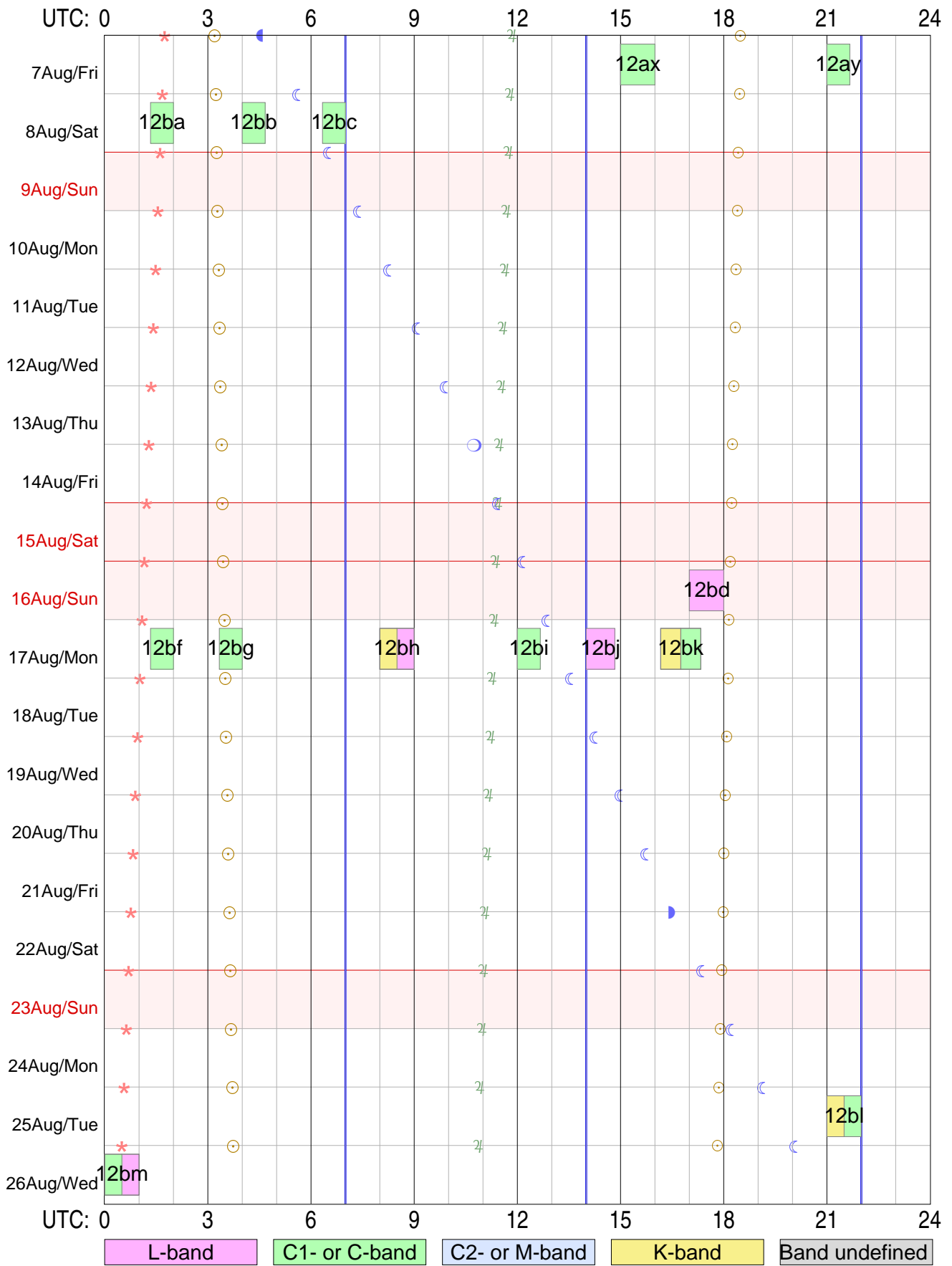


Tr VLBI plan for Aug 2015



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: 11.7 hours in 14 experiments scheduled*
 Initial characters 'rk' are omitted from RA experiment names!

Strona zostawiona celowo pusta

RadioAstron & EVN Experiments

Aug 2015

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

Year	Date	UTstart	UTstop	Exper.	xxComment
2015	D M DoW	hh mm	hh mm	name	
219	7 08 Pia	15 00	16 00	rk12ax	"C "
219	7 08 Pia	21 00	21 40	rk12ay	"C "
220	8 08 Sob	1 20	2 00	rk12ba	"C "
220	8 08 Sob	4 00	4 40	rk12bb	"C "
220	8 08 Sob	6 20	7 00	rk12bc	"C "
228	16 08 Nie	17 00	18 00	rk12bd	"L "
229	17 08 Pon	1 20	2 00	rk12bf	"C "
229	17 08 Pon	3 20	4 00	rk12bg	"C "
229	17 08 Pon	8 00	9 00	rk12bh	"K>L "
229	17 08 Pon	12 00	12 40	rk12bi	"C "
229	17 08 Pon	14 00	14 50	rk12bj	"L "
229	17 08 Pon	16 10	17 20	rk12bk	"K>C "
237	25 08 Wto	21 00	22 00	rk12bl	"K>C "
238	26 08 Sro	0 00	1 00	rk12bm	"C>L "

Total observing time: 11.7 hours in 14 experiments

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

<http://paulo.astro.uni.torun.pl/~pw/VLBI/schedules/aug15.pdf>

rk12axtr

RADIOASTRON AGN SURVEY

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

Schedule for TORUN (Code Tr) Page 2

RadioAstron AGN Survey

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

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

Disk: GBytes 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 7 Aug 2015 Day 219 ---

----- 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
```

```
15 00 00 1726+455    13 17 31 49.8 74.7 -4.2    -55.7    0    0    15 00 00
15 14 30 ---        13 32 04 51.9 76.9 -3.9    -56.6   870    28    15 00 01

15 15 00 1726+455    13 32 34 52.0 77.0 -3.9    -56.6    24    28    15 15 00
15 29 30 ---        13 47 06 54.1 79.3 -3.7    -57.3   870    56    15 15 01

15 30 00 1726+455    13 47 36 54.2 79.4 -3.7    -57.4    24    56    15 30 00
15 44 30 ---        14 02 09 56.4 81.8 -3.4    -58.0   870    84    15 30 01

15 45 00 1726+455    14 02 39 56.5 81.9 -3.4    -58.0    24    84    15 45 00
16 00 00 ---        14 17 41 58.7 84.5 -3.2    -58.5   900   112    15 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: 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 30.822522	0.00
	85 16 41.77889	* 85 00 00.000000	84 55 01.30589	0.00
	fake circumpolar target for a TS to look at			
* 1726+455	17 26 01.198749	* 17 27 27.650803	17 27 55.760580	0.00
J1727+4530	45 33 04.55106	* 45 30 39.73121	45 30 19.63282	0.00
	./rk12ax_sources.radioastron			
	AGN, rfc_2013d Petrov, 2013, unpublished 62139 observations, 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)
1726+455	100.5

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

rk12aytr

RADIOASTRON AGN SURVEY

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

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

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
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 7 Aug 2015 Day 219 ---

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

Next scan frequencies:	4836.00	4836.00	4836.00	4836.00	4836.00					
Next BBC frequencies:	736.00	736.00	736.00	736.00	736.00					
Next scan bandwidths:	16.00	16.00	16.00	16.00	16.00					
21 00 00	1732+389	19 18 31	67.3	241.9	1.7		42.9	0	0	21 00 00
21 19 30	---	19 38 04	64.7	248.5	2.1		45.9	1170	37	21 00 01
21 20 00	1732+389	19 38 34	64.6	248.7	2.1		46.0	24	37	21 20 00
21 40 00	---	19 58 37	61.7	254.6	2.4		48.1	1200	76	21 20 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: 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 30.778644	0.00
	85 16 41.77889	* 85 00 00.000000	84 55 01.23206	0.00
	fake circumpolar target for a TS to look at			
* 1732+389	17 32 40.487473	* 17 34 20.578539	17 34 52.904246	0.00
J1734+3857	38 59 46.93235	* 38 57 51.44303	38 57 39.74807	0.00
	./rk12ay_sources.radioastron			
	AGN, MASIV, rfc_2013d Petrov, 2013, unpublished 5259 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)
1732+389	105.3

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

rk12batr

RADIOASTRON AGN SURVEY

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

Schedule for TORUN (Code Tr) Page 2

RadioAstron AGN Survey

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes 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 8 Aug 2015 Day 220 ---

----- 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					
01 20 00	1800+440	23 39 13	36.8	-63.2	5.6	48.3	0	0	01 20 00
01 39 30	---	23 58 46	34.2	-60.3	5.9	46.6	1170	37	01 20 01
01 40 00	1800+440	23 59 17	34.2	-60.2	6.0	46.5	24	37	01 40 00
02 00 00	---	00 19 20	31.6	-57.2	6.3	44.7	1200	76	01 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:	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:  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 30.747797	0.00
	85 16 41.77889	* 85 00 00.000000	84 55 01.17873	0.00
	fake circumpolar target for a TS to look at			
* 1800+440	18 00 03.197727	* 18 01 32.314821	18 02 01.503076	0.00
J1801+4404	44 04 18.35293	* 44 04 21.90023	44 04 46.92343	0.00
	./rk12ba_sources.radioastron			
	AGN, rfc_2013d Petrov, 2013, unpublished 5984 observations, RA-A03-04, RA-A02-12			

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)
1800+440    105.9

```

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

```

rk12bbtr

RADIOASTRON AGN SURVEY
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Observing mode: C/K-band, dual-pol

Schedule for TORUN (Code Tr) Page 2

RadioAstron AGN Survey

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes 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 8 Aug 2015 Day 220 ---

----- 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							
04 00 00	2107+353	02 19 40	34.9	-75.3	5.2		45.6	0	0	04 00 00	
04 19 30	---	02 39 13	32.1	-72.0	5.5		44.6	1170	37	04 00 01	
04 20 00	2107+353	02 39 43	32.0	-71.9	5.5		44.6	24	37	04 20 00	
04 40 00	---	02 59 46	29.2	-68.5	5.8		43.4	1200	76	04 20 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:  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 30.728997	0.00
	85 16 41.77889	* 85 00 00.000000	84 55 01.14563	0.00
	fake circumpolar target for a TS to look at			
* 2107+353	21 07 30.448847	* 21 09 31.878723	21 10 11.778361	0.00
J2109+3532	35 20 43.22902	* 35 32 57.59753	35 36 58.72157	0.00
	./rk12bb_sources.radioastron			
	AGN, rfc_2013d Petrov, 2013, unpublished 135 observations, RA-A03-04, RA-A02-12			

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)
2107+353    128.1

```

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

```



```

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)	(Date)	Error (mas)	
* FAKERA	11 57 21.769299	* 12 00 00.000000	12 00 30.712667	0.00
	85 16 41.77889	* 85 00 00.000000	84 55 01.11649	0.00
	fake circumpolar target for a TS to look at			
* 0110+318	01 10 03.762608	* 01 12 50.333038	01 13 43.579011	0.00
J0112+3208	31 52 23.76437	* 32 08 17.43261	32 13 07.59855	0.00
	./rk12bc_sources.radioastron			
	AGN, rfc_2013d Petrov, 2013, unpublished 72 observations, 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)
0110+318	104.5

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

rk12bdtr

RADIOASTRON AGN SURVEY

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

Schedule for TORUN (Code Tr) Page 2

RadioAstron AGN Survey

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

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

Disk: GBytes 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 16 Aug 2015 Day 228 ---

----- 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						
17 00 00	1652+398	15 53 20	73.1	135.9	-1.0		-32.9	0	0	17 00 00
17 14 30	---	16 07 53	74.5	144.6	-0.8		-26.9	870	28	17 00 01
17 15 00	1652+398	16 08 23	74.5	144.9	-0.8		-26.7	23	28	17 15 00
17 29 30	---	16 22 55	75.6	154.9	-0.5		-19.3	870	56	17 15 01
17 30 00	1652+398	16 23 25	75.6	155.3	-0.5		-19.0	23	56	17 30 00
17 44 30	---	16 37 57	76.4	166.5	-0.3		-10.5	870	84	17 30 01
17 45 00	1652+398	16 38 28	76.4	166.9	-0.3		-10.2	23	84	17 45 00
18 00 00	---	16 53 30	76.6	179.2	-0.0		-0.6	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: 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:  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 29.665901	0.00
	85 16 41.77889	* 85 00 00.000000	84 54 58.53349	0.00
	fake circumpolar target for a TS to look at			
* 1652+398	16 52 11.729418	* 16 53 52.216683	16 54 24.167218	0.00
J1653+3945	39 50 25.15723	* 39 45 36.60881	39 44 32.71061	0.00
MRK501	./rk12bd_sources.radioastron			
	AGN, rfc_2013d Petrov, 2013, unpublished 6490 observations, RA-A03-04, RA-A03-09			

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)
1652+398	94.4

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

rk12bft

RADIOASTRON AGN SURVEY
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Observing mode: C/K-band, dual-pol

Schedule for TORUN (Code Tr) Page 2

RadioAstron AGN Survey

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

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----- 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

01 20 00 1828+487    00 14 42 38.9 -57.7 5.7    50.3    0    0    01 20 00
01 39 30 ---        00 34 15 36.4 -55.0 6.1    48.3 1170    37    01 20 01

01 40 00 1828+487    00 34 46 36.4 -54.9 6.1    48.2   24    37    01 40 00
02 00 00 ---        00 54 49 34.0 -52.2 6.4    46.0 1200    76    01 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:    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:  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)	(Date)	Error (mas)
* FAKERA	11 57 21.769299 * 12 00 00.000000	12 00 29.624694	0.00
	85 16 41.77889 * 85 00 00.000000	84 54 58.43503	0.00
	fake circumpolar target for a TS to look at		
* 1828+487	18 28 13.501488 * 18 29 31.780879	18 29 57.749667	0.00
J1829+4844	48 42 40.18595 * 48 44 46.16038	48 45 50.19447	0.00
3C380	./rk12bf_sources.radioastron AGN, rfc_2013d Petrov, 2013, unpublished 87 observations, RA-A03-04, RA-A02-12		

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)
1828+487    104.3

```

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=  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 29.614787	0.00
	85 16 41.77889	* 85 00 00.000000	84 54 58.41165	0.00
	fake circumpolar target for a TS to look at			
* 2022+542	20 22 37.651026	* 20 23 55.844020	20 24 22.907510	0.00
J2023+5427	54 17 49.43890	* 54 27 35.82889	54 30 55.95702	0.00
	./rk12bg_sources.radioastron			
	AGN, rfc_2013d Petrov, 2013, unpublished 140 observations, RA-A03-04, RA-A02-12			

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)
2022+542	109.8

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

rk12bhr

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

Schedule for TORUN (Code Tr) Page 2

RadioAstron AGN Survey

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

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----- K-band VLBI scans -----

Next scan frequencies: 22236.00 22236.00 22236.00 22236.00
Next BBC frequencies: 736.00 736.00 736.00 736.00
Next scan bandwidths: 16.00 16.00 16.00 16.00

08 00 00	2200+420	06 55 48	13.6	-33.7	8.9	26.8	0	0	08 00 00
08 14 30	---	07 10 20	12.5	-31.2	9.1	24.9	870	28	08 00 01
08 15 00	2200+420	07 10 50	12.4	-31.2	9.1	24.9	24	28	08 15 00
08 25 00	---	07 20 52	11.7	-29.4	9.3	23.5	600	47	08 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

08 30 00	2200+420	07 25 53	11.3	-28.6	9.4	22.9	294	47	08 30 00
08 44 30	---	07 40 25	10.3	-26.0	9.6	20.9	870	75	08 30 01
08 45 00	2200+420	07 40 55	10.3	-25.9	9.6	20.8	24	75	08 45 00
09 00 00	---	07 55 58	9.3	-23.3	9.9	18.7	900	104	08 45 01

SETUP FILE INFORMATION:

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

=====
Setup file: ra1cm2.set

Matching groups in ./rk12bh_freq.dat:
tr1cm

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= 21500.00 21500.00 21500.00 21500.00
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= 22236.00 22236.00 22236.00 22236.00
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

```

==== Setup file: ra18cm2.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=  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)	Source position (RA/Dec) (J2000)	(Date)	Error (mas)
* 2200+420	22 00 39.362504	* 22 02 43.291371	22 03 24.340049	0.00
J2202+4216	42 02 08.59073	* 42 16 39.97987	42 21 21.28620	0.00
BLLAC	./rk12bh_sources.radioastron			
	AGN, rfc_2013d Petrov, 2013, unpublished 59417 observations, RA-A03-04, RA-A02-1			


```

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 29.571342	0.00
	85 16 41.77889	* 85 00 00.000000	84 54 58.31032	0.00
	fake circumpolar target for a TS to look at			
* 0219+428	02 19 29.982909	* 02 22 39.611495	02 23 40.178288	0.00
J0222+4302	42 48 29.80835	* 43 02 07.79884	43 06 09.43016	0.00
	./rk12bi_sources.radioastron			
	AGN, rfc_2013d Petrov, 2013, unpublished 1093 observations, 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)
0219+428	95.3

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

rk12bjtr

RADIOASTRON AGN SURVEY

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

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

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
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 17 Aug 2015 Day 229 ---

----- 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						
14 00 00	1557+032	12 56 47	27.4	126.2	-3.1		-29.0	0	0	14 00 00
14 12 00	---	13 08 49	28.8	129.2	-2.9		-27.8	720	23	14 00 01
14 12 30	1557+032	13 09 19	28.9	129.3	-2.8		-27.7	24	23	14 12 30
14 24 30	---	13 21 21	30.2	132.4	-2.6		-26.4	720	46	14 12 31
14 25 00	1557+032	13 21 51	30.3	132.5	-2.6		-26.3	24	46	14 25 00
14 37 00	---	13 33 53	31.6	135.7	-2.4		-24.9	720	69	14 25 01
14 37 30	1557+032	13 34 23	31.6	135.8	-2.4		-24.8	24	69	14 37 30
14 50 00	---	13 46 55	32.9	139.2	-2.2		-23.2	750	93	14 37 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: 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: 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 29.561833	0.00
	85 16 41.77889	* 85 00 00.000000	84 54 58.28838	0.00
	fake circumpolar target for a TS to look at			
* 1557+032	15 57 00.361034	* 15 59 30.972614	16 00 18.320183	0.00
J1559+0304	03 13 15.85191	* 03 04 48.25670	03 02 26.60899	0.00
	./rk12bj_sources.radioastron AGN, HIGHz, rfc_2013d Petrov, 2013, unpublished 1323 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)
1557+032	92.6

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

rk12bktr

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

Schedule for TORUN (Code Tr) Page 2

RadioAstron AGN Survey

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes 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 17 Aug 2015 Day 229 ---

----- K-band VLBI scans -----

Next scan frequencies: 22236.00 22236.00 22236.00 22236.00
Next BBC frequencies: 736.00 736.00 736.00 736.00
Next scan bandwidths: 16.00 16.00 16.00 16.00

16 10 00	1923+210	15 07 08	31.7	96.7	-4.3		-39.7	0	0	16 10 00
16 24 30	---	15 21 41	33.9	99.9	-4.1		-39.4	870	28	16 10 01
16 25 00	1923+210	15 22 11	34.0	100.0	-4.1		-39.4	24	28	16 25 00
16 34 30	---	15 31 43	35.4	102.1	-3.9		-39.0	570	46	16 25 01

----- 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

16 40 00	1923+210	15 37 13	36.2	103.3	-3.8		-38.8	323	46	16 40 00
16 54 30	---	15 51 46	38.3	106.6	-3.6		-38.1	870	74	16 40 01
16 55 00	1923+210	15 52 16	38.4	106.7	-3.6		-38.1	24	74	16 55 00
17 09 30	---	16 06 48	40.4	110.2	-3.3		-37.2	870	102	16 55 01
17 10 00	1923+210	16 07 18	40.5	110.3	-3.3		-37.1	24	102	17 10 00
17 20 00	---	16 17 20	41.9	112.8	-3.2		-36.4	600	121	17 10 01

SETUP FILE INFORMATION:

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

=====
Setup file: ra1cm2.set

Matching groups in ./rk12bk_freq.dat:
tr1cm

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= 21500.00 21500.00 21500.00 21500.00
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:  6  Setup file default.  Used with PCAL = 1MHz
LO sum= 22236.00 22236.00 22236.00 22236.00
BBC fr=  736.00  736.00  736.00  736.00
Bandwd=  16.00  16.00  16.00  16.00
Matching frequency sets:  6

```

Track assignments are:

```

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

```

==== 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:  9  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:  9

```

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 29.550584	0.00
	85 16 41.77889	* 85 00 00.000000	84 54 58.26253	0.00
	fake circumpolar target for a TS to look at			
* 1923+210	19 23 49.792392	* 19 25 59.605355	19 26 41.511538	0.00
J1925+2106	21 00 23.30483	* 21 06 26.16191	21 08 39.76442	0.00
	./rk12bk_sources.radioastron			
	AGN, rfc_2013d Petrov, 2013, unpublished 35453 observations, RA-A03-04			

rk12bltr

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

Schedule for TORUN (Code Tr) Page 2

RadioAstron AGN Survey

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
 Early: Seconds between end of slew and start. Dwell: On source seconds.
 Disk: GBytes 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 25 Aug 2015 Day 237 ---

----- K-band VLBI scans -----

Next scan frequencies: 22236.00 22236.00 22236.00 22236.00
 Next BBC frequencies: 736.00 736.00 736.00 736.00
 Next scan bandwidths: 16.00 16.00 16.00 16.00

```
21 00 00 1751+288    20 29 29 52.7 244.9 2.6    38.4    0    0    21 00 00
21 14 30 ---        20 44 01 50.7 248.9 2.8    39.7    870    28    21 00 01

21 15 00 1751+288    20 44 31 50.6 249.0 2.8    39.8    24    28    21 15 00
21 25 00 ---        20 54 33 49.2 251.7 3.0    40.6    600    47    21 15 01
```

----- 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

```
21 30 00 1751+288    20 59 33 48.5 252.9 3.1    40.9    293    47    21 30 00
21 44 30 ---        21 14 06 46.4 256.5 3.3    41.8    870    75    21 30 01

21 45 00 1751+288    21 14 36 46.3 256.6 3.3    41.8    24    75    21 45 00
22 00 00 ---        21 29 38 44.1 260.0 3.6    42.5    900    104    21 45 01
```

SETUP FILE INFORMATION:

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

==== Setup file: ra1cm2.set

Matching groups in ./rk12bl_freq.dat:
tr1cm

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= 21500.00 21500.00 21500.00 21500.00
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= 22236.00 22236.00 22236.00 22236.00
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

```

==== 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:  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

```

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 28.575252	0.00
	85 16 41.77889	* 85 00 00.000000	84 54 55.58710	0.00
	fake circumpolar target for a TS to look at			
* 1751+288	17 51 45.401873	* 17 53 42.473645	17 54 19.834879	0.00
J1753+2848	28 48 36.64948	* 28 48 04.93876	28 48 20.17211	0.00
	./rk12bl_sources.radioastron			
	AGN, rfc_2013d Petrov, 2013, unpublished 5304 observations, RA-A03-04, RA-A02-12			

rk12bmtr

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

Schedule for TORUN (Code Tr) Page 2

RadioAstron AGN Survey

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes 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 26 Aug 2015 Day 238 ---

----- 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

00 00 00	1846+322	23 29 58	36.8	276.7	4.7		44.9	0	0	00 00 00
00 14 30	---	23 44 31	34.7	279.4	4.9		44.5	870	28	00 00 01
00 15 00	1846+322	23 45 01	34.6	279.4	4.9		44.5	24	28	00 15 00
00 25 00	---	23 55 02	33.1	281.3	5.1		44.2	600	47	00 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

00 30 00	1846+322	00 00 03	32.4	282.2	5.2		44.0	293	47	00 30 00
00 44 30	---	00 14 35	30.2	284.8	5.4		43.4	870	75	00 30 01
00 45 00	1846+322	00 15 06	30.2	284.9	5.4		43.4	24	75	00 45 00
01 00 00	---	00 30 08	28.0	287.5	5.7		42.7	900	104	00 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: 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

```

==== 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:  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)	Source position (RA/Dec) (J2000)	(Date)	Error (mas)
* 1846+322	18 46 29.612036	* 18 48 22.088579	18 48 58.409343	0.00
J1848+3219	32 15 36.66027	* 32 19 02.60367	32 20 31.39346	0.00

./rk12bm_sources.radioastron
AGN, MASIV, rfc_2013d Petrov, 2013, unpublished 15923 observations, RA-A03-04, R

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