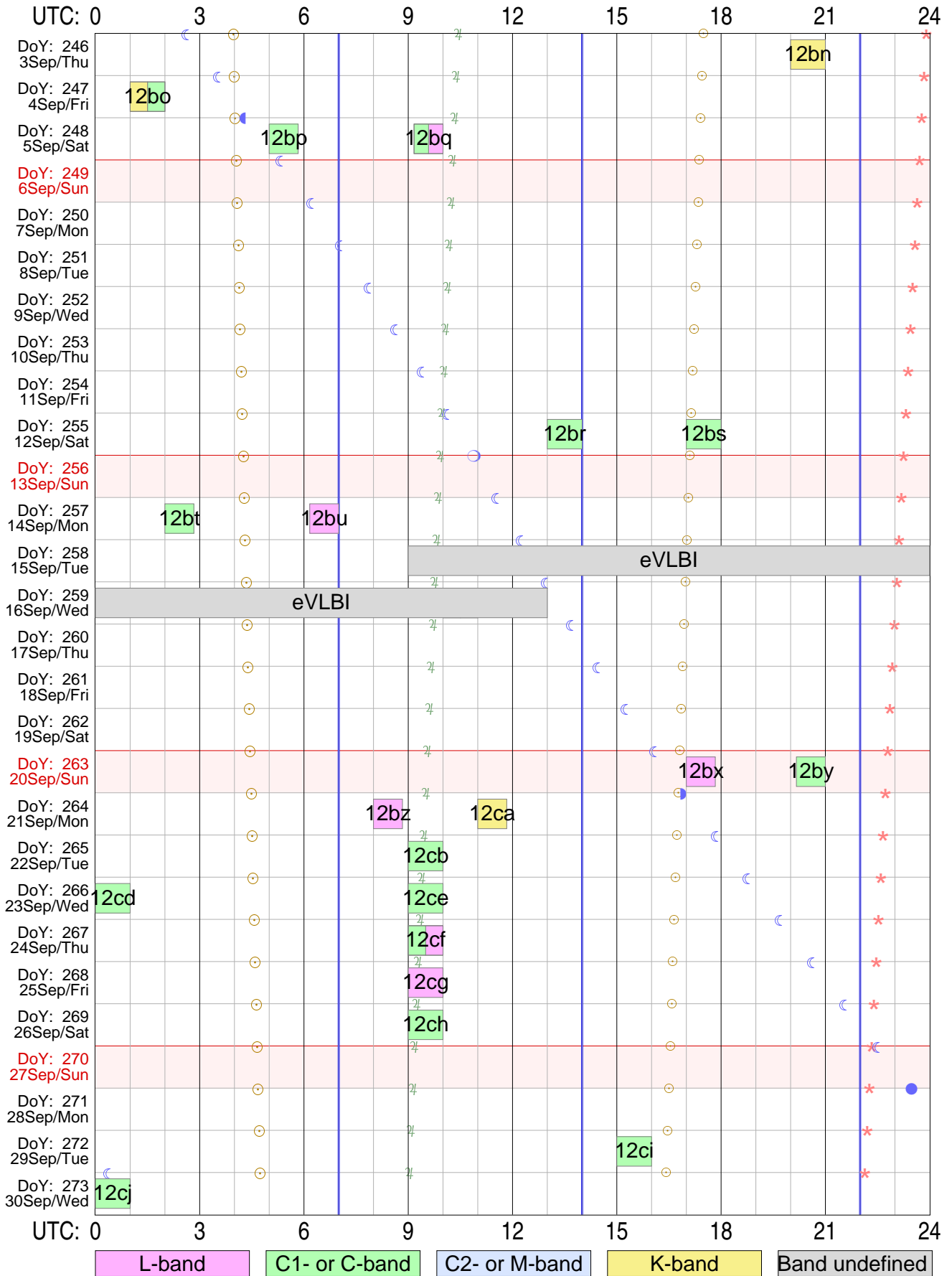


Tr VLBI plan for Sep 2015



Version: 2015.08.27

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: 47.7 hours in 22 experiments scheduled

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

Strona zostawiona celowo pusta

RadioAstron & EVN Experiments

Sep 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	
246	3 09 Czw	20 00	21 00	rk12bn	"K "
247	4 09 Pia	1 00	2 00	rk12bo	"K>C "
248	5 09 Sob	5 00	5 50	rk12bp	"C "
248	5 09 Sob	9 10	10 00	rk12bq	"C>L "
255	12 09 Sob	13 00	14 00	rk12br	"C "
255	12 09 Sob	17 00	18 00	rk12bs	"C "
257	14 09 Pon	2 00	2 50	rk12bt	"C "
257	14 09 Pon	6 10	7 00	rk12bu	"L "
258	15 09 Wto	9 00	113 00	eVLBI	" "
259	16 09 Sro	10 00	11 00	rk12bw	"C>L "
263	20 09 Nie	17 00	17 50	rk12bx	"L "
263	20 09 Nie	20 10	21 00	rk12by	"C "
264	21 09 Pon	8 00	8 50	rk12bz	"L "
264	21 09 Pon	11 00	11 50	rk12ca	"K "
265	22 09 Wto	9 00	10 00	rk12cb	"C "
266	23 09 Sro	0 00	1 00	rk12cd	"C "
266	23 09 Sro	9 00	10 00	rk12ce	"C "
267	24 09 Czw	9 00	10 00	rk12cf	"C>L "
268	25 09 Pia	9 00	10 00	rk12cg	"L "
269	26 09 Sob	9 00	10 00	rk12ch	"C "
272	29 09 Wto	15 00	16 00	rk12ci	"C "
273	30 09 Sro	0 00	1 00	rk12cj	"C "

Total observing time: 47.7 hours in 22 experiments

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

<http://paulo.astro.uni.torun.pl/~pw/VLBI/schedules/sep15.pdf>


```

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

```

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 27.905438	0.00
	85 16 41.77889	* 85 00 00.000000	84 54 52.55151	0.00
	fake circumpolar target for a TS to look at			
* 1732+389	17 32 40.487473	* 17 34 20.578539	17 34 52.307227	0.00
J1734+3857	38 59 46.93235	* 38 57 51.44303	38 57 42.94312	0.00
	./rk12bn_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	93.9

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

rk12botr

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

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 4 Sep 2015 Day 247 ---

----- 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

01 00 00	1732+389	01 05 37	18.8 -49.3	7.5		35.8	0	0	01 00 00
01 14 30	---	01 20 09	17.2 -46.9	7.8		34.3	870	28	01 00 01
01 15 00	1732+389	01 20 39	17.1 -46.8	7.8		34.2	24	28	01 15 00
01 25 00	---	01 30 41	16.1 -45.1	7.9		33.1	600	47	01 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

01 30 00	1732+389	01 35 42	15.5 -44.2	8.0		32.6	294	47	01 30 00
01 44 30	---	01 50 14	14.1 -41.7	8.3		30.9	870	75	01 30 01
01 45 00	1732+389	01 50 44	14.0 -41.7	8.3		30.9	24	75	01 45 00
02 00 00	---	02 05 47	12.5 -39.1	8.5		29.1	900	104	01 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 ./rk12bo_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:	2	Setup file default.	Used with PCAL = 1MHz
LO sum=	22236.00	22236.00	22236.00
BBC fr=	736.00	736.00	736.00
Bandwd=	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:	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:  4  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:  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 27.886361	0.00
	85 16 41.77889	* 85 00 00.000000	84 54 52.47482	0.00
	fake circumpolar target for a TS to look at			
* 1732+389	17 32 40.487473	* 17 34 20.578539	17 34 52.302173	0.00
J1734+3857	38 59 46.93235	* 38 57 51.44303	38 57 42.96371	0.00
	./rk12bo_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    93.9

```

Barry Clark estimates from predictions by Ketan Desai of IPM scattering sizes that the Sun will cause amplitude reductions on the longest VLBA baselines at a solar distance of $60 \text{ deg } F^{-0.6}$ where F is in GHz.

For common VLBI bands, this is:

```

1.6 GHz      45. deg
2.3 GHz      36. deg
5.0 GHz      23. deg
8.4 GHz      17. deg
15.0 GHz     12. deg
22.0 GHz     9. deg

```


1st LO=	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 27.790501	0.00
	85 16 41.77889	* 85 00 00.000000	84 54 52.03664	0.00
	fake circumpolar target for a TS to look at			
* 0336-019	03 36 58.953148	* 03 39 30.937788	03 40 19.030380	0.00
J0339-0146	-01 56 16.89659	*-01 46 35.80419	-01 43 34.26925	0.00
CTA26	./rk12bp_sources.radioastron			
	AGN, rfc_2013d Petrov, 2013, unpublished 81923 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)
0336-019	108.7

Barry Clark estimates from predictions by Ketan Desai of IPM scattering sizes that the Sun will cause amplitude reductions on the longest VLBA baselines at a solar distance of $60 \text{ deg } F^{-0.6}$ where F is in GHz.

For common VLBI bands, this is:

1.6 GHz	45. deg
2.3 GHz	36. deg
5.0 GHz	23. deg
8.4 GHz	17. deg
15.0 GHz	12. deg
22.0 GHz	9. deg

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

The following frequency sets based on these setups were used.

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

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

==== Setup file: ra18cm2.set

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

Disk used to record data.

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

The following frequency sets based on these setups were used.

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

Track assignments are:

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

POSITIONS OF SOURCES USED IN RECORDING SCANS

Source	Source position (RA/Dec) (B1950)	(J2000)	(Date)	Error (mas)
* FAKERA	11 57 21.769299	* 12 00 00.000000	12 00 27.777789	0.00
	85 16 41.77889	* 85 00 00.000000	84 54 51.96943	0.00
	fake circumpolar target for a TS to look at			
* 0420+022	04 20 16.064039	* 04 22 52.214653	04 23 41.408432	0.00
J0422+0219	02 12 29.61654	* 02 19 26.93072	02 21 34.65177	0.00
	./rk12bq_sources.radioastron			
	AGN, rfc_2013d Petrov, 2013, unpublished 4720 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)
0420+022	97.6

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

rk12brtr

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 12 Sep 2015 Day 255 ---

----- 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						
13 00 00	1828+487	13 39 08	46.0	64.9	-4.8		-55.6	0	0	13 00 00
13 14 30	---	13 53 40	48.0	66.8	-4.6		-56.9	870	28	13 00 01
13 15 00	1828+487	13 54 10	48.0	66.9	-4.6		-56.9	24	28	13 15 00
13 29 30	---	14 08 43	50.1	68.9	-4.4		-58.2	870	56	13 15 01
13 30 00	1828+487	14 09 13	50.1	68.9	-4.3		-58.2	24	56	13 30 00
13 44 30	---	14 23 45	52.2	70.9	-4.1		-59.4	870	84	13 30 01
13 45 00	1828+487	14 24 15	52.2	71.0	-4.1		-59.5	24	84	13 45 00
14 00 00	---	14 39 18	54.4	73.1	-3.8		-60.6	900	112	13 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:  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 27.534152	0.00
	85 16 41.77889	* 85 00 00.000000	84 54 49.28120	0.00
	fake circumpolar target for a TS to look at			
* 1828+487	18 28 13.501488	* 18 29 31.780879	18 29 57.030212	0.00
J1829+4844	48 42 40.18595	* 48 44 46.16038	48 45 54.20350	0.00
3C380	./rk12br_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    98.0

```

Barry Clark estimates from predictions by Ketan Desai of IPM scattering sizes that the Sun will cause amplitude reductions on the longest VLBA baselines at a solar distance of $60 \text{ deg } F^{-0.6}$ where F is in GHz.

For common VLBI bands, this is:

```

1.6 GHz     45. deg
2.3 GHz     36. deg
5.0 GHz     23. deg
8.4 GHz     17. deg
15.0 GHz    12. deg
22.0 GHz     9. deg

```



```

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 27.529822	0.00
	85 16 41.77889	* 85 00 00.000000	84 54 49.22405	0.00
	fake circumpolar target for a TS to look at			
* 1758+388	17 58 44.703952	* 18 00 24.765361	18 00 56.493445	0.00
J1800+3848	38 48 32.47341	* 38 48 30.69739	38 48 58.10045	0.00
	./rk12bs_sources.radioastron			
	AGN, rfc_2013d Petrov, 2013, unpublished 3569 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)
1758+388        95.0

```

Barry Clark estimates from predictions by Ketan Desai of IPM scattering sizes that the Sun will cause amplitude reductions on the longest VLBA baselines at a solar distance of $60 \text{ deg } F^{-0.6}$ where F is in GHz.

For common VLBI bands, this is:

```

1.6 GHz        45. deg
2.3 GHz        36. deg
5.0 GHz        23. deg
8.4 GHz        17. deg
15.0 GHz       12. deg
22.0 GHz        9. deg

```



```

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 27.488268	0.00
	85 16 41.77889	* 85 00 00.000000	84 54 48.75678	0.00
	fake circumpolar target for a TS to look at			
* 0403-132	04 03 13.979060	* 04 05 34.003395	04 06 18.386856	0.00
J0405-1308	-13 16 18.08449	*-13 08 13.69083	-13 05 39.16484	0.00
	./rk12bt_sources.radioastron AGN, rfc_2013d Petrov, 2013, unpublished 1366 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)
0403-132    110.4

```

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

```

rk12butr

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

--- Mon 14 Sep 2015 Day 257 ---

----- 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

06 10 00	0356+322	06 55 53	52.6	254.2	2.9		43.2	0	0	06 10 00
06 22 00	---	07 07 55	50.8	257.1	3.1		43.9	720	23	06 10 01
06 22 30	0356+322	07 08 26	50.8	257.2	3.1		43.9	24	23	06 22 30
06 34 30	---	07 20 27	49.0	260.1	3.3		44.5	720	46	06 22 31
06 35 00	0356+322	07 20 58	48.9	260.2	3.3		44.5	24	46	06 35 00
06 47 00	---	07 33 00	47.1	262.9	3.5		44.9	720	69	06 35 01
06 47 30	0356+322	07 33 30	47.1	263.0	3.5		44.9	24	69	06 47 30
07 00 00	---	07 46 02	45.2	265.7	3.8		45.2	750	93	06 47 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:  6  Setup file default.  Used with PCAL = 1MHz
LO sum=  1668.00  1668.00  1668.00  1668.00
BBC fr=   732.00  732.00  732.00  732.00
Bandwd=   16.00  16.00  16.00  16.00
Matching frequency sets:  6

```

Track assignments are:

```

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

```

POSITIONS OF SOURCES USED IN RECORDING SCANS

Source	Source position (RA/Dec) (B1950)	(J2000)	(Date)	Error (mas)
* FAKERA	11 57 21.769299	* 12 00 00.000000	12 00 27.482545	0.00
	85 16 41.77889	* 85 00 00.000000	84 54 48.70065	0.00
	fake circumpolar target for a TS to look at			
* 0356+322	03 56 34.795463	* 03 59 44.912919	04 00 45.476004	0.00
J0359+3220	32 12 19.24958	* 32 20 47.15555	32 23 14.20237	0.00
	./rk12bu_sources.radioastron			
	AGN, rfc_2013d Petrov, 2013, unpublished 88 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)
0356+322    106.2

```

Barry Clark estimates from predictions by Ketan Desai of IPM scattering sizes that the Sun will cause amplitude reductions on the longest VLBA baselines at a solar distance of $60 \text{ deg } F^{-0.6}$ where F is in GHz.

For common VLBI bands, this is:

```

1.6 GHz      45. deg
2.3 GHz      36. deg
5.0 GHz      23. deg
8.4 GHz      17. deg
15.0 GHz     12. deg
22.0 GHz     9. deg

```

rk12bwtr

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.

Table with columns: Start UT, Stop UT, Source, LST, Start, EL, Stop, AZ, HA, UP, ParA, Early Dwell, Disk GBytes, TPStart SYNC.

--- Wed 16 Sep 2015 Day 259 ---

----- 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

Table with 11 columns: Start UT, Stop UT, Source, LST, Start, EL, Stop, AZ, HA, UP, ParA, Early Dwell, Disk GBytes, TPStart SYNC.

----- 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

Table with 11 columns: Start UT, Stop UT, Source, LST, Start, EL, Stop, AZ, HA, UP, ParA, Early Dwell, Disk GBytes, TPStart SYNC.

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

Disk used to record data.

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

The following frequency sets based on these setups were used.

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

Track assignments are:

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

POSITIONS OF SOURCES USED IN RECORDING SCANS

Source	Source position (RA/Dec) (B1950)	(J2000)	(Date)	Error (mas)
* FAKERA	11 57 21.769299	* 12 00 00.000000	12 00 27.397146	0.00
	85 16 41.77889	* 85 00 00.000000	84 54 47.95496	0.00
	fake circumpolar target for a TS to look at			
* 0459+135	04 59 43.841322	* 05 02 33.219517	05 03 26.684615	0.00
J0502+1338	13 33 56.42102	* 13 38 10.95887	13 39 23.50305	0.00
	./rk12bw_sources.radioastron AGN, MASIV, rfc_2013d Petrov, 2013, unpublished 364 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)
0459+135	97.1

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=	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 27.262606	0.00
	85 16 41.77889	* 85 00 00.000000	84 54 46.31602	0.00
	fake circumpolar target for a TS to look at			
* 2007+777	20 07 20.430168	* 20 05 30.998496	20 05 00.293307	0.00
J2005+7752	77 43 58.12300	* 77 52 43.24753	77 55 51.53056	0.00
	./rk12bx_sources.radioastron AGN, rfc_2013d Petrov, 2013, unpublished 16338 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)
2007+777	95.6

Barry Clark estimates from predictions by Ketan Desai of IPM scattering sizes that the Sun will cause amplitude reductions on the longest VLBA baselines at a solar distance of $60 \text{ deg } F^{-0.6}$ where F is in GHz.

For common VLBI bands, this is:

1.6 GHz	45. deg
2.3 GHz	36. deg
5.0 GHz	23. deg
8.4 GHz	17. deg
15.0 GHz	12. deg
22.0 GHz	9. deg

1st LO=	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 27.261616	0.00
	85 16 41.77889	* 85 00 00.000000	84 54 46.26571	0.00
	fake circumpolar target for a TS to look at			
* 1928+738	19 28 49.350195	* 19 27 48.495148	19 27 31.521199	0.00
J1927+7358	73 51 44.92742	* 73 58 01.56986	74 00 26.05565	0.00
	./rk12by_sources.radioastron AGN, rfc_2013d Petrov, 2013, unpublished 6641 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)
1928+738	95.5

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

rk12bztr

RADIOASTRON AGN SURVEY

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Observing mode: 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

--- Mon 21 Sep 2015 Day 264 ---

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

Next scan frequencies:	1668.00	1668.00	1668.00	1668.00						
Next BBC frequencies:	732.00	732.00	732.00	732.00						
Next scan bandwidths:	16.00	16.00	16.00	16.00						
08 00 00	1817+387	09 13 47	9.3	32.9	-9.1	-24.7	0	0	08 00 00	
08 12 00	---	09 25 49	10.3	35.1	-8.9	-26.3	720	23	08 00 01	
08 12 30	1817+387	09 26 19	10.3	35.1	-8.9	-26.3	24	23	08 12 30	
08 24 30	---	09 38 21	11.4	37.3	-8.7	-27.8	720	46	08 12 31	
08 25 00	1817+387	09 38 52	11.4	37.4	-8.7	-27.9	24	46	08 25 00	
08 37 00	---	09 50 53	12.5	39.5	-8.5	-29.3	720	69	08 25 01	
08 37 30	1817+387	09 51 24	12.6	39.6	-8.5	-29.4	24	69	08 37 30	
08 50 00	---	10 03 56	13.8	41.7	-8.3	-30.8	750	93	08 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:	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=	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:  1 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:  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 27.260013	0.00
	85 16 41.77889	* 85 00 00.000000	84 54 46.06062	0.00
	fake circumpolar target for a TS to look at			
* 1817+387	18 17 46.175701	* 18 19 26.547379	18 19 58.304436	0.00
J1819+3845	38 43 40.47033	* 38 45 01.78611	38 45 55.60526	0.00
	./rk12bz_sources.radioastron			
	AGN, IDV, rfc_2013d Petrov, 2013, unpublished 89 observations, RA-A03-04, RA-A02			

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)
1817+387	94.8

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


```

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

```

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 27.260230	0.00
	85 16 41.77889	* 85 00 00.000000	84 54 46.00929	0.00
	fake circumpolar target for a TS to look at			
* 1817+387	18 17 46.175701	* 18 19 26.547379	18 19 58.301510	0.00
J1819+3845	38 43 40.47033	* 38 45 01.78611	38 45 55.60951	0.00
	./rk12ca_sources.radioastron			
	AGN, IDV, rfc_2013d Petrov, 2013, unpublished 89 observations, RA-A03-04, RA-A02			

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)
1817+387	94.7

Barry Clark estimates from predictions by Ketan Desai of IPM scattering sizes that the Sun will cause amplitude reductions on the longest VLBA baselines at a solar distance of $60 \text{ deg } F^{-0.6}$ where F is in GHz.

For common VLBI bands, this is:

1.6 GHz	45. deg
2.3 GHz	36. deg
5.0 GHz	23. deg
8.4 GHz	17. deg
15.0 GHz	12. deg
22.0 GHz	9. deg


```

1st LO=  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:  4  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:  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 27.269308	0.00
	85 16 41.77889	* 85 00 00.000000	84 54 45.63548	0.00
	fake circumpolar target for a TS to look at			
* 0529+075	05 29 56.495315	* 05 32 38.998458	05 33 30.273937	0.00
J0532+0732	07 30 38.14404	* 07 32 43.34492	07 33 17.15280	0.00
	./rk12cb_sources.radioastron			
	AGN, rfc_2013d Petrov, 2013, unpublished 107 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)
0529+075	95.7

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

rk12cdtr

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 23 Sep 2015 Day 266 ---

----- 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	0506+056	01 20 22	23.6	113.7	-3.8		-33.5	0	0	00 00 00		
00 14 30	---	01 34 54	25.6	117.0	-3.6		-32.5	870	28	00 00 01		
00 15 00	0506+056	01 35 24	25.7	117.1	-3.6		-32.5	24	28	00 15 00		
00 29 30	---	01 49 57	27.6	120.6	-3.3		-31.3	870	56	00 15 01		
00 30 00	0506+056	01 50 27	27.6	120.7	-3.3		-31.3	24	56	00 30 00		
00 44 30	---	02 04 59	29.5	124.2	-3.1		-29.9	870	84	00 30 01		
00 45 00	0506+056	02 05 29	29.5	124.4	-3.1		-29.9	24	84	00 45 00		
01 00 00	---	02 20 32	31.4	128.2	-2.8		-28.3	900	112	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:  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 27.283235	0.00
	85 16 41.77889	* 85 00 00.000000	84 54 45.37523	0.00
	fake circumpolar target for a TS to look at			
* 0506+056	05 06 45.765584	* 05 09 25.964476	05 10 16.671641	0.00
J0509+0541	05 37 50.30294	* 05 41 35.33359	05 42 41.44259	0.00
	./rk12cd_sources.radioastron			
	AGN, MASIV, rfc_2013d Petrov, 2013, unpublished 207 observations, RA-A03-04, RA-			

EFFECT OF SOLAR CORONA

The solar corona can cause unstable phases for sources too close to the Sun. SCHED provides warnings at individual scans for distances less than 10 degrees. The distance from the Sun to each source in this schedule is:

```

Source      Sun distance (deg)
0506+056    102.1

```

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: 4 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: 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 27.293783	0.00
	85 16 41.77889	* 85 00 00.000000	84 54 45.22697	0.00
	fake circumpolar target for a TS to look at			
* 0529+075	05 29 56.495315	* 05 32 38.998458	05 33 30.307084	0.00
J0532+0732	07 30 38.14404	* 07 32 43.34492	07 33 17.18723	0.00
	./rk12ce_sources.radioastron AGN, rfc_2013d Petrov, 2013, unpublished 107 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)
0529+075	96.6

Barry Clark estimates from predictions by Ketan Desai of IPM scattering sizes that the Sun will cause amplitude reductions on the longest VLBA baselines at a solar distance of $60 \text{ deg } F^{-0.6}$ where F is in GHz.

For common VLBI bands, this is:

1.6 GHz	45. deg
2.3 GHz	36. deg
5.0 GHz	23. deg
8.4 GHz	17. deg
15.0 GHz	12. deg
22.0 GHz	9. deg

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

The following frequency sets based on these setups were used.

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

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

==== Setup file: ra18cm2.set

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

Disk used to record data.


```

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

```

The following frequency sets based on these setups were used.

```

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

```

Track assignments are:

```

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

```

POSITIONS OF SOURCES USED IN RECORDING SCANS

Source	Source position (RA/Dec) (B1950)	(J2000)	(Date)	Error (mas)
* FAKERA	11 57 21.769299	* 12 00 00.000000	12 00 27.330092	0.00
	85 16 41.77889	* 85 00 00.000000	84 54 44.82889	0.00
	fake circumpolar target for a TS to look at			
* 0529+075	05 29 56.495315	* 05 32 38.998458	05 33 30.338469	0.00
J0532+0732	07 30 38.14404	* 07 32 43.34492	07 33 17.23131	0.00
	./rk12cf_sources.radioastron			
	AGN, rfc_2013d Petrov, 2013, unpublished 107 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)
0529+075	97.6

Barry Clark estimates from predictions by Ketan Desai of IPM scattering sizes that the Sun will cause amplitude reductions on the longest VLBA baselines at a solar distance of $60 \text{ deg } F^{-0.6}$ where F is in GHz.

For common VLBI bands, this is:

1.6 GHz	45. deg
2.3 GHz	36. deg
5.0 GHz	23. deg
8.4 GHz	17. deg
15.0 GHz	12. deg
22.0 GHz	9. deg

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

The following frequency sets based on these setups were used.

Frequency Set: 2 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: 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 27.372271	0.00
	85 16 41.77889	* 85 00 00.000000	84 54 44.44359	0.00
	fake circumpolar target for a TS to look at			
* 0529+075	05 29 56.495315	* 05 32 38.998458	05 33 30.367391	0.00
J0532+0732	07 30 38.14404	* 07 32 43.34492	07 33 17.27768	0.00
	./rk12cg_sources.radioastron AGN, rfc_2013d Petrov, 2013, unpublished 107 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)
0529+075	98.5

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

rk12chtr

RADIOASTRON AGN SURVEY
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Phone: +7-495-3332512 EMAIL: kirx@scan.sai.msu.ru
Fax: +7-495-3332378 Phone during observation: +7-903-6614865

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

Schedule for TORUN (Code Tr) Page 2

RadioAstron AGN 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 26 Sep 2015 Day 269 ---

----- 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

Start UT	Stop UT	Source	LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
09 00 00	09 14 30	0552+398	10 33 40	42.5	-76.9	4.6		49.6	0	0	09 00 00
		---	10 48 12	40.4	-74.5	4.9		48.9	870	28	09 00 01
09 15 00	09 29 30	0552+398	10 48 43	40.3	-74.4	4.9		48.8	24	28	09 15 00
		---	11 03 15	38.2	-72.0	5.1		48.0	870	56	09 15 01
09 30 00	09 44 30	0552+398	11 03 45	38.1	-71.9	5.1		48.0	24	56	09 30 00
		---	11 18 17	36.1	-69.6	5.4		47.1	870	84	09 30 01
09 45 00	10 00 00	0552+398	11 18 47	36.0	-69.5	5.4		47.1	24	84	09 45 00
		---	11 33 50	33.9	-67.1	5.6		46.0	900	112	09 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 27.411090	0.00
	85 16 41.77889	* 85 00 00.000000	84 54 44.08085	0.00
	fake circumpolar target for a TS to look at			
* 0552+398	05 52 01.407174	* 05 55 30.805616	05 56 36.858847	0.00
J0555+3948	39 48 21.94579	* 39 48 49.16494	39 48 40.18529	0.00
	./rk12ch_sources.radioastron AGN, rfc_2013d Petrov, 2013, unpublished 392026 observations, RA-A03-04, RA-A02-			

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)
0552+398	93.5

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


```

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 27.453757	0.00
	85 16 41.77889	* 85 00 00.000000	84 54 42.95015	0.00
	fake circumpolar target for a TS to look at			
* 1842+681	18 42 43.397968	* 18 42 33.641683	18 42 30.895214	0.00
J1842+6809	68 06 19.82590	* 68 09 25.22773	68 10 52.37960	0.00
	./rk12ci_sources.radioastron			
	AGN, MASIV, rfc_2013d Petrov, 2013, unpublished 3737 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)
1842+681    94.1

```

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:  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 27.452255	0.00
	85 16 41.77889	* 85 00 00.000000	84 54 42.81336	0.00
	fake circumpolar target for a TS to look at			
* 1846+322	18 46 29.612036	* 18 48 22.088579	18 48 57.649777	0.00
J1848+3219	32 15 36.66027	* 32 19 02.60367	32 20 34.41072	0.00
	./rk12cj_sources.radioastron			
	AGN, MASIV, rfc_2013d Petrov, 2013, unpublished 15923 observations, RA-A03-04, R			

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)
1846+322    96.7

```

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

```

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