

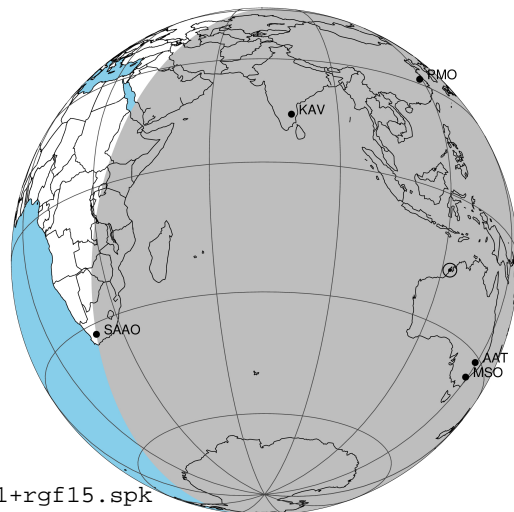
target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2043-08-03T15:55:45.380
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 4117429428341898624
 2Mass ID (if available) : 17320784-2302513

Jupiter 2043-08-03T15:55:45 K8.73 G14.89 Pgt

ICRS Star Coord at Epoch: 17h 32m 07.83905s -23:02:51.64032s

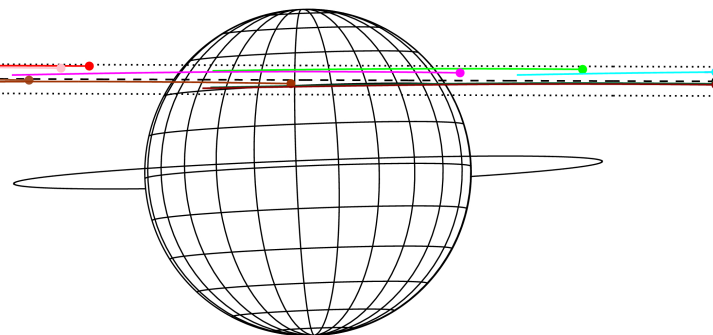
RUWE (>1.4 is poor) : 1.10
 K magnitude : 8.735
 G magnitude : 14.893
 RP magnitude : 13.401
 BP magnitude : 18.004
 DUPflag : 0
 Distance (au) : 4.507
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : -7.15
 Sun-Target sep (deg) : 132.96
 Sun-Moon sep (deg) : 151.40
 B (ring opening deg) : -2.37
 PA of pole (deg) : 2.16
 Pole direction: RA (deg): 268.05671
 Dec (deg): 64.49731
 C/A sky separation (") : 12.390
 C/A sky separation (km) : 40498.9
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk

Jupiter 2043-08-03T15:55:45 K8.73 G14.89
 Pgt



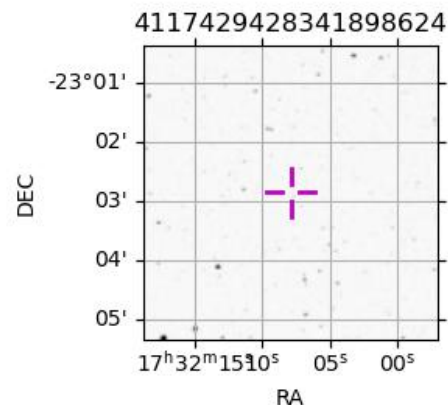
2043-08-03T15:55:45.3800 α: 17 32 07.8390 δ: -23 02 51.640 C/A ***** PA 179.79 deg v_sky - 7.15 km/s D 04.51 AU
 Credit: Styled after SORA/Lucky Star

Earth
 PIC
 PAL
 PMO
 TEN
 IRTF
 KAV
 RIO
 ESO
 AAT
 SAAO
 MSO



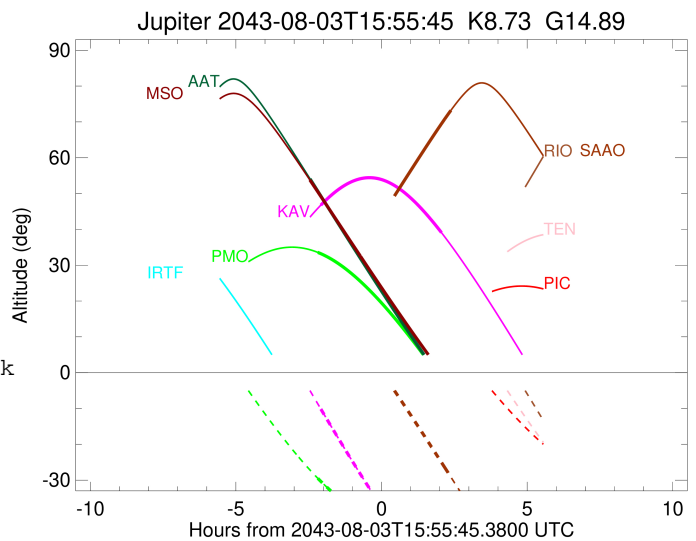
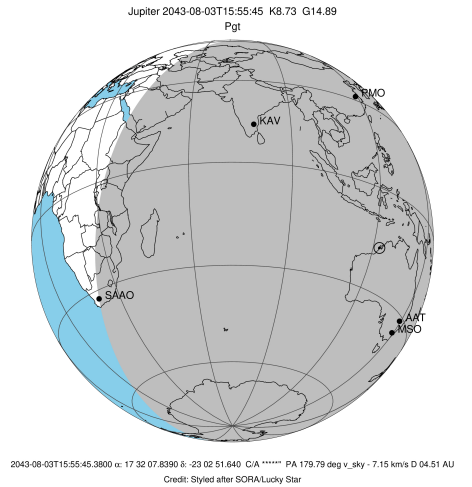
Observable events with sun below -5 deg and altitude above 5 deg

Obs	Location	lat	Elon	Target	Observed Events Interval	OCode
PIC	Pic du Midi	42.9	0.1			Pnn
PAL	Palomar Mt (200")	33.4	243.1			Pnn
PMO	Purple Mtn Obs. Nanking	32.1	118.8	+	AUG 03 13:44 - AUG 03 13:44	Pin
KPNO	Kitt Peak Natl Obs	32.0	248.4			Pnn
MCD	McDonald Obs. 2.7m	30.7	256.0			Pnn
TEN	Teide Obs./Tenerife	28.3	343.5			Pnn
IRTF	Mauna Kea/IRTF	19.8	204.5			Pnn
KAV	Kavalur Observatory	12.6	78.8	+ +	AUG 03 13:50 - AUG 03 17:59	Pie
RIO	Rio de Janeiro	-22.9	316.8			Pnn
ESO	European Southern Obs. (3.6m)	-29.3	289.3			Pnn
AAT	Siding Spring (AAT)	-31.3	149.1	+	AUG 03 13:28 - AUG 03 13:28	Pin
SAAO	So. Afr. Astro. Obs. (Sutherland)	-32.4	20.8	+	AUG 03 18:18 - AUG 03 18:18	Pne
MSO	Mt. Stromlo Observatory	-35.3	149.0	+	AUG 03 13:28 - AUG 03 13:28	Pin



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target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-08-03T15:48:24.560
Event type          : Pgt
                    : Jupiter occs: geocentric, topocentric
                    : Not a ringed target
Observer code       : PMO
Location            : Purple Mtn Obs. Nanking
Latitude (deg)      : 32.06667
E. Longitude (deg)  : 118.82089
Altitude (km)       : 0.364
Gaia source ID      : 4117429428341898624
2Mass ID (if available) : 17320784-2302513
ICRS Star Coord at Epoch: 17h 32m 07.83905s -23:02:51.64032s
RUWE (>1.4 is poor) : 1.10
K magnitude          : 8.735
G magnitude          : 14.893
RP magnitude         : 13.401
BP magnitude         : 18.004
DUPflag             : 0
Distance (au)       : 4.507
f0 (km)             : 0.00
g0 (km)             : 0.00
skyplane vel. (km/s) : -7.15
Sun-Target sep (deg) : 132.96
Sun-Moon sep (deg)  : 151.17
B (ring opening deg) : -2.37
PA of pole (deg)    : 2.16
Pole direction: RA (deg): 268.05671
Dec (deg): 64.49731
C/A sky separation ("): 13.794
C/A sky separation (km): 45086.2
NAIF SPICE kernels  : RAJobs_U111+rgf15.spk
URKALLv1.spk
naif0012.tls
nep097.bsp
nep101.bsp
sat4401.bsp
de440.bsp
earth_720101_070426.bpc
jup365.bsp
urall6.bsp
IAU_SATURN_for_RINGFIT.tpc
pck00010.tpc
earth_200101_990628_predict.bpc
uranus_ringframes_rfrench20220627_v1.tf
neptune_ringframes_rfrench20220702a_v1.tf
earth_flat_IAU.spk
    
```

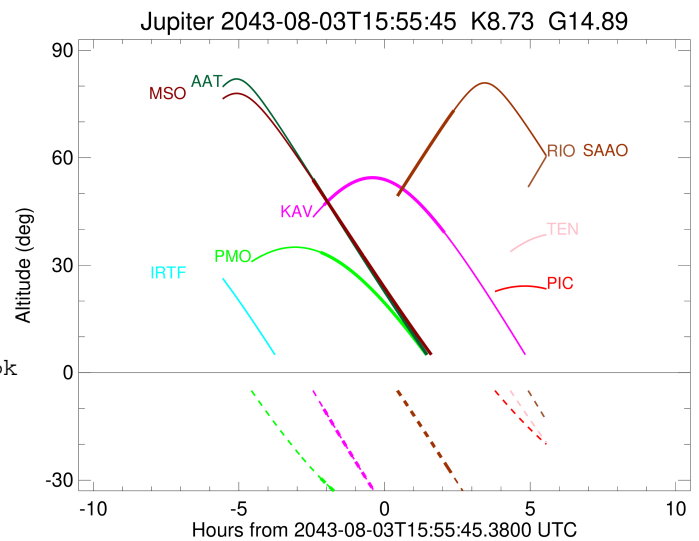
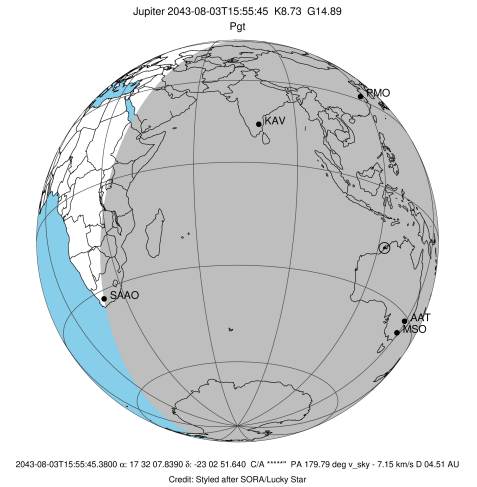


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-08-03T13:44:43.665	33.56	-29.51	71489.2	37.28	40.95
Jupiter	E	2043-08-03T17:54:59.435	-1.13x	-34.77	71488.8	40.38	44.09

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-08-03T15:54:29.400
Event type          : Pgt
                    : Jupiter occs: geocentric, topocentric
                    : Not a ringed target
Observer code       : KAV
Location            : Kavalur Observatory
Latitude (deg)      : 12.57556
E. Longitude (deg)  : 78.83167
Altitude (km)       : 0.722
Gaia source ID      : 4117429428341898624
2Mass ID (if available) : 17320784-2302513
ICRS Star Coord at Epoch: 17h 32m 07.83905s -23:02:51.64032s
RUWE (>1.4 is poor) : 1.10
K magnitude          : 8.735
G magnitude          : 14.893
RP magnitude         : 13.401
BP magnitude         : 18.004
DUPflag             : 0
Distance (au)       : 4.507
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : -7.15
Sun-Target sep (deg) : 132.96
Sun-Moon sep (deg)  : 151.80
B (ring opening deg) : -2.37
PA of pole (deg)    : 2.16
Pole direction: RA (deg): 268.05671
Dec (deg): 64.49731
C/A sky separation (") : 13.520
C/A sky separation (km) : 44190.9
NAIF SPICE kernels  : RAJobs_U111+rgf15.spk
URKALLv1.spk
naif0012.tls
nep097.bsp
nep101.bsp
sat4401.bsp
de440.bsp
earth_720101_070426.bpc
jup365.bsp
urall6.bsp
IAU_SATURN_for_RINGFIT.tpc
pck00010.tpc
earth_200101_990628_predict.bpc
uranus_ringframes_rfrench20220627_v1.tf
neptune_ringframes_rfrench20220702a_v1.tf
earth_flat_IAU.spk
    
```

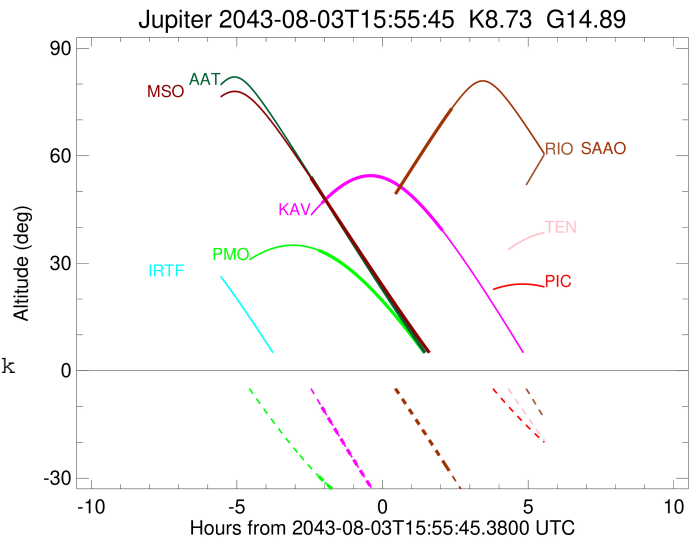
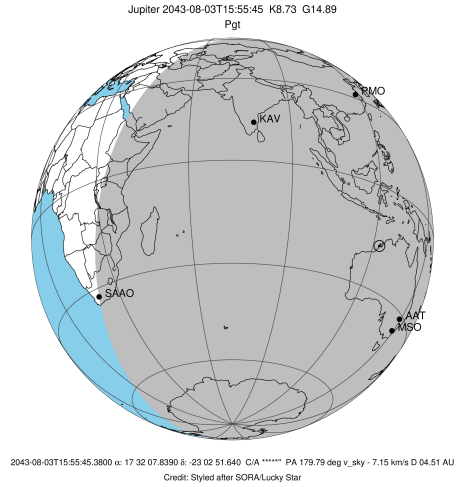


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-08-03T13:50:42.954	46.75	-10.13	71489.4	35.59	39.21
Jupiter	E	2043-08-03T17:59:10.845	39.11	-57.52	71488.8	40.00	43.71

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-08-03T15:45:25.310
Event type           : Pgt
: Jupiter occs: geocentric, topocentric
: Not a ringed target
Observer code        : AAT
Location             : Siding Spring (AAT)
Latitude (deg)       : -31.27703
E. Longitude (deg)   : 149.06608
Altitude (km)        : 1.164
Gaia source ID       : 4117429428341898624
2Mass ID (if available) : 17320784-2302513
ICRS Star Coord at Epoch: 17h 32m 07.83905s -23:02:51.64032s
RUWE (>1.4 is poor) : 1.10
K magnitude           : 8.735
G magnitude           : 14.893
RP magnitude         : 13.401
BP magnitude         : 18.004
DUPflag              : 0
Distance (au)        : 4.507
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : -7.15
Sun-Target sep (deg) : 132.96
Sun-Moon sep (deg)   : 150.81
B (ring opening deg) : -2.37
PA of pole (deg)     : 2.16
Pole direction: RA (deg): 268.05671
Dec (deg): 64.49731
C/A sky separation ("): 11.635
C/A sky separation (km): 38029.3
NAIF SPICE kernels   : RAJobs_U111+rgf15.spk
URKALLv1.spk
naif0012.tls
nep097.bsp
nep101.bsp
sat4401.bsp
de440.bsp
earth_720101_070426.bpc
jup365.bsp
urall6.bsp
IAU_SATURN_for_RINGFIT.tpc
pck00010.tpc
earth_200101_990628_predict.bpc
uranus_ringframes_rfrench20220627_v1.tf
neptune_ringframes_rfrench20220702a_v1.tf
earth_flat_IAU.spk
    
```

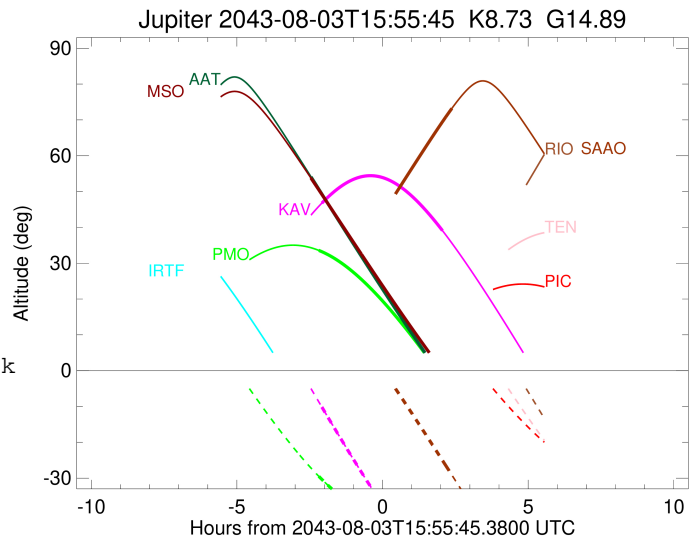
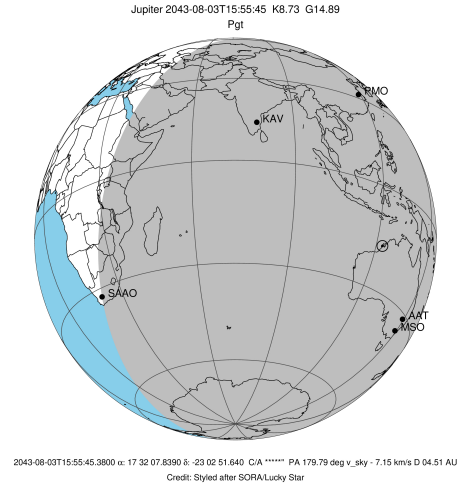


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-08-03T13:28:27.651	54.10	-73.40	71490.0	30.76	34.17
Jupiter	E	2043-08-03T18:07:11.984	-3.40x	-34.83	71489.7	33.25	36.78

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-08-03T16:03:58.560
Event type            : Pgt
: Jupiter occs: geocentric, topocentric
: Not a ringed target
Observer code         : SAAO
Location              : So. Afr. Astro. Obs. (Sutherland)
Latitude (deg)       : -32.37953
E. Longitude (deg)   : 20.81070
Altitude (km)        : 1.768
Gaia source ID       : 4117429428341898624
2Mass ID (if available) : 17320784-2302513
ICRS Star Coord at Epoch: 17h 32m 07.83905s -23:02:51.64032s
RUWE (>1.4 is poor) : 1.10
K magnitude           : 8.735
G magnitude           : 14.893
RP magnitude          : 13.401
BP magnitude          : 18.004
DUPflag              : 0
Distance (au)        : 4.507
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : -7.15
Sun-Target sep (deg) : 132.96
Sun-Moon sep (deg)   : 152.23
B (ring opening deg) : -2.37
PA of pole (deg)     : 2.16
Pole direction: RA (deg): 268.05671
Dec (deg): 64.49731
C/A sky separation ("): 11.864
C/A sky separation (km): 38778.6
NAIF SPICE kernels   : RAJobs_U111+rgf15.spk
URKALLv1.spk
naif0012.tls
nep097.bsp
nep101.bsp
sat4401.bsp
de440.bsp
earth_720101_070426.bpc
jup365.bsp
urall6.bsp
IAU_SATURN_for_RINGFIT.tpc
pck00010.tpc
earth_200101_990628_predict.bpc
uranus_ringframes_rfrench20220627_v1.tf
neptune_ringframes_rfrench20220702a_v1.tf
earth_flat_IAU.spk
    
```

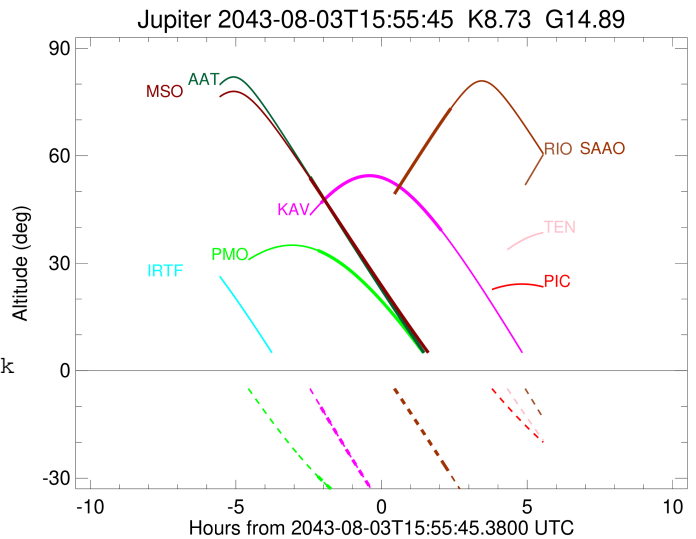
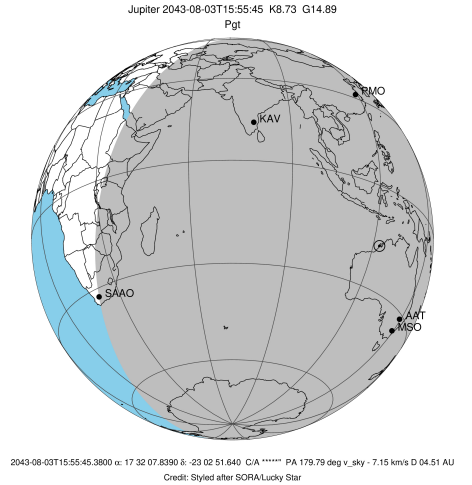


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-08-03T13:46:51.052	16.79	23.66x	71490.2	29.37	32.71
Jupiter	E	2043-08-03T18:18:41.956	73.21	-29.14	71489.4	35.80	39.43

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-08-03T15:45:52.710
Event type          : Pgt
                    : Jupiter occs: geocentric, topocentric
                    : Not a ringed target
Observer code       : MSO
Location            : Mt. Stromlo Observatory
Latitude (deg)      : -35.32000
E. Longitude (deg)  : 149.00833
Altitude (km)       : 0.770
Gaia source ID      : 4117429428341898624
2Mass ID (if available) : 17320784-2302513
ICRS Star Coord at Epoch: 17h 32m 07.83905s -23:02:51.64032s
RUWE (>1.4 is poor) : 1.10
K magnitude          : 8.735
G magnitude          : 14.893
RP magnitude         : 13.401
BP magnitude         : 18.004
DUPflag             : 0
Distance (au)       : 4.507
f0 (km)             : 0.00
g0 (km)             : 0.00
skyplane vel. (km/s) : -7.15
Sun-Target sep (deg) : 132.96
Sun-Moon sep (deg)  : 150.84
B (ring opening deg) : -2.37
PA of pole (deg)    : 2.16
Pole direction: RA (deg): 268.05671
Dec (deg): 64.49731
C/A sky separation (" ) : 11.521
C/A sky separation (km) : 37657.1
NAIF SPICE kernels  : RAJobs_U111+rgf15.spk
URKALLv1.spk
naif0012.tls
nep097.bsp
nep101.bsp
sat4401.bsp
de440.bsp
earth_720101_070426.bpc
jup365.bsp
urall6.bsp
IAU_SATURN_for_RINGFIT.tpc
pck00010.tpc
earth_200101_990628_predict.bpc
uranus_ringframes_rfrench20220627_v1.tf
neptune_ringframes_rfrench20220702a_v1.tf
earth_flat_IAU.spk
    
```



x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-08-03T13:28:13.632	53.79	-69.99	71490.0	30.36	33.75
Jupiter	E	2043-08-03T18:08:12.401	-1.54x	-34.60	71489.7	32.95	36.47