

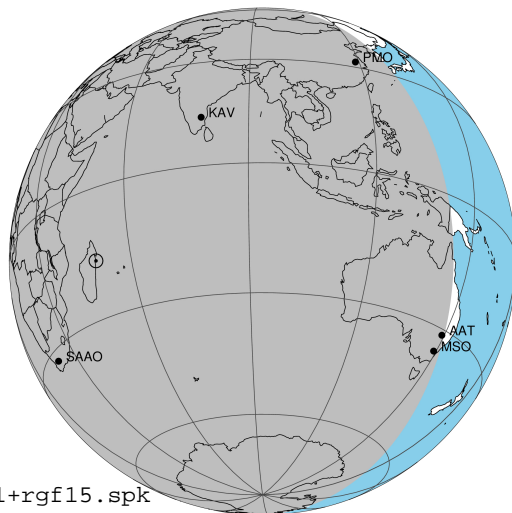
target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2031-05-07T20:37:18.250
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 4068897741007808000
 2Mass ID (if available) : 17501863-2253376

Jupiter 2031-05-07T20:37:18 K9.35 G12.89 Pgt

ICRS Star Coord at Epoch: 17h 50m 18.63271s -22:53:37.79775s

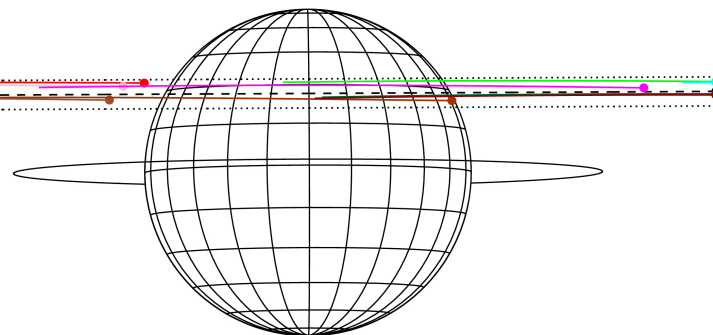
RUWE (>1.4 is poor) : 0.98
 K magnitude : 9.352
 G magnitude : 12.891
 RP magnitude : 11.905
 BP magnitude : 13.889
 DUPflag : 0
 Distance (au) : 4.491
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : -9.16
 Sun-Target sep (deg) : 138.89
 Sun-Moon sep (deg) : 31.52
 B (ring opening deg) : -2.61
 PA of pole (deg) : 0.21
 Pole direction: RA (deg): 268.05695
 Dec (deg): 64.49651
 C/A sky separation (") : 10.630
 C/A sky separation (km) : 34626.8
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk

Jupiter 2031-05-07T20:37:18 K9.35 G12.89
 Pgt



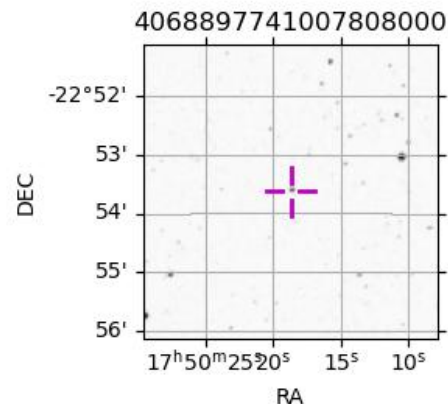
2031-05-07T20:37:18.2500 α: 17 50 18.6327 δ: -22 53 37.798 C/A ***** PA 180.29 deg v_sky - 9.16 km/s D 04.49 AU
 Credit: Styled after SORA/Lucky Star

Earth
 PIC
 PMO
 TEN
 IRTF
 KAV
 RIO
 ESO
 AAT
 SAAO
 MSO



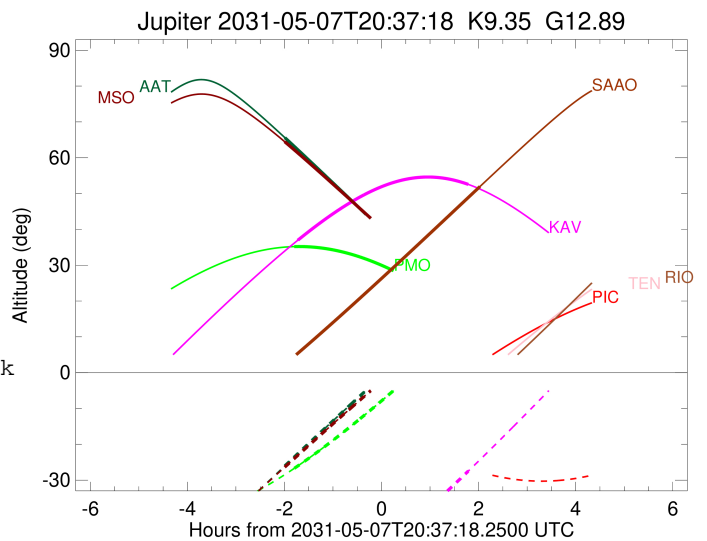
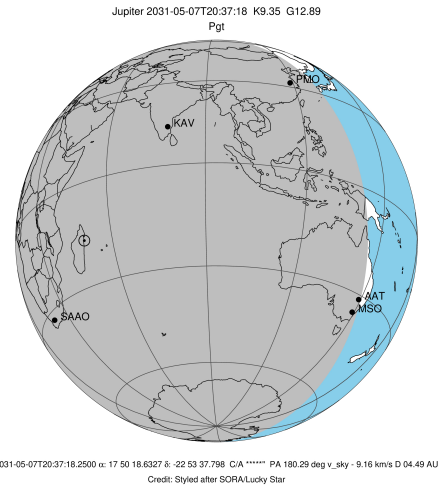
Observable events with sun below -5 deg and altitude above 5 deg

Obs	Location	lat	Elon	Target	Observed Events Interval	OEcode
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	+	MAY 07 18:49 - MAY 07 18:49	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	+ +	MAY 07 18:54 - MAY 07 22:24	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	+	MAY 07 18:37 - MAY 07 18:37	Pin
SAAO	So. Afr. Astro. Obs. (Sutherland)	-32.4	20.8	+	MAY 07 22:38 - MAY 07 22:38	Pne
MSO	Mt. Stromlo Observatory	-35.3	149.0	+	MAY 07 18:37 - MAY 07 18:37	Pin



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target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2031-05-07T20:33:41.450
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       : 4068897741007808000
2Mass ID (if available) : 17501863-2253376
ICRS Star Coord at Epoch: 17h 50m 18.63271s -22:53:37.79775s
RUWE (>1.4 is poor) : 0.98
K magnitude           : 9.352
G magnitude           : 12.891
RP magnitude          : 11.905
BP magnitude          : 13.889
DUPflag              : 0
Distance (au)        : 4.491
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : -9.16
Sun-Target sep (deg) : 138.89
Sun-Moon sep (deg)   : 32.11
B (ring opening deg) : -2.61
PA of pole (deg)     : 0.21
Pole direction: RA (deg): 268.05695
Dec (deg): 64.49651
C/A sky separation (") : 12.171
C/A sky separation (km) : 39646.2
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
    
```

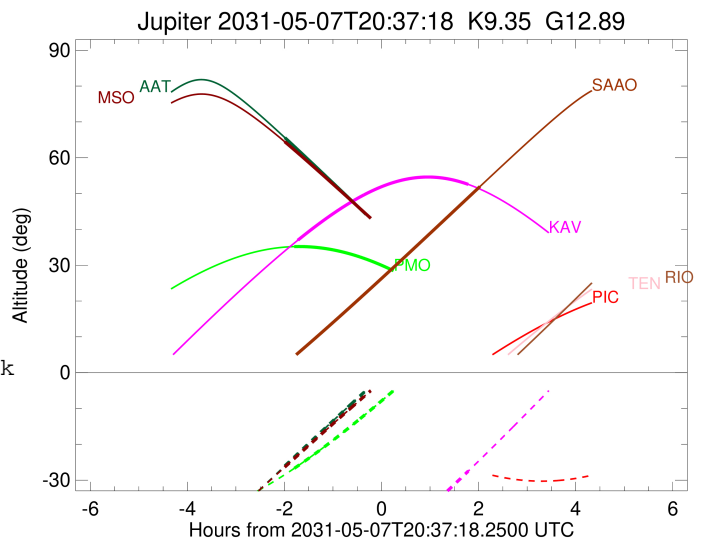
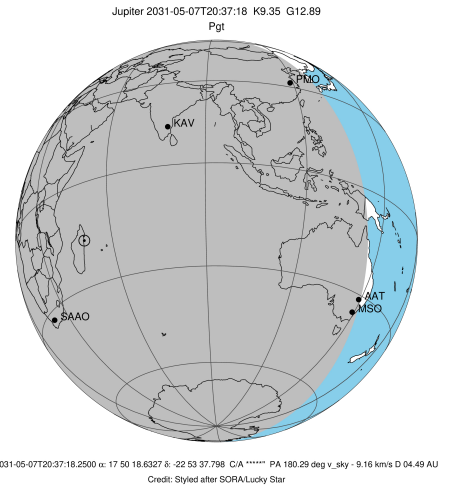


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2031-05-07T18:49:26.009	35.19	-26.72	71489.1	33.91	37.46
Jupiter	E	2031-05-07T22:18:28.156	16.68	12.41x	71489.2	33.00	36.52

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2031-05-07T20:39:42.390
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        : 4068897741007808000
2Mass ID (if available) : 17501863-2253376
ICRS Star Coord at Epoch: 17h 50m 18.63271s -22:53:37.79775s
RUWE (>1.4 is poor) : 0.98
K magnitude           : 9.352
G magnitude           : 12.891
RP magnitude          : 11.905
BP magnitude          : 13.889
DUPflag              : 0
Distance (au)         : 4.491
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : -9.16
Sun-Target sep (deg)  : 138.89
Sun-Moon sep (deg)   : 31.74
B (ring opening deg) : -2.61
PA of pole (deg)     : 0.21
Pole direction: RA (deg): 268.05695
Dec (deg): 64.49651
C/A sky separation (") : 11.742
C/A sky separation (km) : 38248.6
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
    
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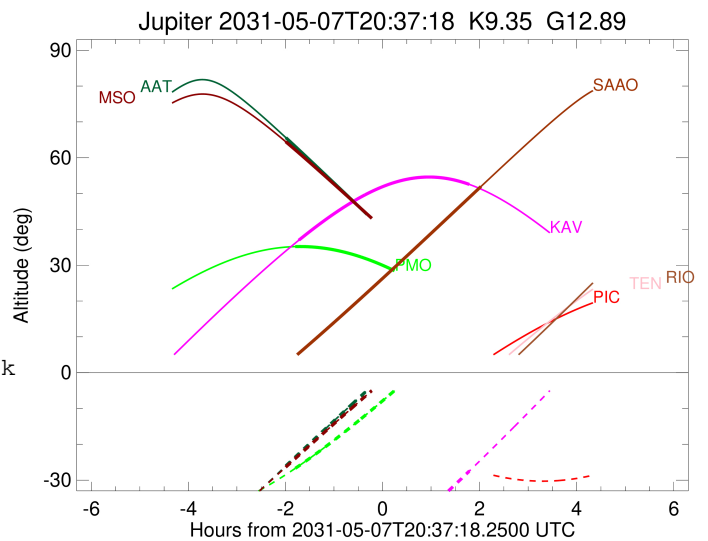
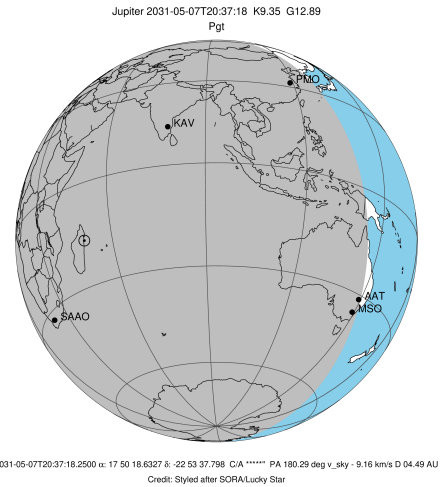


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2031-05-07T18:54:03.151	37.00	-60.42	71489.4	31.91	35.38
Jupiter	E	2031-05-07T22:24:34.580	52.55	-27.47	71489.4	32.24	35.72

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2031-05-07T20:30:03.560
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        : 4068897741007808000
2Mass ID (if available) : 17501863-2253376
ICRS Star Coord at Epoch: 17h 50m 18.63271s -22:53:37.79775s
RUWE (>1.4 is poor) : 0.98
K magnitude           : 9.352
G magnitude           : 12.891
RP magnitude          : 11.905
BP magnitude          : 13.889
DUPflag              : 0
Distance (au)         : 4.492
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : -9.16
Sun-Target sep (deg) : 138.89
Sun-Moon sep (deg)   : 32.47
B (ring opening deg) : -2.61
PA of pole (deg)     : 0.21
Pole direction: RA (deg): 268.05695
Dec (deg): 64.49651
C/A sky separation ("): 10.085
C/A sky separation (km): 32851.8
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
    
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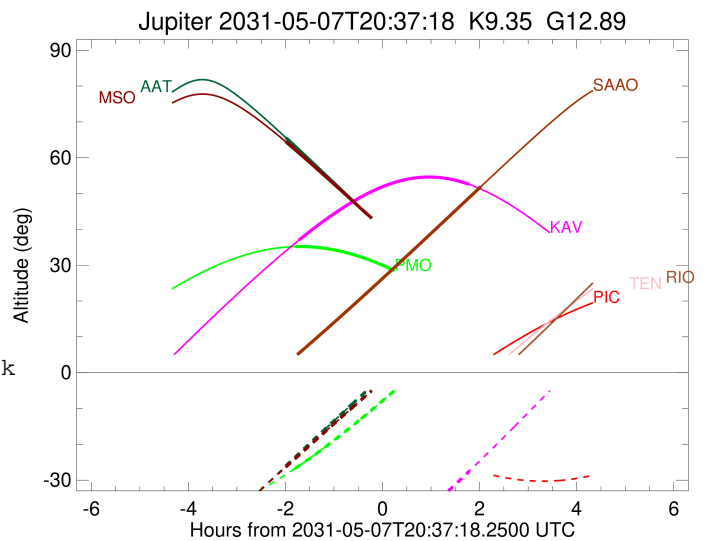
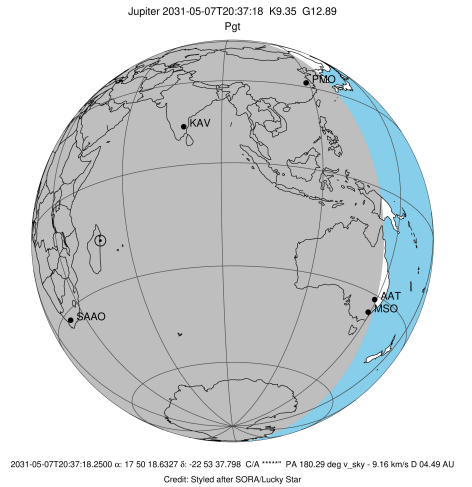


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2031-05-07T18:37:54.312	65.58	-26.01	71489.9	28.00	31.25
Jupiter	E	2031-05-07T22:23:43.127	17.68	19.21x	71490.2	26.37	29.50

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2031-05-07T20:45:37.500
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       : 4068897741007808000
2Mass ID (if available) : 17501863-2253376
ICRS Star Coord at Epoch: 17h 50m 18.63271s -22:53:37.79775s
RUWE (>1.4 is poor) : 0.98
K magnitude           : 9.352
G magnitude           : 12.891
RP magnitude          : 11.905
BP magnitude          : 13.889
DUPflag              : 0
Distance (au)        : 4.491
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : -9.16
Sun-Target sep (deg) : 138.89
Sun-Moon sep (deg)   : 31.06
B (ring opening deg) : -2.61
PA of pole (deg)     : 0.21
Pole direction: RA (deg): 268.05695
Dec (deg): 64.49651
C/A sky separation ("): 9.885
C/A sky separation (km): 32198.7
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
    
```

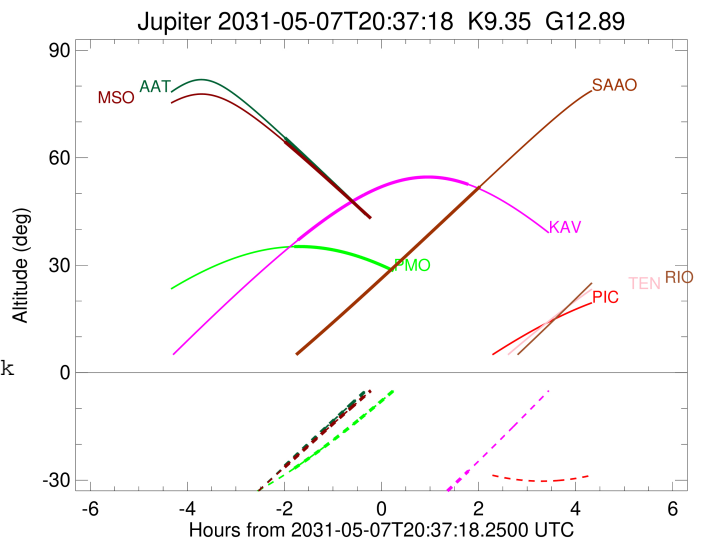
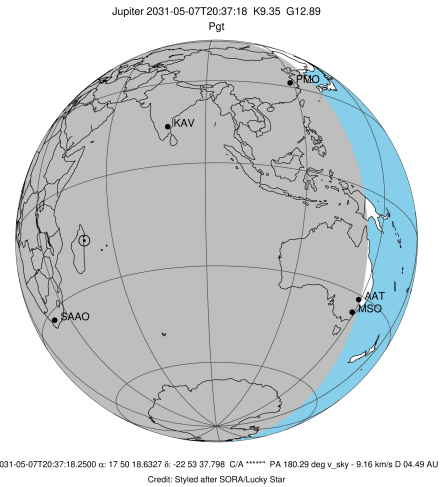


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2031-05-07T18:49:46.095	4.61x	-37.52	71490.2	25.88	28.98
Jupiter	E	2031-05-07T22:38:59.317	51.95	-74.70	71490.0	27.42	30.63

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2031-05-07T20:30:22.480
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        : 4068897741007808000
2Mass ID (if available) : 17501863-2253376
ICRS Star Coord at Epoch: 17h 50m 18.63271s -22:53:37.79775s
RUWE (>1.4 is poor) : 0.98
K magnitude           : 9.352
G magnitude           : 12.891
RP magnitude          : 11.905
BP magnitude          : 13.889
DUPflag              : 0
Distance (au)         : 4.492
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : -9.16
Sun-Target sep (deg) : 138.89
Sun-Moon sep (deg)   : 32.44
B (ring opening deg) : -2.61
PA of pole (deg)     : 0.21
Pole direction: RA (deg): 268.05695
Dec (deg): 64.49651
C/A sky separation (") : 9.961
C/A sky separation (km) : 32449.2
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	2031-05-07T18:37:42.218	64.46	-26.37	71490.0	27.61	30.84
Jupiter	E	2031-05-07T22:24:29.026	18.68	16.96x	71490.2	26.04	29.15