

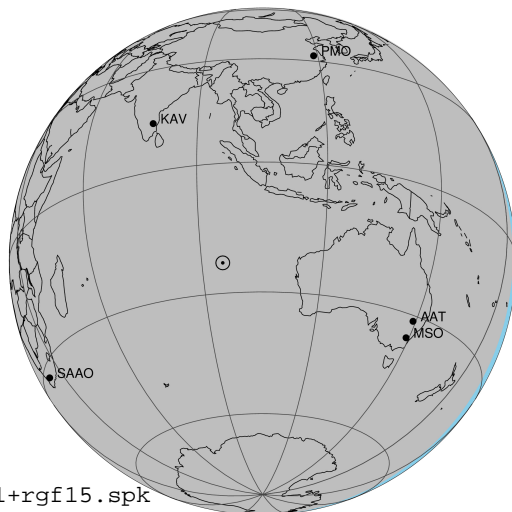
target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2043-06-11T17:38:42.340
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 4069408193619927040
 2Mass ID (if available) : 17562126-2304376

Jupiter 2043-06-11T17:38:42 K9.45 G14.62 Pgt

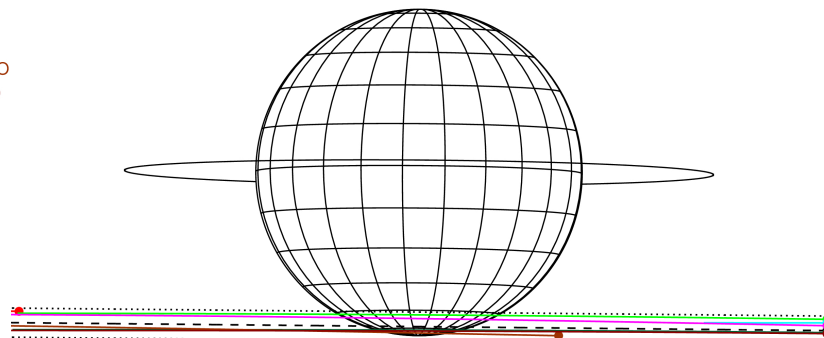
ICRS Star Coord at Epoch: 17h 56m 21.26269s -23°04'37.69360s

RUWE (>1.4 is poor) : 1.00
 K magnitude : 9.447
 G magnitude : 14.623
 RP magnitude : 13.592
 BP magnitude : 15.637
 DUPflag : 0
 Distance (au) : 4.264
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : -16.05
 Sun-Target sep (deg) : 170.95
 Sun-Moon sep (deg) : 131.05
 B (ring opening deg) : -2.42
 PA of pole (deg) : -0.44
 Pole direction: RA (deg): 268.05668
 Dec (deg): 64.49732
 C/A sky separation (") : 21.828
 C/A sky separation (km) : 67509.3
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk

Jupiter 2043-06-11T17:38:42 K9.45 G14.62
 Pgt



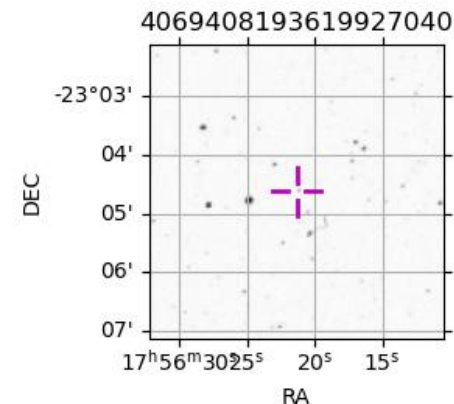
Earth
 PIC
 PMO
 IRTF
 KAV
 AAT
 SAAO
 MSO



2043-06-11T17:38:42.3400 a: 17 56 21.2627 & -23 04 37.694 C/A ***** PA 359.44 deg v_sky -16.05 km/s D 04.26 AU
 Credit: Styled after SORA/Lucky Star

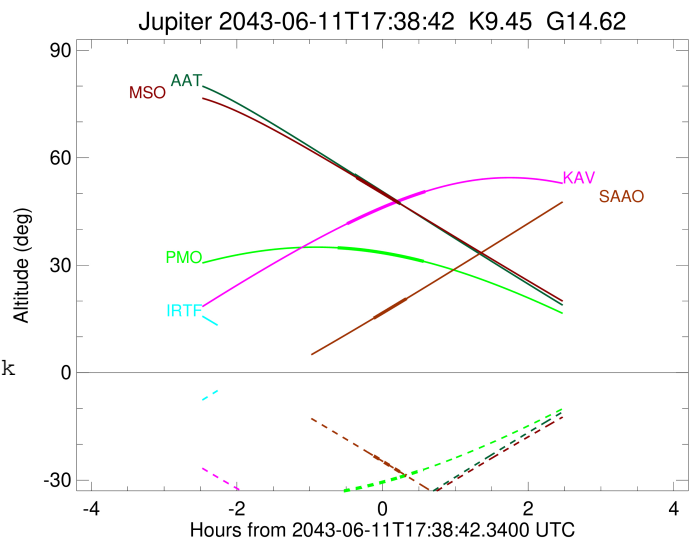
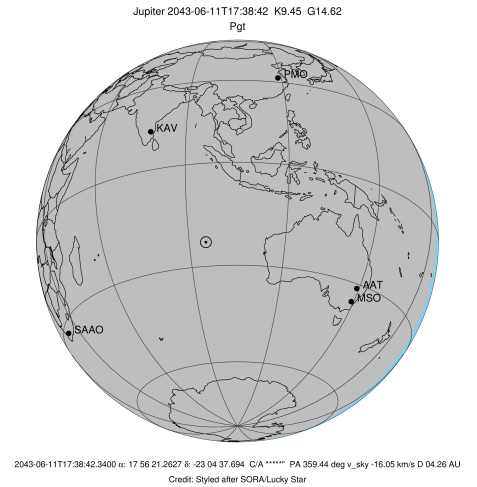
Observable events with sun below -5 deg and altitude above 5 deg

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	+ +	JUN 11 17:01 - JUN 11 18:12	Pie
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	+ +	JUN 11 17:09 - JUN 11 18:13	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	+ +	JUN 11 17:15 - JUN 11 17:53	Pie
SAAO	So. Afr. Astro. Obs. (Sutherland)	-32.4	20.8	+ +	JUN 11 17:31 - JUN 11 17:58	Pie
MSO	Mt. Stromlo Observatory	-35.3	149.0	+ +	JUN 11 17:17 - JUN 11 17:51	Pie



```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-06-11T17:37:10.210
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      : 4069408193619927040
2Mass ID (if available) : 17562126-2304376
ICRS Star Coord at Epoch: 17h 56m 21.26269s -23:04:37.69360s
RUWE (>1.4 is poor) : 1.00
K magnitude          : 9.447
G magnitude          : 14.623
RP magnitude         : 13.592
BP magnitude         : 15.637
DUPflag             : 0
Distance (au)       : 4.264
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : -16.05
Sun-Target sep (deg) : 170.95
Sun-Moon sep (deg)  : 131.36
B (ring opening deg) : -2.42
PA of pole (deg)    : -0.44
Pole direction: RA (deg): 268.05668
Dec (deg): 64.49732
C/A sky separation (") : 20.165
C/A sky separation (km) : 62366.8
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
    
```

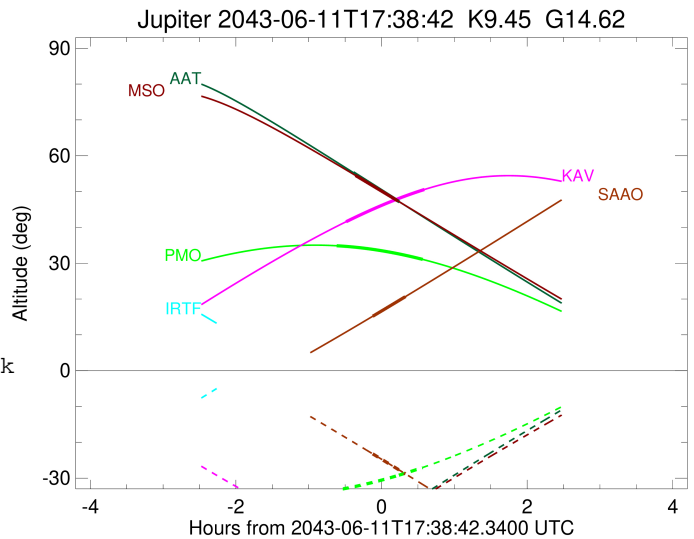
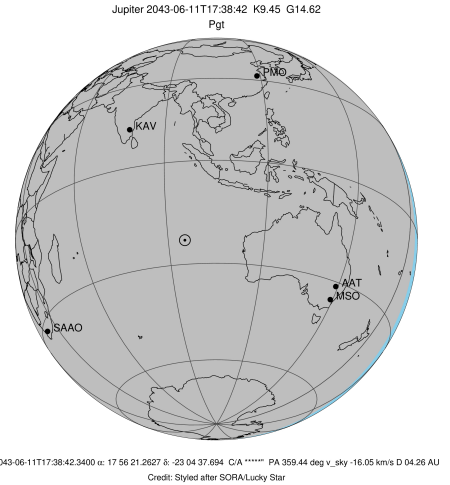


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-06-11T17:01:47.895	34.86	-33.31	71485.9	-60.66	-63.68
Jupiter	E	2043-06-11T18:12:34.210	31.06	-27.04	71485.9	-60.72	-63.73

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-06-11T17:41:43.370
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        : 4069408193619927040
2Mass ID (if available) : 17562126-2304376
ICRS Star Coord at Epoch: 17h 56m 21.26269s -23:04:37.69360s
RUWE (>1.4 is poor) : 1.00
K magnitude           : 9.447
G magnitude           : 14.623
RP magnitude          : 13.592
BP magnitude          : 15.637
DUPflag              : 0
Distance (au)         : 4.264
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : -16.05
Sun-Target sep (deg) : 170.95
Sun-Moon sep (deg)   : 131.87
B (ring opening deg) : -2.42
PA of pole (deg)     : -0.44
Pole direction: RA (deg): 268.05668
Dec (deg): 64.49732
C/A sky separation (") : 20.693
C/A sky separation (km) : 63999.2
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
    
```

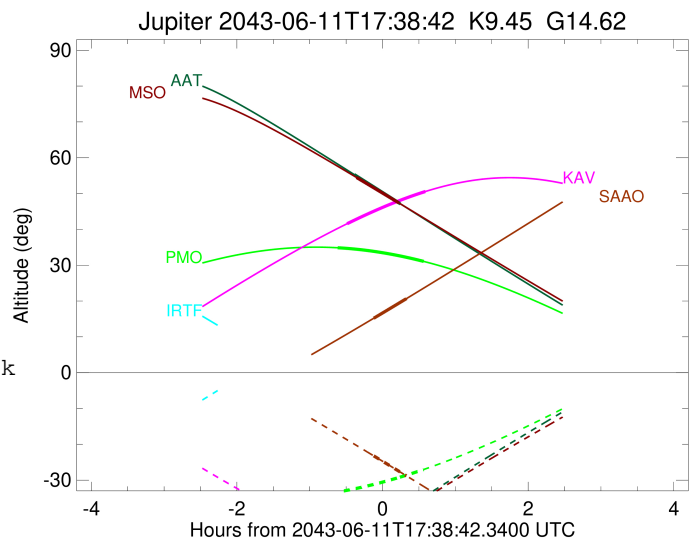
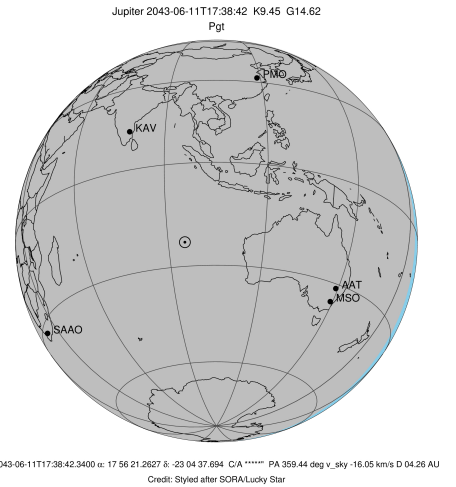


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-06-11T17:09:29.832	41.57	-47.50	71485.5	-63.84	-66.61
Jupiter	E	2043-06-11T18:13:53.460	50.55	-53.62	71485.6	-63.12	-65.95

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-06-11T17:34:23.260
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        : 4069408193619927040
2Mass ID (if available) : 17562126-2304376
ICRS Star Coord at Epoch: 17h 56m 21.26269s -23:04:37.69360s
RUWE (>1.4 is poor) : 1.00
K magnitude           : 9.447
G magnitude           : 14.623
RP magnitude          : 13.592
BP magnitude          : 15.637
DUPflag              : 0
Distance (au)         : 4.264
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : -16.05
Sun-Target sep (deg) : 170.95
Sun-Moon sep (deg)   : 131.22
B (ring opening deg) : -2.42
PA of pole (deg)     : -0.44
Pole direction: RA (deg): 268.05668
Dec (deg): 64.49732
C/A sky separation ("): 22.318
C/A sky separation (km): 69025.8
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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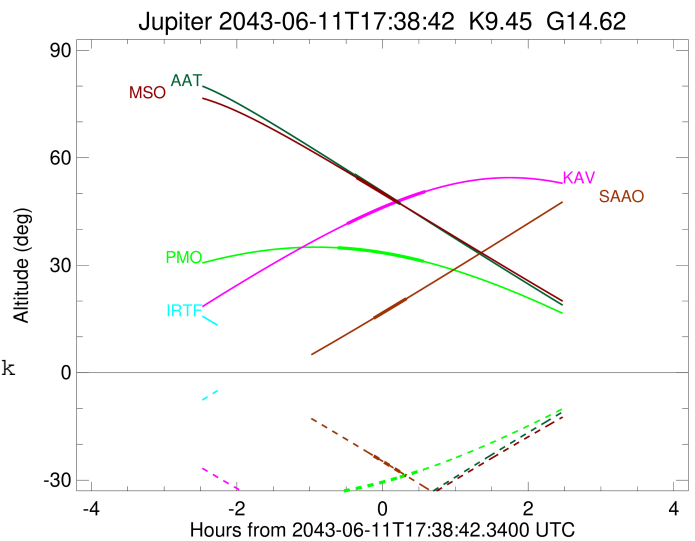
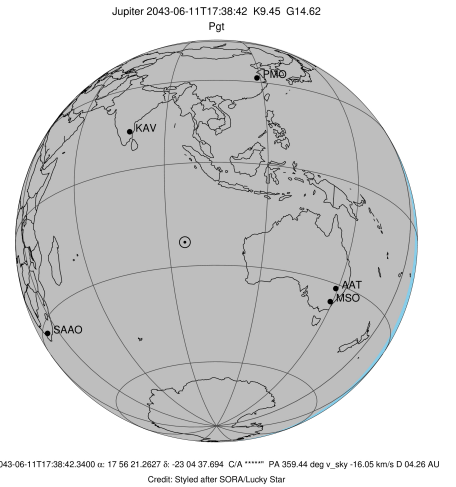


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-06-11T17:15:27.932	55.28	-46.85	71484.5	-74.49	-76.26
Jupiter	E	2043-06-11T17:53:20.140	47.15	-38.77	71484.5	-75.02	-76.74

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-06-11T17:44:59.490
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       : 4069408193619927040
2Mass ID (if available) : 17562126-2304376
ICRS Star Coord at Epoch: 17h 56m 21.26269s -23:04:37.69360s
RUWE (>1.4 is poor) : 1.00
K magnitude           : 9.447
G magnitude           : 14.623
RP magnitude          : 13.592
BP magnitude          : 15.637
DUPflag              : 0
Distance (au)        : 4.264
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : -16.05
Sun-Target sep (deg) : 170.95
Sun-Moon sep (deg)   : 131.76
B (ring opening deg) : -2.42
PA of pole (deg)     : -0.44
Pole direction: RA (deg): 268.05668
Dec (deg): 64.49732
C/A sky separation (") : 22.728
C/A sky separation (km) : 70292.0
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
    
```

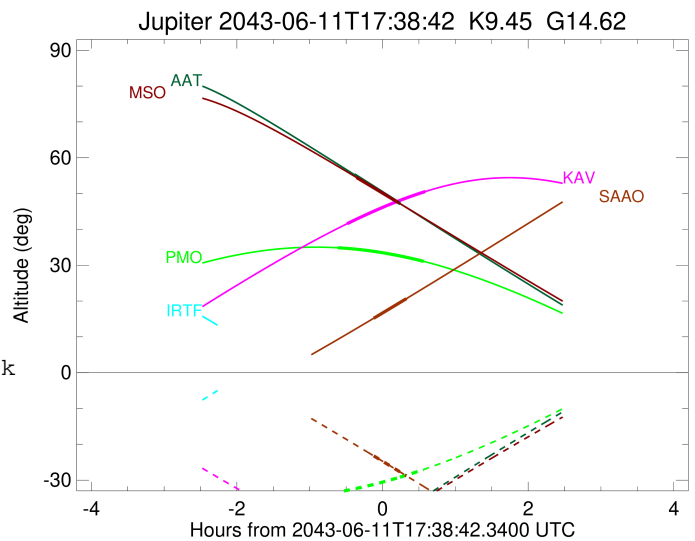
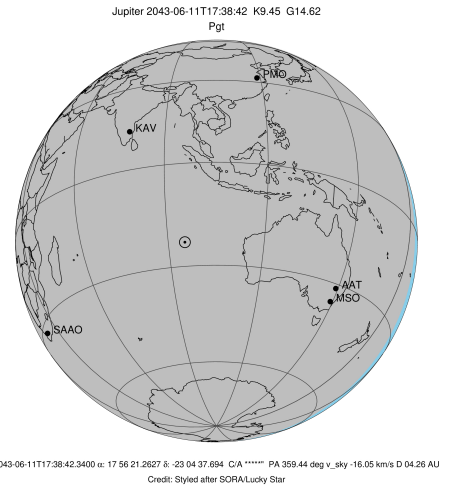


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-06-11T17:31:31.895	15.20	-23.24	71484.2	-79.89	-81.06
Jupiter	E	2043-06-11T17:58:25.876	20.67	-28.80	71484.3	-78.61	-79.93

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-06-11T17:34:35.240
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       : 4069408193619927040
2Mass ID (if available) : 17562126-2304376
ICRS Star Coord at Epoch: 17h 56m 21.26269s -23:04:37.69360s
RUWE (>1.4 is poor) : 1.00
K magnitude           : 9.447
G magnitude           : 14.623
RP magnitude         : 13.592
BP magnitude         : 15.637
DUPflag              : 0
Distance (au)        : 4.264
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : -16.05
Sun-Target sep (deg) : 170.95
Sun-Moon sep (deg)   : 131.23
B (ring opening deg) : -2.42
PA of pole (deg)     : -0.44
Pole direction: RA (deg): 268.05668
Dec (deg): 64.49732
C/A sky separation (") : 22.452
C/A sky separation (km) : 69438.4
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	2043-06-11T17:17:17.088	54.49	-46.49	71484.4	-75.81	-77.44
Jupiter	E	2043-06-11T17:51:54.629	47.43	-39.41	71484.4	-76.32	-77.89