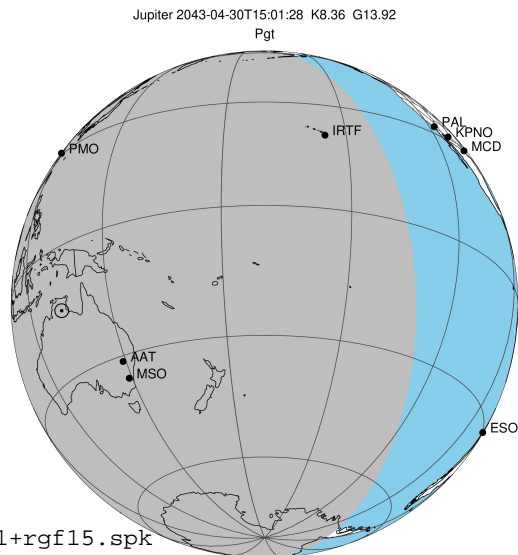


target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2043-04-30T15:01:28.220
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 4066622065534288384
 2Mass ID (if available) : 18121313-2258484

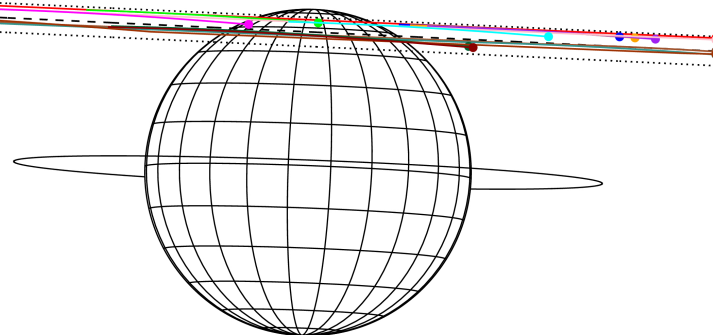
Jupiter 2043-04-30T15:01:28 K8.36 G13.92 Pgt

ICRS Star Coord at Epoch: 18h 12m 13.12965s -22:58:48.66804s

RUWE (>1.4 is poor) : 0.90
 K magnitude : 8.358
 G magnitude : 13.917
 RP magnitude : 12.592
 BP magnitude : 15.963
 DUPflag : 0
 Distance (au) : 4.619
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : -4.54
 Sun-Target sep (deg) : 126.76
 Sun-Moon sep (deg) : 17.21
 B (ring opening deg) : -2.44
 PA of pole (deg) : -2.15
 Pole direction: RA (deg): 268.05666
 Dec (deg): 64.49732
 C/A sky separation (") : 18.371
 C/A sky separation (km) : 61541.5
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk



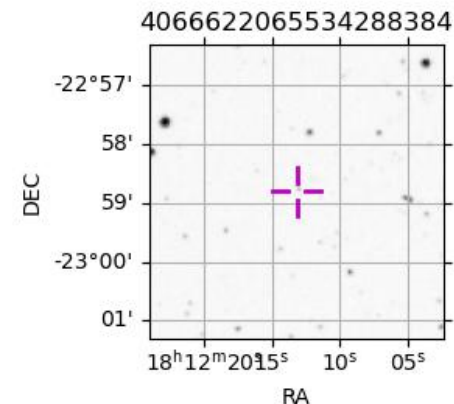
Earth
 PIC
 PAL
 PMO
 KPNO
 MCD
 TEN
 IRTF
 KAV
 RIO
 ESO
 AAT
 SAAO
 MSO



2043-04-30T15:01:28.2200 α: 18 12 13.1296 δ: -22 58 48.668 C/A ***** PA 177.31 deg v_sky - 4.54 km/s D 04.62 AU
 Credit: Styled after SORA/Lucky Star

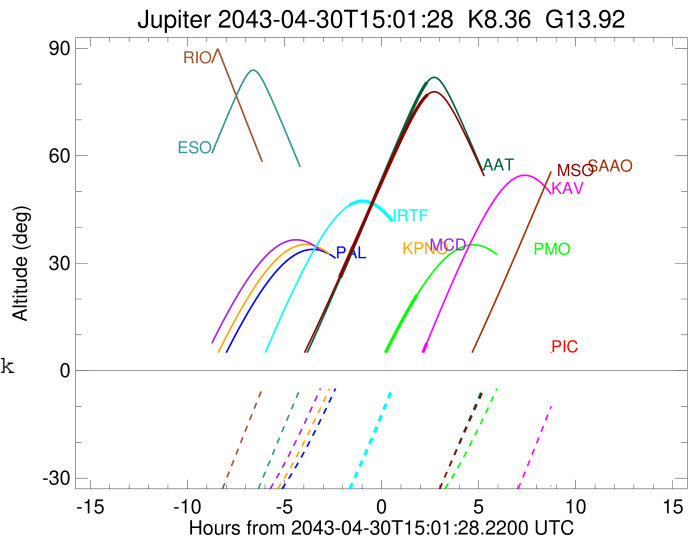
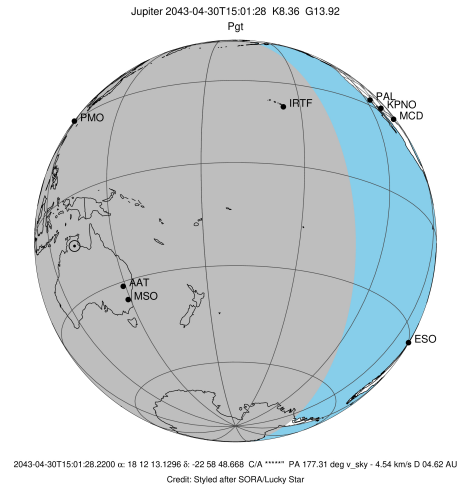
Observable events with sun below -5 deg and altitude above 5 deg

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	+	APR 30 16:51 - APR 30 16:51	Pne
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	+	APR 30 13:22 - APR 30 13:22	Pin
KAV	Kavalur Observatory	12.6	78.8	+	APR 30 17:21 - APR 30 17:21	Pne
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	+	APR 30 12:54 - APR 30 17:21	Pie
SAAO	So. Afr. Astro. Obs. (Sutherland)	-32.4	20.8			Pnn
MSO	Mt. Stromlo Observatory	-35.3	149.0	+	APR 30 12:51 - APR 30 17:24	Pie



```

target                : Jupiter
target radius (km)    : 71492.00
C/A epoch             : 2043-04-30T15:12:13.020
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        : 4066622065534288384
2Mass ID (if available) : 18121313-2258484
ICRS Star Coord at Epoch: 18h 12m 13.12965s -22:58:48.66804s
RUWE (>1.4 is poor) : 0.90
K magnitude           : 8.358
G magnitude           : 13.917
RP magnitude          : 12.592
BP magnitude          : 15.963
DUPflag              : 0
Distance (au)         : 4.619
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : -4.54
Sun-Target sep (deg)  : 126.76
Sun-Moon sep (deg)    : 18.06
B (ring opening deg) : -2.44
PA of pole (deg)      : -2.15
Pole direction: RA (deg): 268.05666
Dec (deg): 64.49732
C/A sky separation (") : 19.613
C/A sky separation (km) : 65701.0
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
    
```

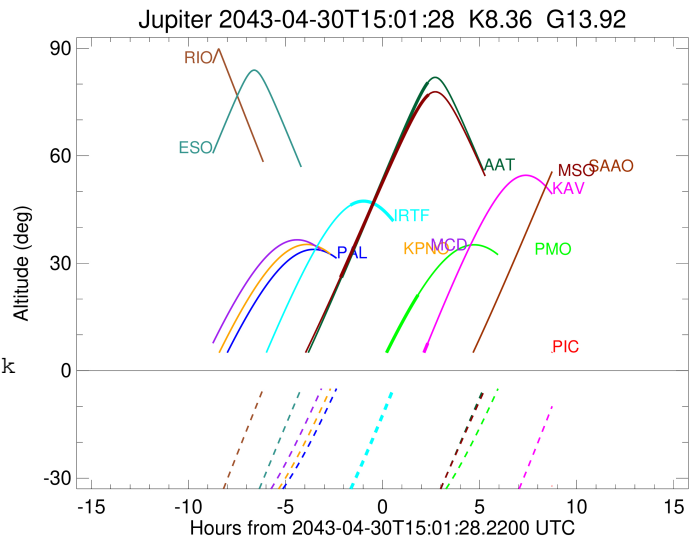
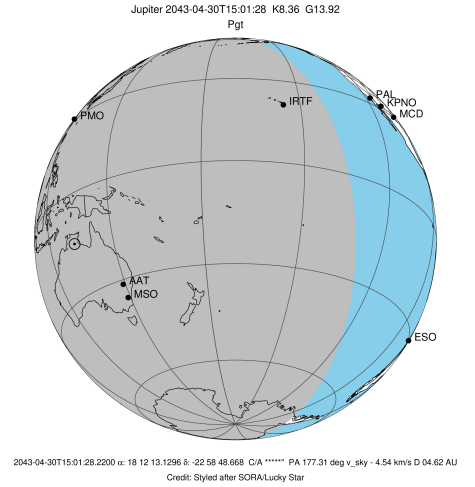


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-04-30T13:29:24.816	-15.22x	-30.68	71485.4	64.31	67.04
Jupiter	E	2043-04-30T16:51:22.879	21.15	-41.73	71485.0	68.57	70.92

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-04-30T14:58:26.010
Event type            : Pgt
: Jupiter occs: geocentric, topocentric
: Not a ringed target
Observer code         : IRTF
Location              : Mauna Kea/IRTF
Latitude (deg)       : 19.82622
E. Longitude (deg)   : 204.52800
Altitude (km)        : 4.168
Gaia source ID       : 4066622065534288384
2Mass ID (if available) : 18121313-2258484
ICRS Star Coord at Epoch: 18h 12m 13.12965s -22:58:48.66804s
RUWE (>1.4 is poor) : 0.90
K magnitude           : 8.358
G magnitude           : 13.917
RP magnitude          : 12.592
BP magnitude          : 15.963
DUPflag              : 0
Distance (au)        : 4.619
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : -4.54
Sun-Target sep (deg) : 126.76
Sun-Moon sep (deg)   : 17.40
B (ring opening deg) : -2.44
PA of pole (deg)     : -2.15
Pole direction: RA (deg): 268.05666
Dec (deg): 64.49732
C/A sky separation (") : 19.619
C/A sky separation (km) : 65722.6
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
    
```

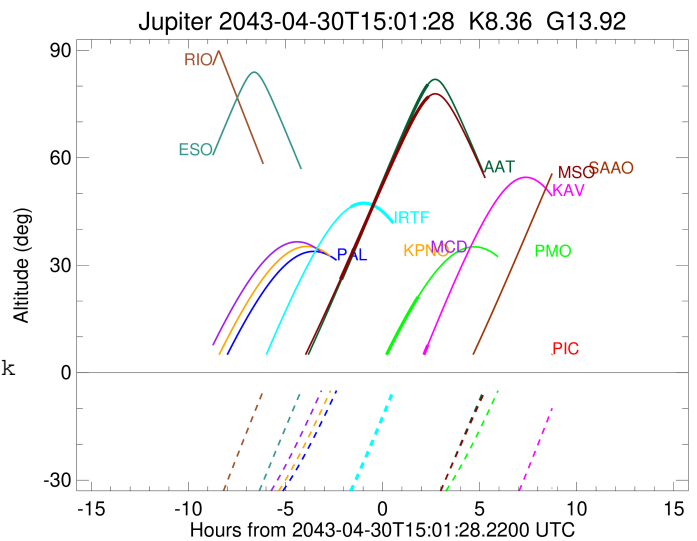
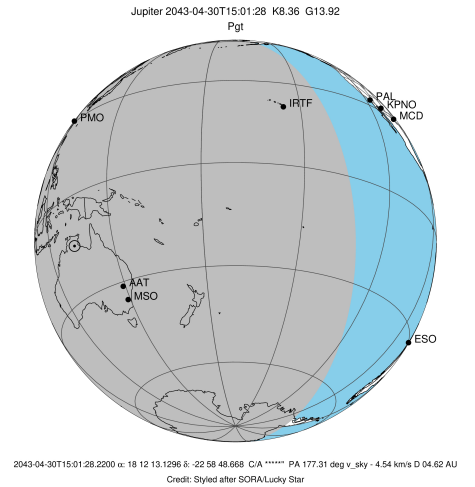


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-04-30T13:22:26.475	46.18	-33.20	71485.2	66.50	69.04
Jupiter	E	2043-04-30T16:34:39.778	33.45	8.54x	71485.2	66.16	68.73

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-04-30T15:13:58.830
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      : 4066622065534288384
2Mass ID (if available) : 18121313-2258484
ICRS Star Coord at Epoch: 18h 12m 13.12965s -22:58:48.66804s
RUWE (>1.4 is poor) : 0.90
K magnitude          : 8.358
G magnitude          : 13.917
RP magnitude         : 12.592
BP magnitude         : 15.963
DUPflag             : 0
Distance (au)       : 4.619
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : -4.54
Sun-Target sep (deg) : 126.76
Sun-Moon sep (deg)  : 17.88
B (ring opening deg) : -2.44
PA of pole (deg)    : -2.15
Pole direction: RA (deg): 268.05666
Dec (deg): 64.49732
C/A sky separation ("): 18.633
C/A sky separation (km): 62418.3
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
    
```

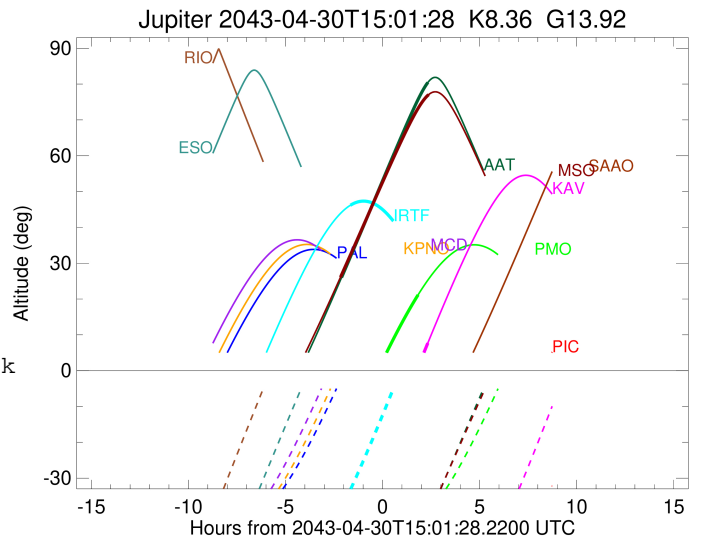
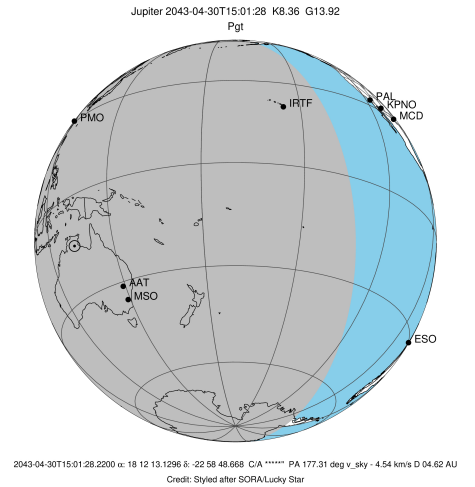


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-04-30T12:59:10.901	-52.17x	-0.91x	71486.2	58.11	61.30
Jupiter	E	2043-04-30T17:21:34.003	7.72	-56.16	71485.5	63.45	66.26

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-04-30T15:10:30.700
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       : 4066622065534288384
2Mass ID (if available) : 18121313-2258484
ICRS Star Coord at Epoch: 18h 12m 13.12965s -22:58:48.66804s
RUWE (>1.4 is poor) : 0.90
K magnitude           : 8.358
G magnitude           : 13.917
RP magnitude          : 12.592
BP magnitude          : 15.963
DUPflag              : 0
Distance (au)        : 4.619
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : -4.54
Sun-Target sep (deg) : 126.76
Sun-Moon sep (deg)   : 17.85
B (ring opening deg) : -2.44
PA of pole (deg)     : -2.15
Pole direction: RA (deg): 268.05666
Dec (deg): 64.49732
C/A sky separation (") : 18.018
C/A sky separation (km) : 60360.4
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
    
```

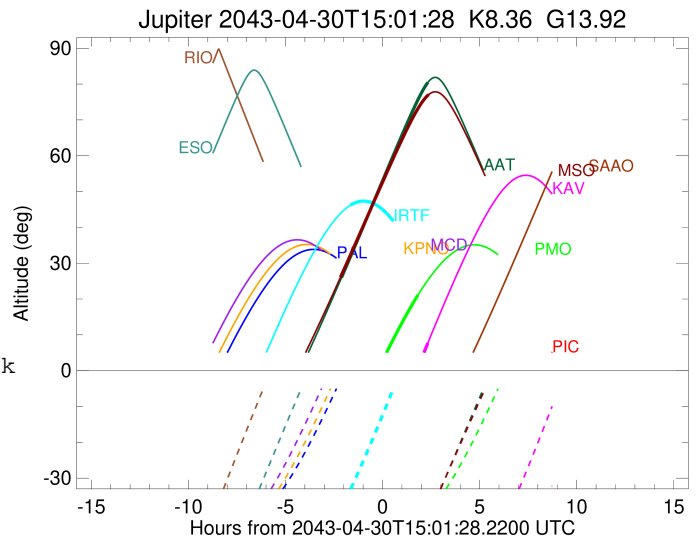
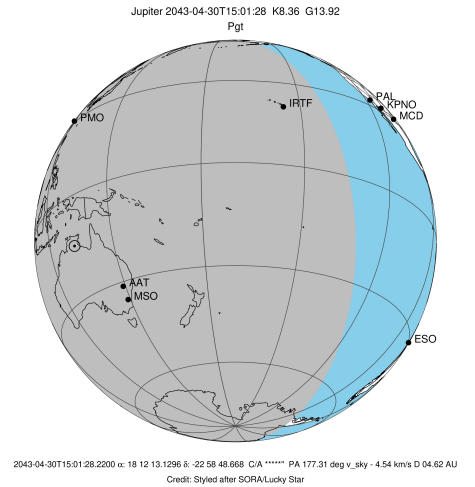


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-04-30T12:54:42.701	25.95	-67.77	71486.5	55.61	58.94
Jupiter	E	2043-04-30T17:21:45.451	80.45	-41.48	71486.1	58.50	61.66

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-04-30T15:10:13.760
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       : 4066622065534288384
2Mass ID (if available) : 18121313-2258484
ICRS Star Coord at Epoch: 18h 12m 13.12965s -22:58:48.66804s
RUWE (>1.4 is poor) : 0.90
K magnitude          : 8.358
G magnitude          : 13.917
RP magnitude         : 12.592
BP magnitude         : 15.963
DUPflag             : 0
Distance (au)        : 4.619
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : -4.54
Sun-Target sep (deg) : 126.76
Sun-Moon sep (deg)   : 17.82
B (ring opening deg) : -2.44
PA of pole (deg)     : -2.15
Pole direction: RA (deg): 268.05666
Dec (deg): 64.49732
C/A sky separation ("): 17.890
C/A sky separation (km): 59929.9
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	2043-04-30T12:51:44.985	26.10	-64.42	71486.6	55.02	58.39
Jupiter	E	2043-04-30T17:24:07.234	77.05	-40.39	71486.2	57.83	61.04