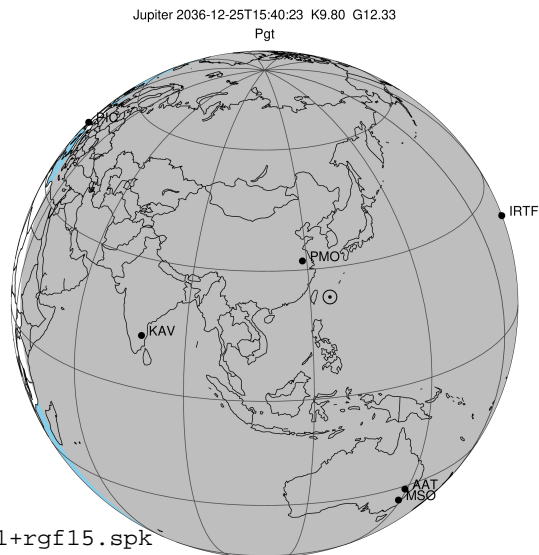


target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2036-12-25T15:40:23.950
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 3415131700546138880
 2Mass ID (if available) : 05115470+2227544

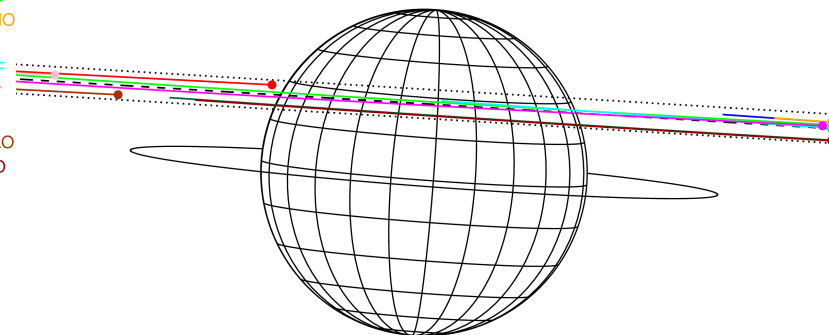
Jupiter 2036-12-25T15:40:23 K9.80 G12.33 Pgt

ICRS Star Coord at Epoch: 05h 11m 54.56012s +22:27:54.58645s

RUWE (>1.4 is poor) : 1.63
 K magnitude : 9.800
 G magnitude : 12.329
 RP magnitude : 11.452
 BP magnitude : 12.760
 DUPflag : 0
 Distance (au) : 4.140
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : -15.89
 Sun-Target sep (deg) : 164.97
 Sun-Moon sep (deg) : 76.85
 B (ring opening deg) : 2.69
 PA of pole (deg) : -4.33
 Pole direction: RA (deg): 268.05632
 Dec (deg): 64.49687
 C/A sky separation (") : 10.006
 C/A sky separation (km) : 30046.3
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk



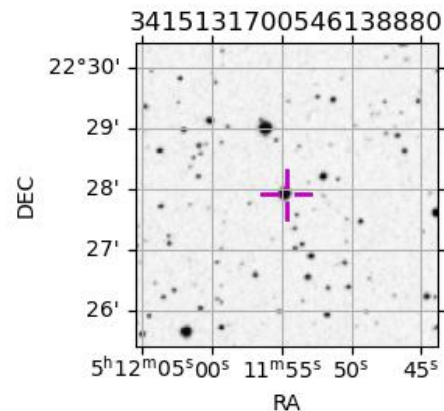
Earth
 PIC
 PAL
 PMO
 KPNO
 TEN
 IRTF
 KAV
 AAT
 SAAO
 MSO



2036-12-25T15:40:23.9500 a: 05 11 54.5601 s: +22 27 54.586 C/A ***** PA 176.52 deg v_sky -15.89 km/s D 04.14 AU
 Credit: Styled after SORA/Lucky Star

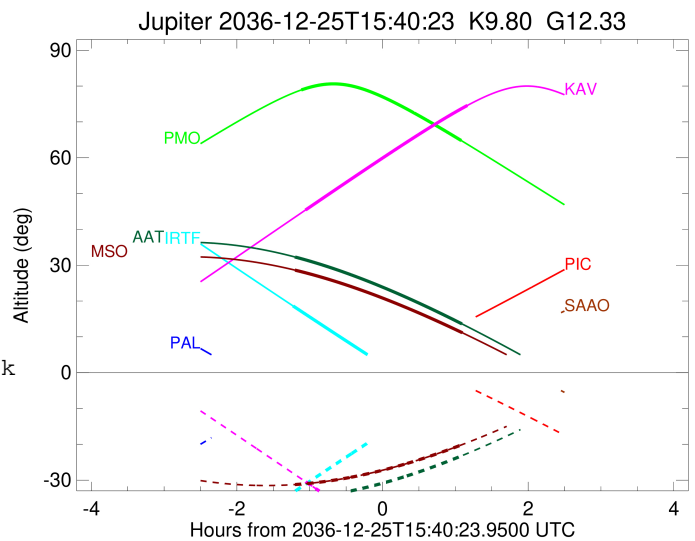
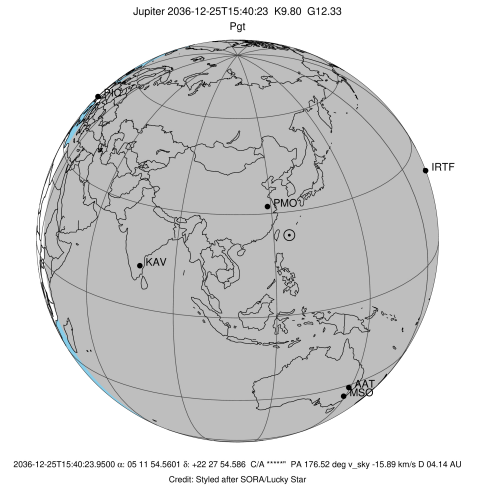
Observable events with sun below -5 deg and altitude above 5 deg

| Obs | Location | lat | Elon | Target | Observed Events Interval | OEncode |
|------|-----------------------------------|-------|-------|--------|-----------------------------|---------|
| 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 | + + | DEC 25 14:33 - DEC 25 16:45 | 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 | + | DEC 25 14:26 - DEC 25 14:26 | Pin |
| KAV | Kavalur Observatory | 12.6 | 78.8 | + + | DEC 25 14:37 - DEC 25 16:50 | 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 | + + | DEC 25 14:28 - DEC 25 16:45 | Pie |
| SAAO | So. Afr. Astro. Obs. (Sutherland) | -32.4 | 20.8 | | | Pnn |
| MSO | Mt. Stromlo Observatory | -35.3 | 149.0 | + + | DEC 25 14:28 - DEC 25 16:46 | Pie |



```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2036-12-25T15:39:21.400
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      : 3415131700546138880
2Mass ID (if available) : 05115470+2227544
ICRS Star Coord at Epoch: 05h 11m 54.56012s +22:27:54.58645s
RUWE (>1.4 is poor) : 1.63
K magnitude          : 9.800
G magnitude          : 12.329
RP magnitude         : 11.452
BP magnitude         : 12.760
DUPflag             : 0
Distance (au)       : 4.140
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : -15.89
Sun-Target sep (deg) : 164.97
Sun-Moon sep (deg)  : 77.75
B (ring opening deg) : 2.69
PA of pole (deg)    : -4.33
Pole direction: RA (deg): 268.05632
Dec (deg): 64.49687
C/A sky separation (" ) : 10.345
C/A sky separation (km) : 31061.9
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
    
```

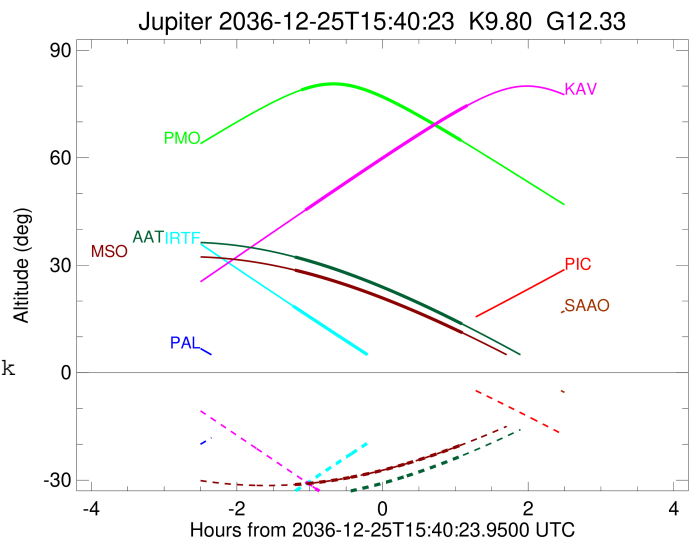
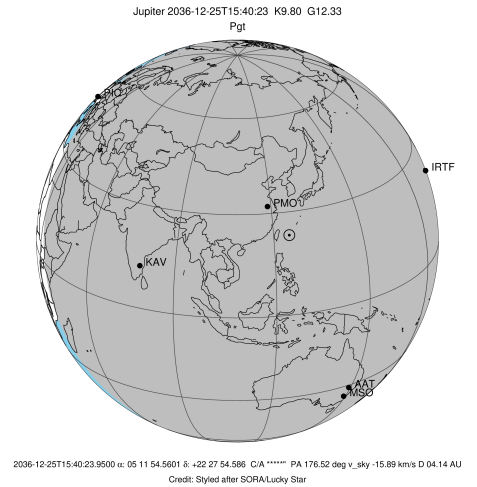


x: target alt < 5.0 deg or sun > -5.0 deg

| Target | I/E | UTC | alt | alt-sun | radius | lat-geo | lat-geodetic |
|---------|-----|-------------------------|-------|---------|---------|---------|--------------|
| Jupiter | I | 2036-12-25T14:33:31.313 | 78.91 | -68.06 | 71490.0 | 26.63 | 29.78 |
| Jupiter | E | 2036-12-25T16:45:17.200 | 64.79 | -77.68 | 71490.2 | 24.97 | 28.00 |

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2036-12-25T15:33:38.640
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       : 3415131700546138880
2Mass ID (if available) : 05115470+2227544
ICRS Star Coord at Epoch: 05h 11m 54.56012s +22:27:54.58645s
RUWE (>1.4 is poor) : 1.63
K magnitude          : 9.800
G magnitude          : 12.329
RP magnitude         : 11.452
BP magnitude         : 12.760
DUPflag             : 0
Distance (au)        : 4.140
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : -15.89
Sun-Target sep (deg) : 164.97
Sun-Moon sep (deg)   : 77.09
B (ring opening deg) : 2.69
PA of pole (deg)     : -4.33
Pole direction: RA (deg): 268.05632
Dec (deg): 64.49687
C/A sky separation ("): 10.609
C/A sky separation (km): 31856.7
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
    
```

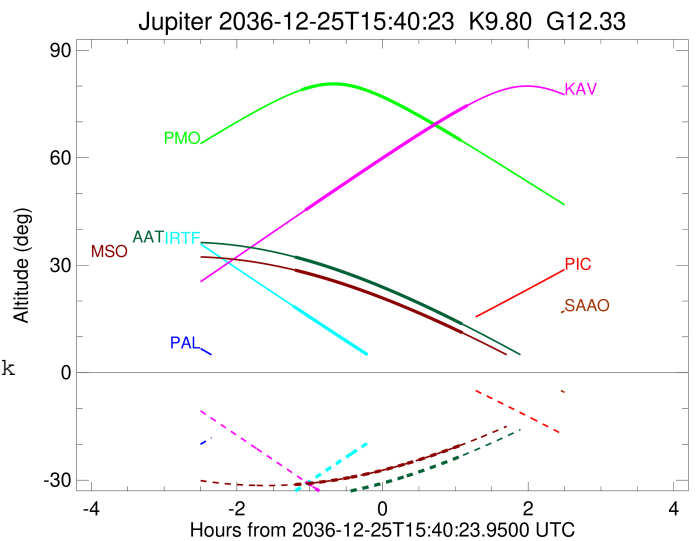
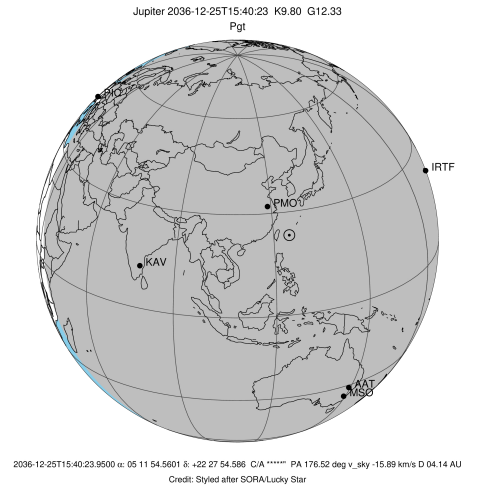


x: target alt < 5.0 deg or sun > -5.0 deg

| Target | I/E | UTC | alt | alt-sun | radius | lat-geo | lat-geodetic |
|---------|-----|-------------------------|---------|---------|---------|---------|--------------|
| Jupiter | I | 2036-12-25T14:26:44.392 | 18.61 | -33.44 | 71490.0 | 26.68 | 29.84 |
| Jupiter | E | 2036-12-25T16:41:07.542 | -10.58x | -3.59x | 71490.1 | 26.20 | 29.32 |

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2036-12-25T15:43:48.620
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        : 3415131700546138880
2Mass ID (if available) : 05115470+2227544
ICRS Star Coord at Epoch: 05h 11m 54.56012s +22:27:54.58645s
RUWE (>1.4 is poor) : 1.63
K magnitude           : 9.800
G magnitude           : 12.329
RP magnitude          : 11.452
BP magnitude          : 12.760
DUPflag              : 0
Distance (au)         : 4.140
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : -15.89
Sun-Target sep (deg)  : 164.97
Sun-Moon sep (deg)    : 77.52
B (ring opening deg) : 2.69
PA of pole (deg)      : -4.33
Pole direction: RA (deg): 268.05632
Dec (deg): 64.49687
C/A sky separation (" ) : 9.795
C/A sky separation (km) : 29410.3
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
    
```

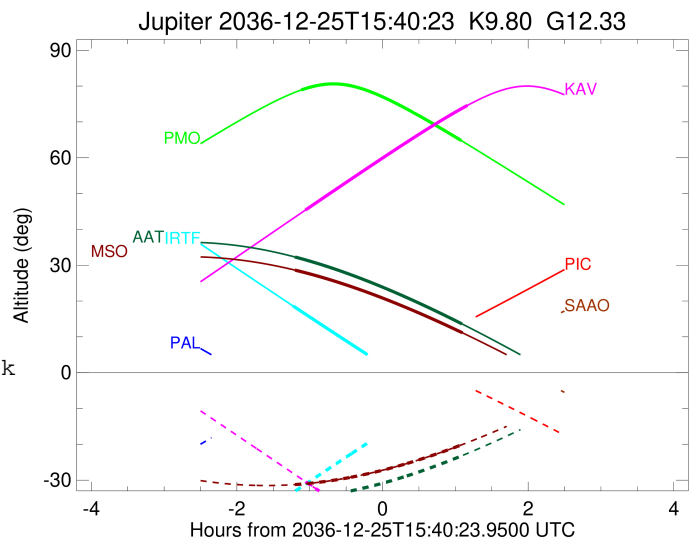
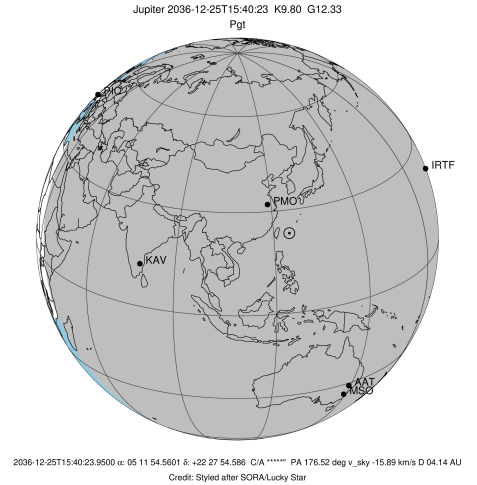


x: target alt < 5.0 deg or sun > -5.0 deg

| Target | I/E | UTC | alt | alt-sun | radius | lat-geo | lat-geodetic |
|---------|-----|-------------------------|-------|---------|---------|---------|--------------|
| Jupiter | I | 2036-12-25T14:37:01.006 | 45.41 | -30.44 | 71490.2 | 25.55 | 28.62 |
| Jupiter | E | 2036-12-25T16:50:21.354 | 74.59 | -60.71 | 71490.5 | 23.12 | 25.99 |

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2036-12-25T15:36:54.820
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        : 3415131700546138880
2Mass ID (if available) : 05115470+2227544
ICRS Star Coord at Epoch: 05h 11m 54.56012s +22:27:54.58645s
RUWE (>1.4 is poor) : 1.63
K magnitude           : 9.800
G magnitude           : 12.329
RP magnitude          : 11.452
BP magnitude          : 12.760
DUPflag              : 0
Distance (au)         : 4.140
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : -15.89
Sun-Target sep (deg)  : 164.97
Sun-Moon sep (deg)    : 77.30
B (ring opening deg) : 2.69
PA of pole (deg)      : -4.33
Pole direction: RA (deg): 268.05632
Dec (deg): 64.49687
C/A sky separation (") : 8.393
C/A sky separation (km) : 25202.7
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
    
```

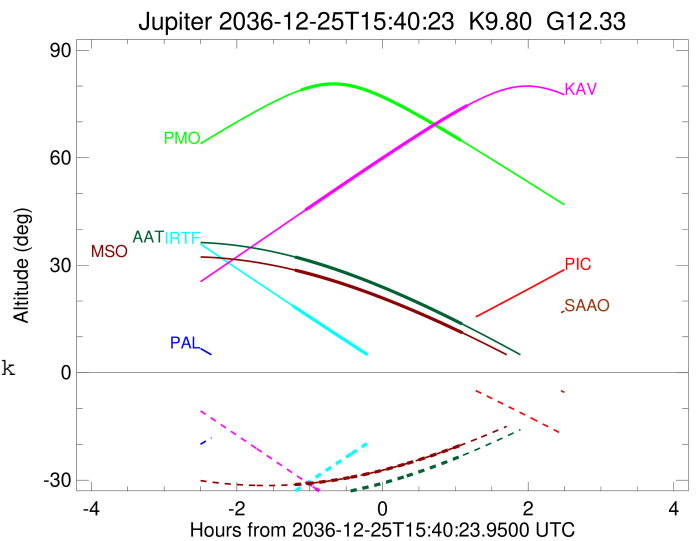
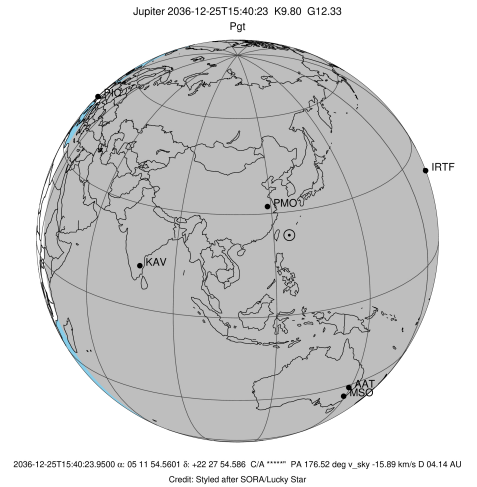


x: target alt < 5.0 deg or sun > -5.0 deg

| Target | I/E | UTC | alt | alt-sun | radius | lat-geo | lat-geodetic |
|---------|-----|-------------------------|-------|---------|---------|---------|--------------|
| Jupiter | I | 2036-12-25T14:28:17.824 | 32.28 | -35.23 | 71490.7 | 21.25 | 23.95 |
| Jupiter | E | 2036-12-25T16:45:52.443 | 13.61 | -23.17 | 71490.8 | 20.12 | 22.71 |

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2036-12-25T15:37:06.120
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       : 3415131700546138880
2Mass ID (if available) : 05115470+2227544
ICRS Star Coord at Epoch: 05h 11m 54.56012s +22:27:54.58645s
RUWE (>1.4 is poor) : 1.63
K magnitude          : 9.800
G magnitude          : 12.329
RP magnitude         : 11.452
BP magnitude         : 12.760
DUPflag             : 0
Distance (au)        : 4.140
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : -15.89
Sun-Target sep (deg) : 164.97
Sun-Moon sep (deg)   : 77.25
B (ring opening deg) : 2.69
PA of pole (deg)     : -4.33
Pole direction: RA (deg): 268.05632
Dec (deg): 64.49687
C/A sky separation ("): 8.305
C/A sky separation (km): 24938.6
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 | 2036-12-25T14:28:19.001 | 28.62 | -31.23 | 71490.7 | 21.04 | 23.71 |
| Jupiter | E | 2036-12-25T16:46:13.119 | 11.13 | -20.06 | 71490.9 | 19.88 | 22.45 |