

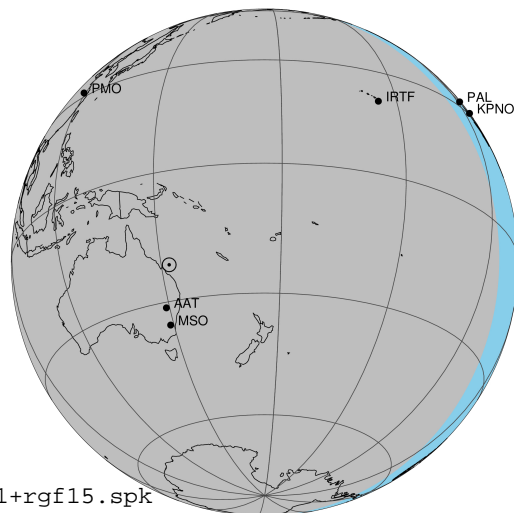
target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2043-05-30T13:49:05.910
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 4069256735869306880
 2Mass ID (if available) : 18023488-2303070

Jupiter 2043-05-30T13:49:05 K8.19 G10.79 Pgt

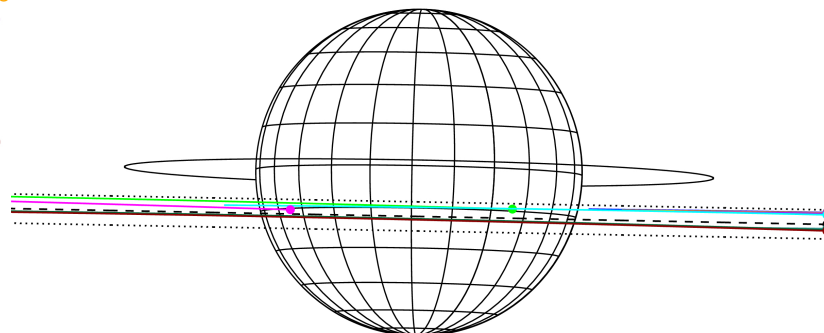
ICRS Star Coord at Epoch: 18h 02m 34.81454s -23°03'07.44980s

RUWE (>1.4 is poor) : 0.74
 K magnitude : 8.187
 G magnitude : 10.785
 RP magnitude : 10.006
 BP magnitude : 11.438
 DUPflag : 0
 Distance (au) : 4.321
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : -14.22
 Sun-Target sep (deg) : 157.87
 Sun-Moon sep (deg) : 52.90
 B (ring opening deg) : -2.43
 PA of pole (deg) : -1.12
 Pole direction: RA (deg): 268.05667
 Dec (deg): 64.49732
 C/A sky separation (") : 6.145
 C/A sky separation (km) : 19256.3
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk

Jupiter 2043-05-30T13:49:05 K8.19 G10.79
 Pgt



Earth
 PAL
 PMO
 KPNO
 MCD
 IRTF
 KAV
 ESO
 AAT
 MSO

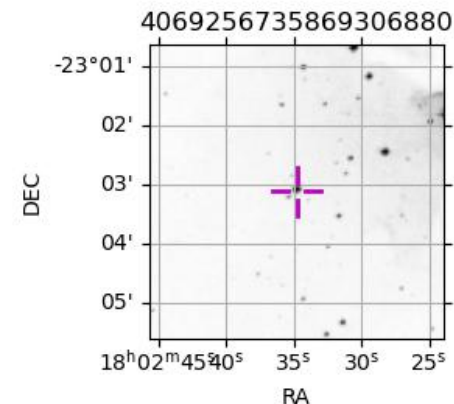


2043-05-30T13:49:05.9100 at: 18 02 34.8145 s: -23 03 07.450 C/A 6.156" PA 358.88 deg v_sky -14.22 km/s D 04.32 AU

Credit: Styled after SORA/Lucky Star

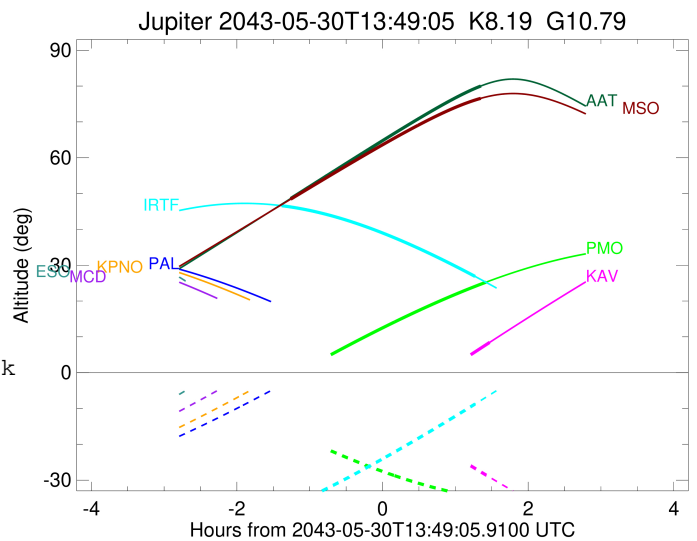
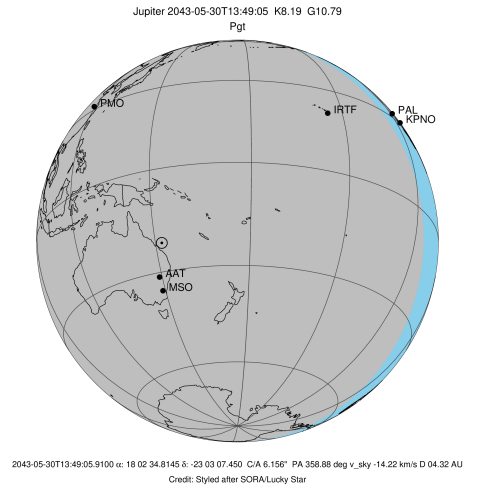
Observable events with sun below -5 deg and altitude above 5 deg

| 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 | + | MAY 30 15:14 - MAY 30 15:14 | 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 | + + | MAY 30 12:26 - MAY 30 15:05 | Pie |
| KAV | Kavalur Observatory | 12.6 | 78.8 | + | MAY 30 15:17 - MAY 30 15:17 | 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 | + + | MAY 30 12:33 - MAY 30 15:10 | Pie |
| SAAO | So. Afr. Astro. Obs. (Sutherland) | -32.4 | 20.8 | | | Pnn |
| MSO | Mt. Stromlo Observatory | -35.3 | 149.0 | + + | MAY 30 12:33 - MAY 30 15:10 | Pie |



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target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-05-30T13:54:22.370
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       : 4069256735869306880
2Mass ID (if available) : 18023488-2303070
ICRS Star Coord at Epoch: 18h 02m 34.81454s -23:03:07.44980s
RUWE (>1.4 is poor) : 0.74
K magnitude          : 8.187
G magnitude           : 10.785
RP magnitude         : 10.006
BP magnitude         : 11.438
DUPflag             : 0
Distance (au)        : 4.321
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : -14.22
Sun-Target sep (deg) : 157.87
Sun-Moon sep (deg)   : 53.49
B (ring opening deg) : -2.43
PA of pole (deg)     : -1.12
Pole direction: RA (deg): 268.05667
Dec (deg): 64.49732
C/A sky separation (") : 4.743
C/A sky separation (km) : 14864.3
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
    
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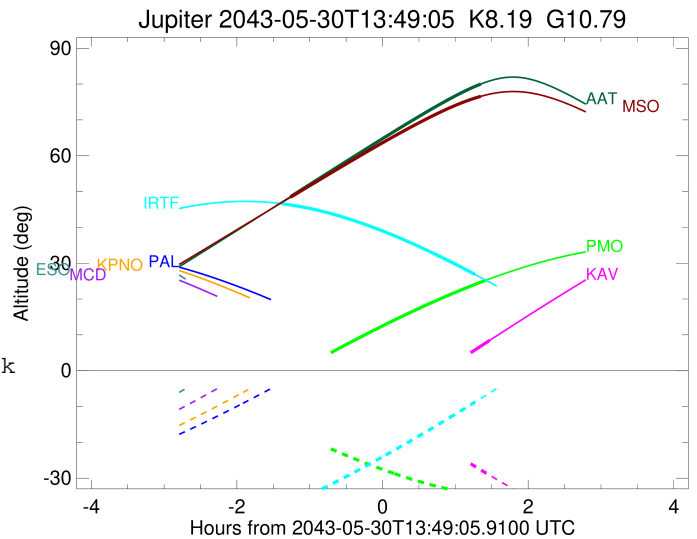
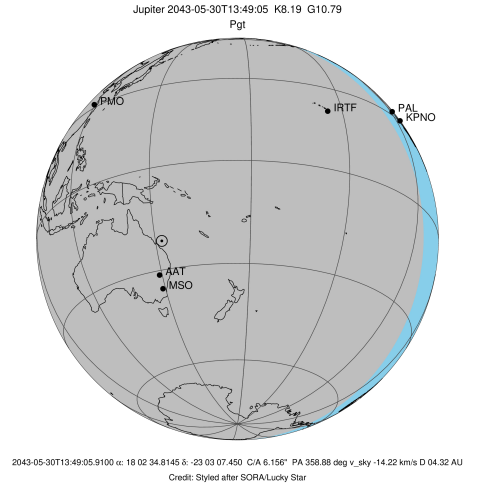


x: target alt < 5.0 deg or sun > -5.0 deg

| Target | I/E | UTC | alt | alt-sun | radius | lat-geo | lat-geodetic |
|---------|-----|-------------------------|--------|---------|---------|---------|--------------|
| Jupiter | I | 2043-05-30T12:33:21.371 | -1.18x | -16.67 | 71491.6 | -12.53 | -14.26 |
| Jupiter | E | 2043-05-30T15:14:41.621 | 25.29 | -35.10 | 71491.7 | -11.58 | -13.18 |

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-05-30T13:45:36.800
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       : 4069256735869306880
2Mass ID (if available) : 18023488-2303070
ICRS Star Coord at Epoch: 18h 02m 34.81454s -23:03:07.44980s
RUWE (>1.4 is poor) : 0.74
K magnitude          : 8.187
G magnitude          : 10.785
RP magnitude         : 10.006
BP magnitude         : 11.438
DUPflag             : 0
Distance (au)        : 4.321
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : -14.22
Sun-Target sep (deg) : 157.87
Sun-Moon sep (deg)   : 53.15
B (ring opening deg) : -2.43
PA of pole (deg)     : -1.12
Pole direction: RA (deg): 268.05667
Dec (deg): 64.49732
C/A sky separation (") : 4.870
C/A sky separation (km) : 15261.8
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
    
```

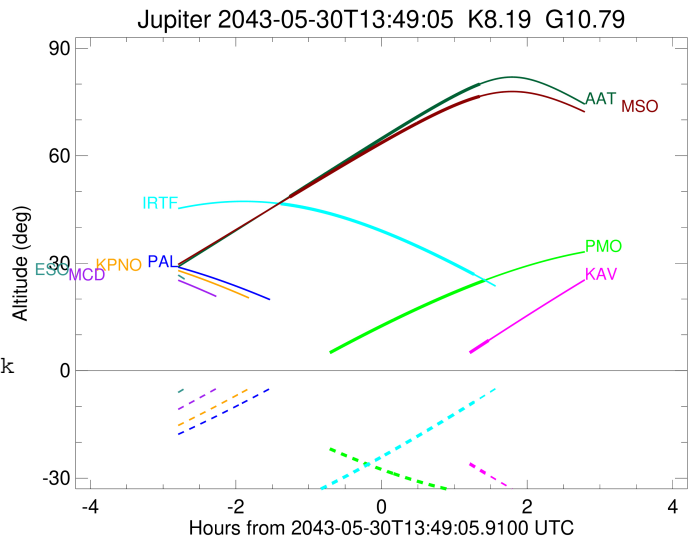
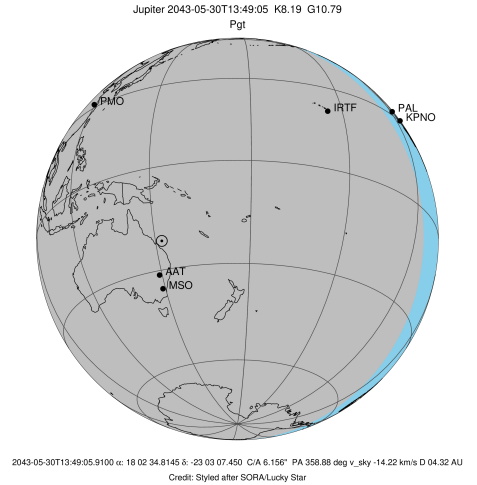


x: target alt < 5.0 deg or sun > -5.0 deg

| Target | I/E | UTC | alt | alt-sun | radius | lat-geo | lat-geodetic |
|---------|-----|-------------------------|-------|---------|---------|---------|--------------|
| Jupiter | I | 2043-05-30T12:26:05.506 | 46.60 | -38.23 | 71491.6 | -12.08 | -13.74 |
| Jupiter | E | 2043-05-30T15:05:28.220 | 26.85 | -8.74 | 71491.6 | -12.76 | -14.51 |

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-05-30T13:56:35.820
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      : 4069256735869306880
2Mass ID (if available) : 18023488-2303070
ICRS Star Coord at Epoch: 18h 02m 34.81454s -23:03:07.44980s
RUWE (>1.4 is poor) : 0.74
K magnitude          : 8.187
G magnitude          : 10.785
RP magnitude         : 10.006
BP magnitude         : 11.438
DUPflag             : 0
Distance (au)       : 4.321
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : -14.22
Sun-Target sep (deg) : 157.87
Sun-Moon sep (deg)  : 53.30
B (ring opening deg) : -2.43
PA of pole (deg)    : -1.12
Pole direction: RA (deg): 268.05667
Dec (deg): 64.49732
C/A sky separation ("): 5.765
C/A sky separation (km): 18065.4
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
    
```

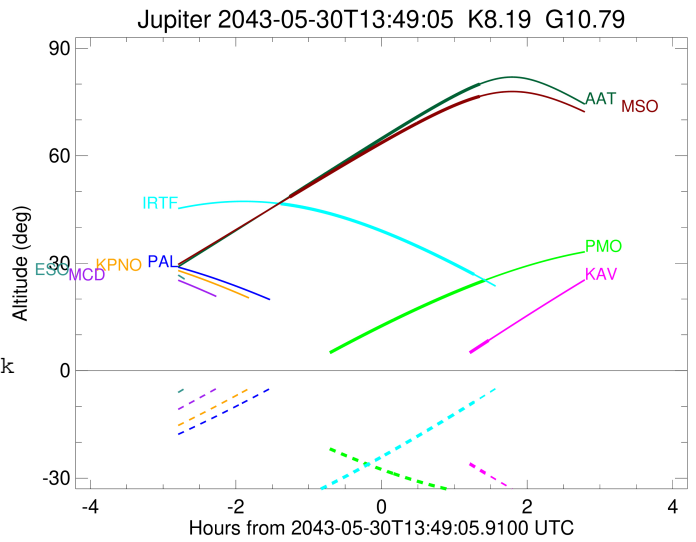
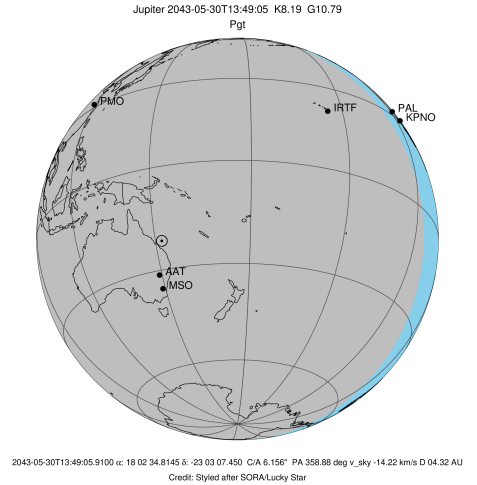


x: target alt < 5.0 deg or sun > -5.0 deg

| Target | I/E | UTC | alt | alt-sun | radius | lat-geo | lat-geodetic |
|---------|-----|-------------------------|---------|---------|---------|---------|--------------|
| Jupiter | I | 2043-05-30T12:34:50.972 | -28.42x | 6.28x | 71491.4 | -15.33 | -17.39 |
| Jupiter | E | 2043-05-30T15:17:21.715 | 8.44 | -29.17 | 71491.5 | -13.92 | -15.82 |

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-05-30T13:52:03.190
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      : 4069256735869306880
2Mass ID (if available) : 18023488-2303070
ICRS Star Coord at Epoch: 18h 02m 34.81454s -23:03:07.44980s
RUWE (>1.4 is poor) : 0.74
K magnitude          : 8.187
G magnitude          : 10.785
RP magnitude         : 10.006
BP magnitude         : 11.438
DUPflag             : 0
Distance (au)       : 4.321
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : -14.22
Sun-Target sep (deg) : 157.87
Sun-Moon sep (deg)   : 53.80
B (ring opening deg) : -2.43
PA of pole (deg)     : -1.12
Pole direction: RA (deg): 268.05667
Dec (deg): 64.49732
C/A sky separation (") : 6.482
C/A sky separation (km) : 20311.3
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
    
```

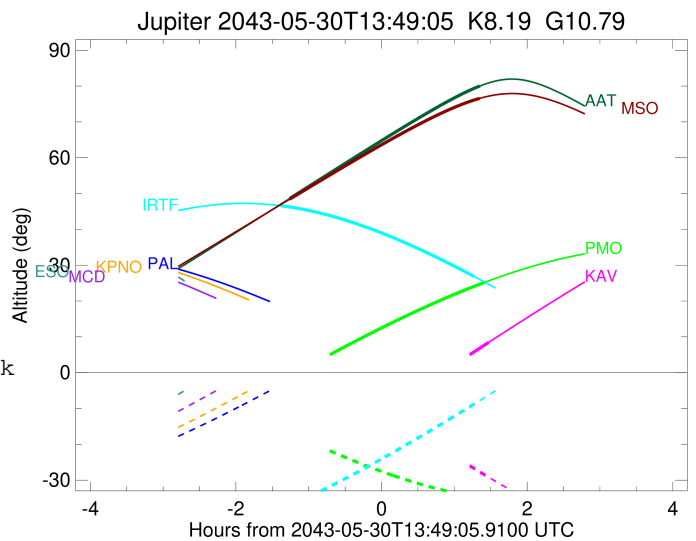
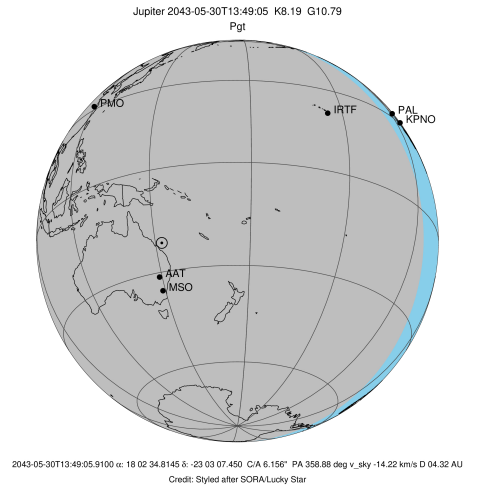


x: target alt < 5.0 deg or sun > -5.0 deg

| Target | I/E | UTC | alt | alt-sun | radius | lat-geo | lat-geodetic |
|---------|-----|-------------------------|-------|---------|---------|---------|--------------|
| Jupiter | I | 2043-05-30T12:33:31.732 | 48.62 | -68.33 | 71491.3 | -16.82 | -19.06 |
| Jupiter | E | 2043-05-30T15:10:12.360 | 80.02 | -72.03 | 71491.4 | -16.36 | -18.54 |

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-05-30T13:51:56.640
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        : 4069256735869306880
2Mass ID (if available) : 18023488-2303070
ICRS Star Coord at Epoch: 18h 02m 34.81454s -23:03:07.44980s
RUWE (>1.4 is poor) : 0.74
K magnitude           : 8.187
G magnitude           : 10.785
RP magnitude          : 10.006
BP magnitude          : 11.438
DUPflag              : 0
Distance (au)         : 4.321
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : -14.22
Sun-Target sep (deg)  : 157.87
Sun-Moon sep (deg)    : 53.78
B (ring opening deg) : -2.43
PA of pole (deg)     : -1.12
Pole direction: RA (deg): 268.05667
Dec (deg): 64.49732
C/A sky separation (") : 6.620
C/A sky separation (km) : 20746.2
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 | 2043-05-30T12:33:29.273 | 48.44 | -66.60 | 71491.3 | -17.17 | -19.44 |
| Jupiter | E | 2043-05-30T15:10:02.515 | 76.57 | -69.95 | 71491.3 | -16.72 | -18.95 |