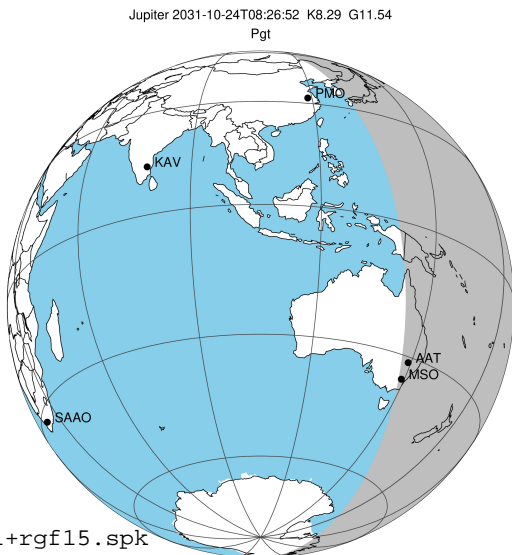


target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2031-10-24T08:26:52.020
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 4116517422229743232
 2Mass ID (if available) : 17394379-2313489

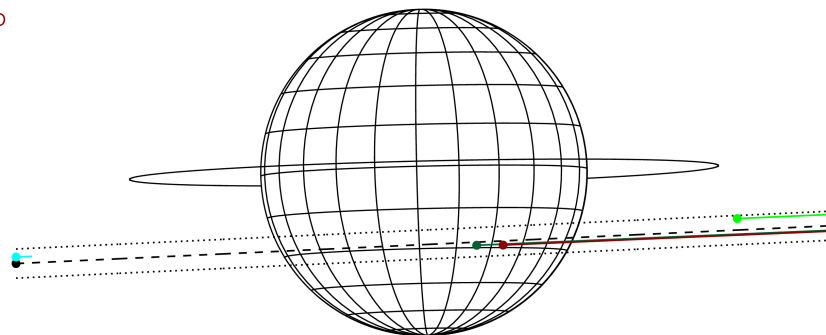
Jupiter 2031-10-24T08:26:52 K8.29 G11.54 Pgt

ICRS Star Coord at Epoch: 17h 39m 43.79826s -23:13:49.02056s
 RUWE (>1.4 is poor) : 1.09
 K magnitude : 8.290
 G magnitude : 11.540
 RP magnitude : 10.590
 BP magnitude : 12.425
 DUPflag : 1
 Distance (au) : 5.741
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : 30.26
 Sun-Target sep (deg) : 55.06
 Sun-Moon sep (deg) : 48.79
 B (ring opening deg) : -2.24
 PA of pole (deg) : 1.35
 Pole direction: RA (deg): 268.05681
 Dec (deg): 64.49652
 C/A sky separation (") : 7.578
 C/A sky separation (km) : 31549.3
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk



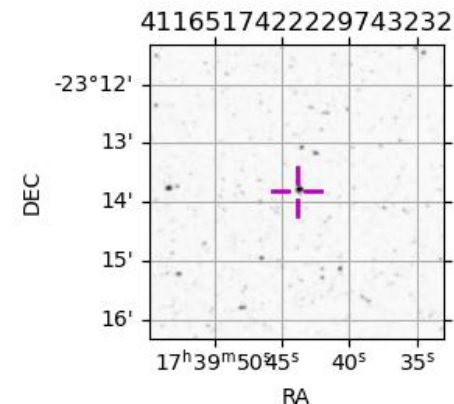
2031-10-24T08:26:52.0200 @: 17 39 43.7983 @: -23 13 49.021 C/A 7.586" PA 2.66 deg v_sky +30.26 km/s D 05.74 AU
 Credit: Styled after SORA/Lucky Star

Earth
 PMO
 IRTF
 AAT
 MSO



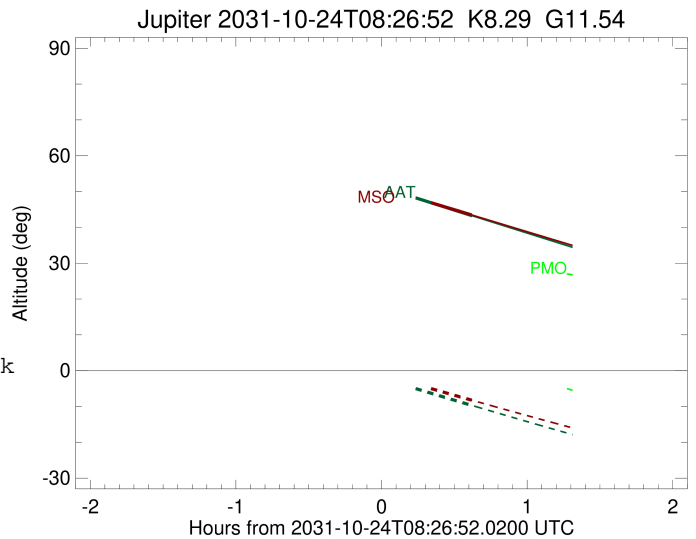
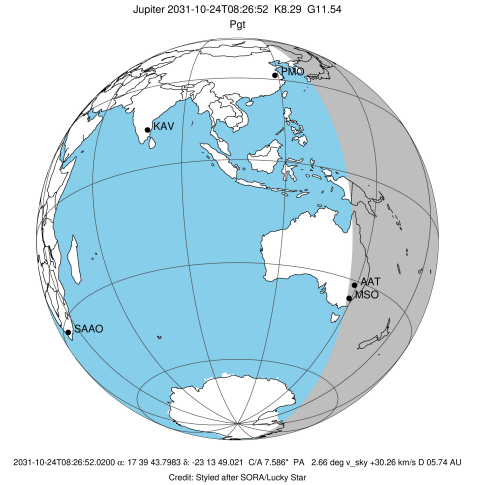
Observable events with sun below -5 deg and altitude above 5 deg

| 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 | | | Pnn |
| 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 | | | Pnn |
| 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 | + | OCT 24 09:04 - OCT 24 09:04 | Pne |
| SAAO | So. Afr. Astro. Obs. (Sutherland) | -32.4 | 20.8 | | | Pnn |
| MSO | Mt. Stromlo Observatory | -35.3 | 149.0 | + | OCT 24 09:03 - OCT 24 09:03 | Pne |




```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2031-10-24T08:28:49.460
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       : 4116517422229743232
2Mass ID (if available) : 17394379-2313489
ICRS Star Coord at Epoch: 17h 39m 43.79826s -23:13:49.02056s
RUWE (>1.4 is poor) : 1.09
K magnitude           : 8.290
G magnitude           : 11.540
RP magnitude         : 10.590
BP magnitude         : 12.425
DUPflag              : 1
Distance (au)        : 5.741
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 30.26
Sun-Target sep (deg) : 55.06
Sun-Moon sep (deg)   : 49.03
B (ring opening deg) : -2.24
PA of pole (deg)     : 1.35
Pole direction: RA (deg): 268.05681
Dec (deg): 64.49652
C/A sky separation ("): 7.991
C/A sky separation (km): 33268.4
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 | 2031-10-24T07:53:37.390 | 57.79 | 5.62x | 71490.4 | -28.87 | -32.17 |
| Jupiter | E | 2031-10-24T09:03:58.080 | 43.48 | -8.22 | 71490.6 | -26.59 | -29.74 |