

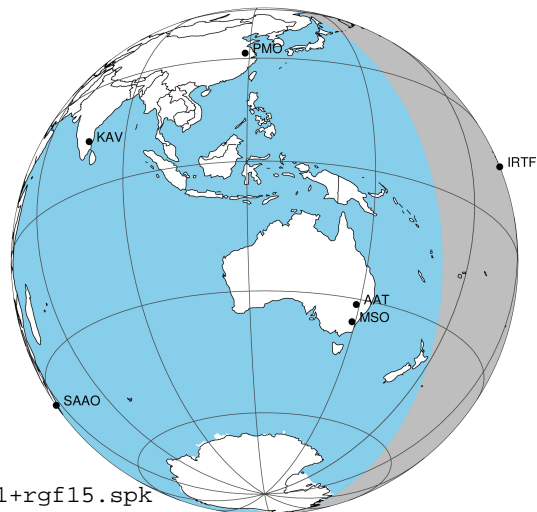
target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2031-11-05T06:37:50.300
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 4068673371918184704
 2Mass ID (if available) : 17491566-2318463

Jupiter 2031-11-05T06:37:50 K8.37 G13.34 Pgt

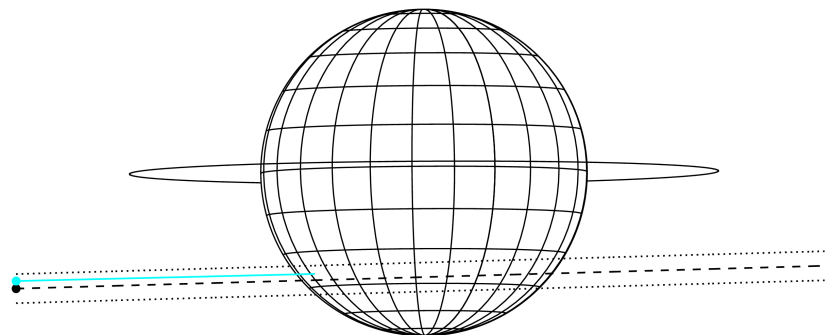
ICRS Star Coord at Epoch: 17h 49m 15.65783s -23:18:46.28702s

RUWE (>1.4 is poor) : 0.87
 K magnitude : 8.370
 G magnitude : 13.343
 RP magnitude : 12.076
 BP magnitude : 15.159
 DUPflag : 0
 Distance (au) : 5.880
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : 34.19
 Sun-Target sep (deg) : 45.34
 Sun-Moon sep (deg) : 156.85
 B (ring opening deg) : -2.19
 PA of pole (deg) : 0.32
 Pole direction: RA (deg): 268.05680
 Dec (deg): 64.49652
 C/A sky separation (") : 10.741
 C/A sky separation (km) : 45801.2
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk

Jupiter 2031-11-05T06:37:50 K8.37 G13.34
 Pgt



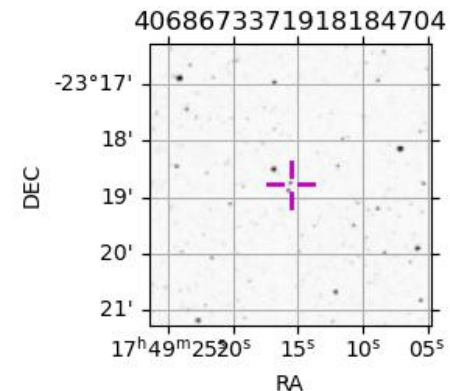
Earth
 IRTF



2031-11-05T06:37:50.3000 α: 17 49 15.6578 δ: -23 18 46.287 C/A ***** PA 1.62 deg v_sky +34.19 km/s D 05.88 AU
 Credit: Styled after SORA/Lucky Star

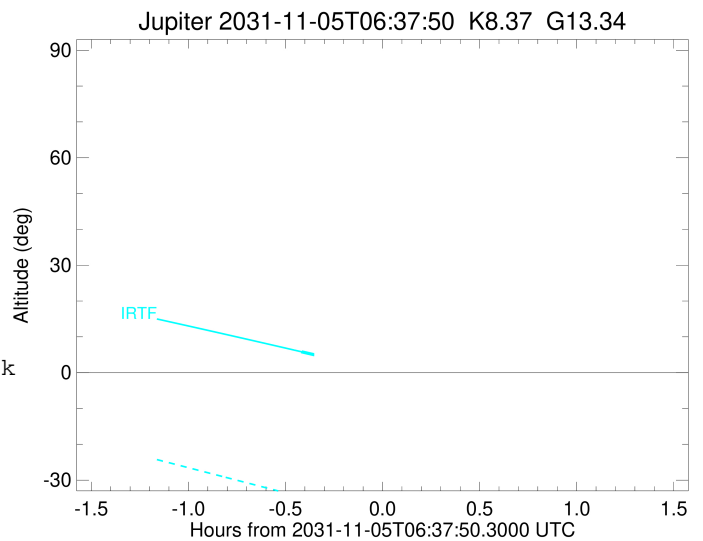
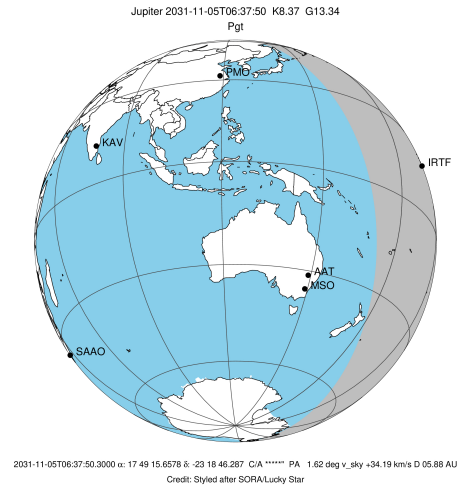
Observable events with sun below -5 deg and altitude above 5 deg

| 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 | | | 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 | + | NOV 05 06:12 - NOV 05 06:12 | Pin |
| 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 | | | Pnn |
| SAAO | So. Afr. Astro. Obs. (Sutherland) | -32.4 | 20.8 | | | Pnn |
| MSO | Mt. Stromlo Observatory | -35.3 | 149.0 | | | Pnn |



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target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2031-11-05T06:40:35.860
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        : 4068673371918184704
2Mass ID (if available) : 17491566-2318463
ICRS Star Coord at Epoch: 17h 49m 15.65783s -23:18:46.28702s
RUWE (>1.4 is poor) : 0.87
K magnitude           : 8.370
G magnitude           : 13.343
RP magnitude          : 12.076
BP magnitude          : 15.159
DUPflag              : 0
Distance (au)         : 5.880
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 34.19
Sun-Target sep (deg)  : 45.34
Sun-Moon sep (deg)    : 156.04
B (ring opening deg) : -2.19
PA of pole (deg)      : 0.32
Pole direction: RA (deg): 268.05680
Dec (deg): 64.49652
C/A sky separation (") : 10.158
C/A sky separation (km) : 43315.6
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 | 2031-11-05T06:12:47.570 | 5.83 | -34.69 | 71489.5 | -38.28 | -41.96 |
| Jupiter | E | 2031-11-05T07:08:21.277 | -6.05x | -47.74 | 71489.7 | -36.25 | -39.89 |