

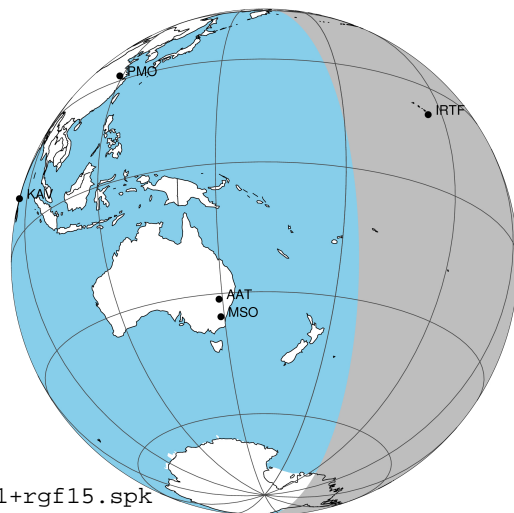
target : Jupiter  
 target radius (km) : 71492.00  
 C/A epoch : 2043-10-13T05:39:10.590  
 Event type : Pgt  
 : Jupiter occs: geocentric, topocentric  
 : Not a ringed target  
 Gaia source ID : 4068768071730436352  
 2Mass ID (if available) : 17481177-2320517

Jupiter 2043-10-13T05:39:10 K8.41 G13.84 Pgt

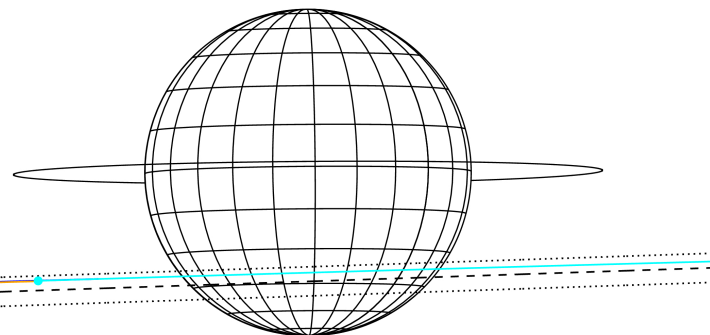
ICRS Star Coord at Epoch: 17h 48m 11.76906s -23:20:52.05294s

RUWE (>1.4 is poor) : 0.99  
 K magnitude : 8.412  
 G magnitude : 13.842  
 RP magnitude : 12.447  
 BP magnitude : 16.250  
 DUPflag : 0  
 Distance (au) : 5.515  
 f0 (km) : 0.00  
 g0 (km) : 0.00  
 skyplane vel. (km/s) : 24.26  
 Sun-Target sep (deg) : 68.11  
 Sun-Moon sep (deg) : 44.30  
 B (ring opening deg) : -2.15  
 PA of pole (deg) : 0.43  
 Pole direction: RA (deg): 268.05675  
 Dec (deg): 64.49731  
 C/A sky separation (") : 11.922  
 C/A sky separation (km) : 47690.6  
 NAIF SPICE kernels : RAJobs\_U111+rgf15.spk

Jupiter 2043-10-13T05:39:10 K8.41 G13.84  
 Pgt



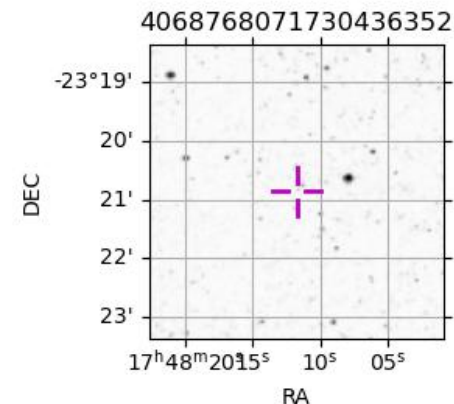
Earth  
 PAL  
 KPNO  
 MCD  
 IRTF



2043-10-13T05:39:10.5900 α: 17 48 11.7691 δ: -23 20 52.053 C/A \*\*\*\*\* PA 1.93 deg v\_sky +24.26 km/s D 05.52 AU  
 Credit: Styled after SORA/Lucky Star

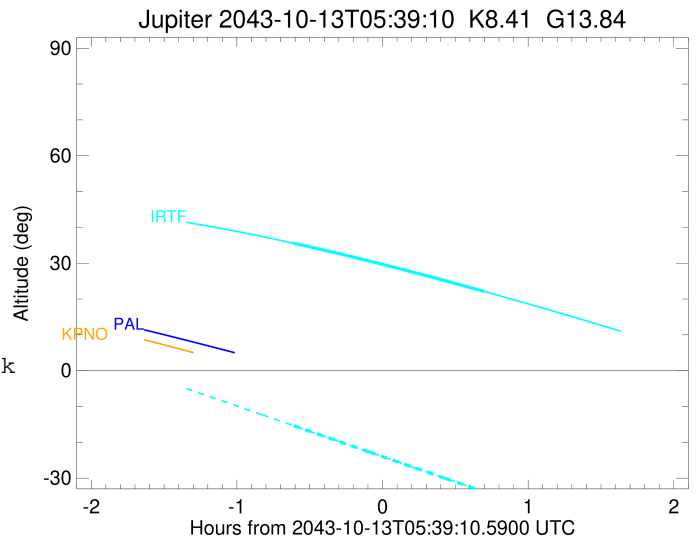
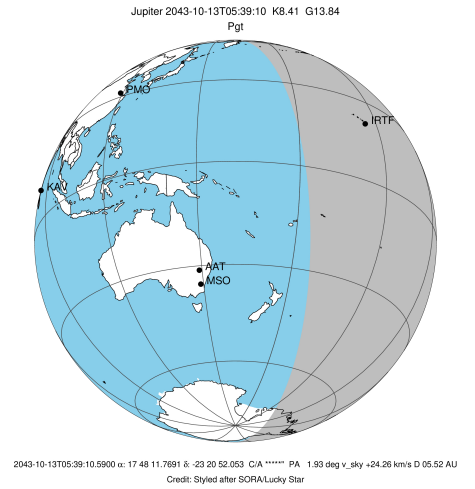
Observable events with sun below -5 deg and altitude above 5 deg

| 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 |        |                             | 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 | + +    | OCT 13 05:02 - OCT 13 06:21 | Pie     |
| 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     |



```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-10-13T05:41:49.590
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        : 4068768071730436352
2Mass ID (if available) : 17481177-2320517
ICRS Star Coord at Epoch: 17h 48m 11.76906s -23:20:52.05294s
RUWE (>1.4 is poor)  : 0.99
K magnitude           : 8.412
G magnitude           : 13.842
RP magnitude          : 12.447
BP magnitude          : 16.250
DUPflag              : 0
Distance (au)         : 5.515
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 24.26
Sun-Target sep (deg)  : 68.11
Sun-Moon sep (deg)   : 44.24
B (ring opening deg) : -2.15
PA of pole (deg)     : 0.43
Pole direction: RA (deg): 268.05675
Dec (deg): 64.49731
C/A sky separation (") : 10.970
C/A sky separation (km) : 43883.2
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   | 2043-10-13T05:02:30.786 | 35.57 | -15.35  | 71489.5 | -39.09  | -42.79       |
| Jupiter | E   | 2043-10-13T06:21:02.160 | 22.13 | -33.83  | 71489.7 | -36.64  | -40.28       |