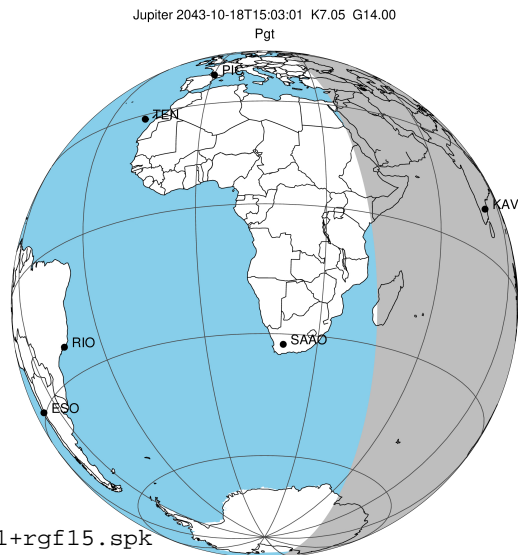


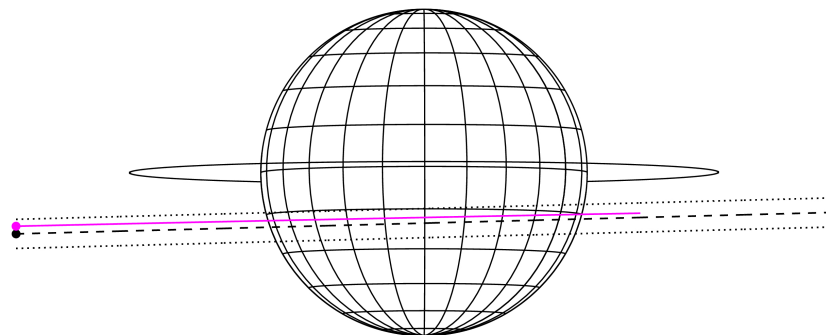
target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2043-10-18T15:03:01.570
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 4068614105672139264
 2Mass ID (if available) : 17514462-2322131

Jupiter 2043-10-18T15:03:01 K7.05 G14.00 Pgt

ICRS Star Coord at Epoch: 17h 51m 44.61102s -23:22:13.43156s
 RUWE (>1.4 is poor) : 0.93
 K magnitude : 7.046
 G magnitude : 14.001
 RP magnitude : 12.416
 BP magnitude : 17.888
 DUPflag : 0
 Distance (au) : 5.591
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : 26.42
 Sun-Target sep (deg) : 63.59
 Sun-Moon sep (deg) : 118.18
 B (ring opening deg) : -2.13
 PA of pole (deg) : 0.05
 Pole direction: RA (deg): 268.05675
 Dec (deg): 64.49731
 C/A sky separation (") : 5.472
 C/A sky separation (km) : 22185.8
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk



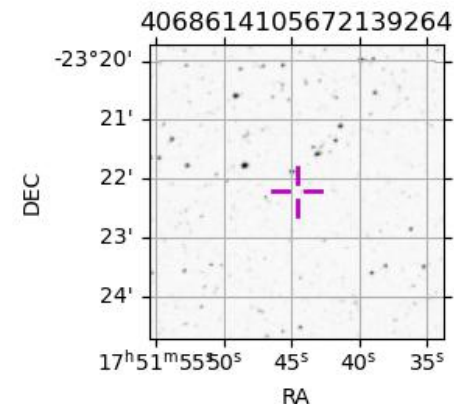
Earth
 KAV



2043-10-18T15:03:01.5700 @: 17 51 44.6110 @: -23 22 13.432 C/A 5.480° PA 1.50 deg v_sky +26.42 km/s D 05.59 AU
 Credit: Styled after SORA/Lucky Star

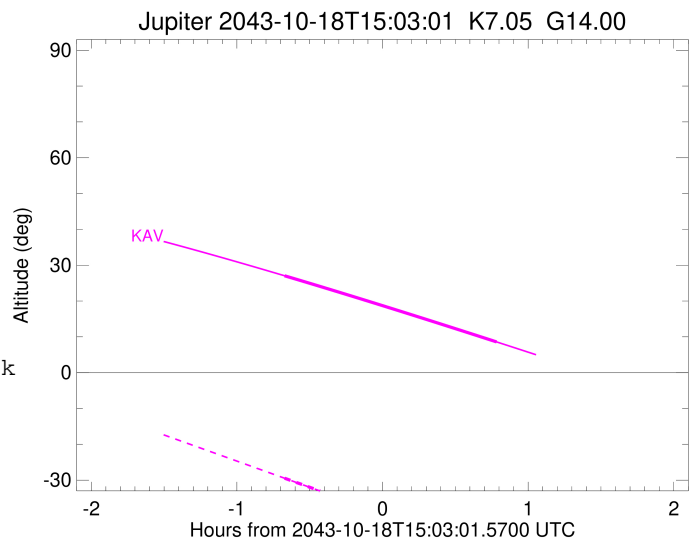
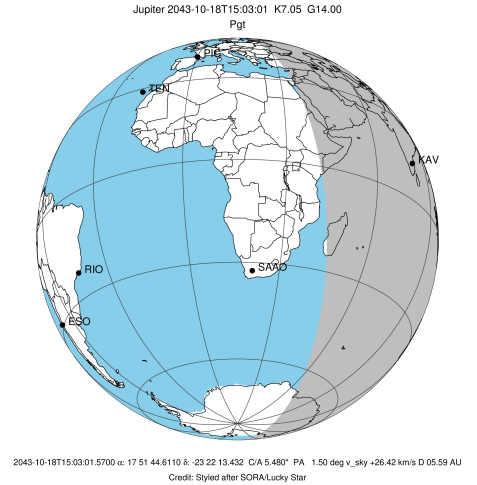
Observable events with sun below -5 deg and altitude above 5 deg

| Obs | Location | lat | Elon | Target | Observed Events Interval | OEcode |
|------|-----------------------------------|-------|-------|--------|-----------------------------|--------|
| 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 | + + | OCT 18 14:22 - OCT 18 15:50 | 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 | | | 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            : 2043-10-18T15:06:26.680
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      : 4068614105672139264
2Mass ID (if available) : 17514462-2322131
ICRS Star Coord at Epoch: 17h 51m 44.61102s -23:22:13.43156s
RUWE (>1.4 is poor) : 0.93
K magnitude         : 7.046
G magnitude         : 14.001
RP magnitude        : 12.416
BP magnitude        : 17.888
DUPflag            : 0
Distance (au)       : 5.591
f0 (km)             : 0.00
g0 (km)             : 0.00
skyplane vel. (km/s) : 26.42
Sun-Target sep (deg) : 63.59
Sun-Moon sep (deg)  : 118.89
B (ring opening deg) : -2.13
PA of pole (deg)    : 0.05
Pole direction: RA (deg): 268.05675
Dec (deg): 64.49731
C/A sky separation (") : 4.861
C/A sky separation (km) : 19711.0
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 | 2043-10-18T14:22:41.677 | 27.04 | -29.47 | 71491.5 | -17.12 | -19.39 |
| Jupiter | E | 2043-10-18T15:50:02.620 | 8.58 | -50.77 | 71491.6 | -14.90 | -16.92 |