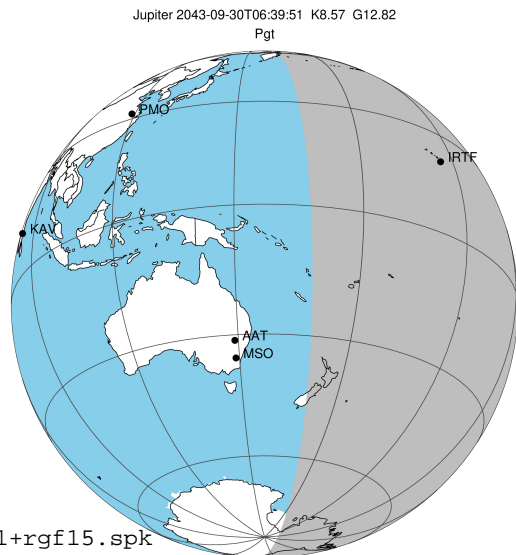


target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2043-09-30T06:39:51.030
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 4116489792583794048
 2Mass ID (if available) : 17404771-2316163

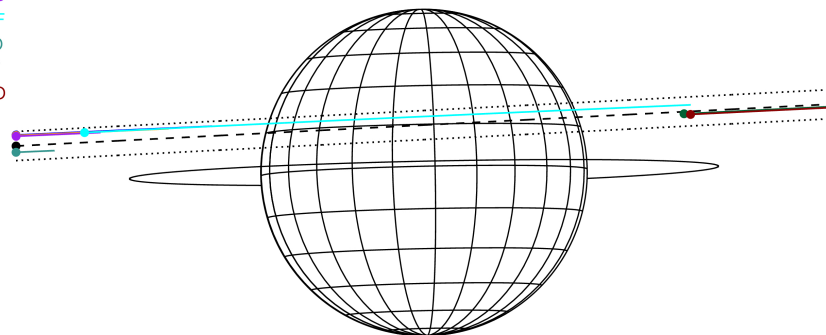
Jupiter 2043-09-30T06:39:51 K8.57 G12.82 Pgt

ICRS Star Coord at Epoch: 17h 40m 47.71269s -23:16:16.54423s
 RUWE (>1.4 is poor) : 0.87
 K magnitude : 8.569
 G magnitude : 12.821
 RP magnitude : 11.708
 BP magnitude : 14.118
 DUPflag : 0
 Distance (au) : 5.325
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : 18.69
 Sun-Target sep (deg) : 79.19
 Sun-Moon sep (deg) : 112.64
 B (ring opening deg) : -2.20
 PA of pole (deg) : 1.23
 Pole direction: RA (deg): 268.05674
 Dec (deg): 64.49731
 C/A sky separation (") : 5.373
 C/A sky separation (km) : 20752.8
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk



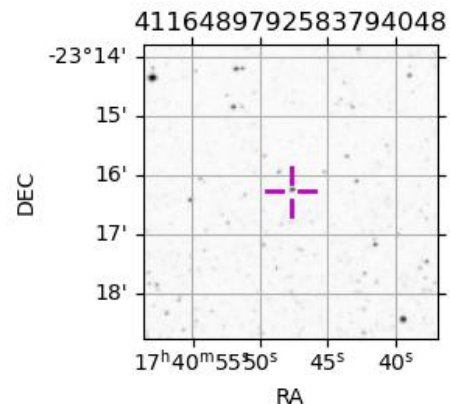
2043-09-30T06:39:51.0300 cc: 17 40 47.7127 s: -23 16 16.544 C/A 5.365" PA 182.94 deg v_sky +18.69 km/s D 05.33 AU
 Credit: Styled after SORA/Lucky Star

Earth
 PAL
 KPNO
 MCD
 IRTF
 ESO
 AAT
 MSO



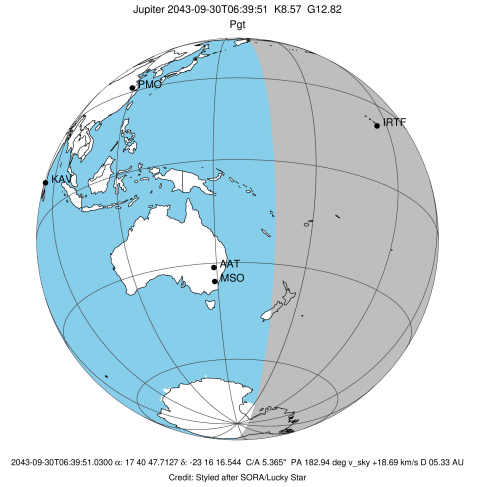
Observable events with sun below -5 deg and altitude above 5 deg

| 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 | + + | SEP 30 05:42 - SEP 30 07:44 | 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 |

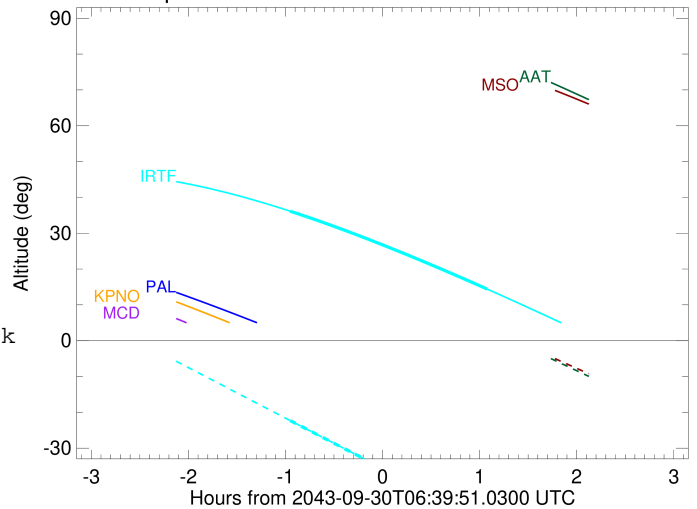


```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-09-30T06:43:51.150
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        : 4116489792583794048
2Mass ID (if available) : 17404771-2316163
ICRS Star Coord at Epoch: 17h 40m 47.71269s -23:16:16.54423s
RUWE (>1.4 is poor) : 0.87
K magnitude           : 8.569
G magnitude           : 12.821
RP magnitude          : 11.708
BP magnitude          : 14.118
DUPflag              : 0
Distance (au)         : 5.325
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 18.69
Sun-Target sep (deg) : 79.19
Sun-Moon sep (deg)   : 112.79
B (ring opening deg) : -2.20
PA of pole (deg)     : 1.23
Pole direction: RA (deg): 268.05674
Dec (deg): 64.49731
C/A sky separation ("): 6.345
C/A sky separation (km): 24507.0
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
    
```



Jupiter 2043-09-30T06:39:51 K8.57 G12.82



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 | 2043-09-30T05:42:48.625 | 36.13 | -22.31 | 71491.3 | 18.63 | 21.06 |
| Jupiter | E | 2043-09-30T07:44:32.276 | 14.40 | -50.27 | 71491.1 | 21.33 | 24.03 |