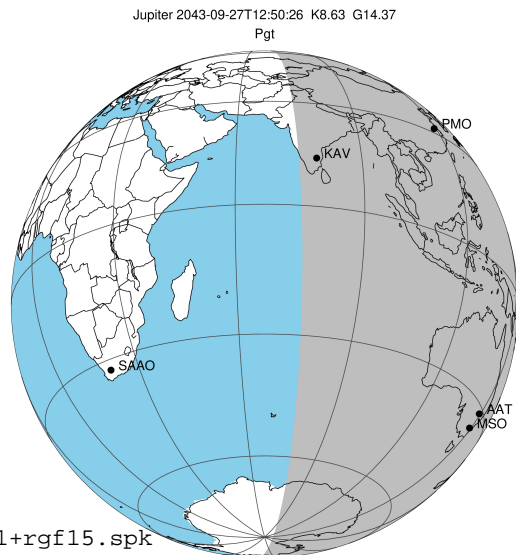


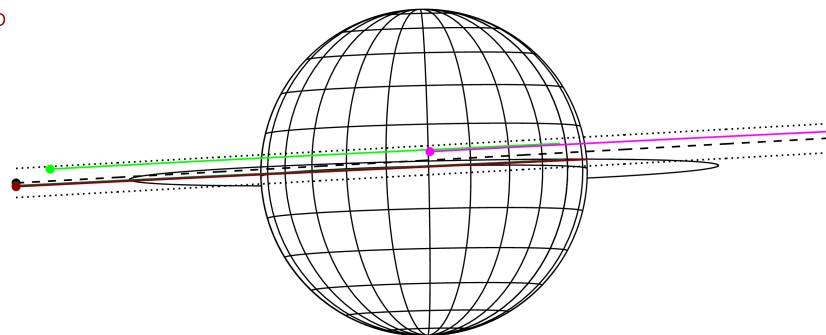
target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2043-09-27T12:50:26.570
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 4116517697107757824
 2Mass ID (if available) : 17392703-2315211

Jupiter 2043-09-27T12:50:26 K8.63 G14.37 Pgt

ICRS Star Coord at Epoch: 17h 39m 27.03882s -23:15:21.44409s
 RUWE (>1.4 is poor) : 0.86
 K magnitude : 8.632
 G magnitude : 14.367
 RP magnitude : 12.920
 BP magnitude : 16.962
 DUPflag : 0
 Distance (au) : 5.284
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : 17.45
 Sun-Target sep (deg) : 81.57
 Sun-Moon sep (deg) : 148.59
 B (ring opening deg) : -2.21
 PA of pole (deg) : 1.38
 Pole direction: RA (deg): 268.05674
 Dec (deg): 64.49731
 C/A sky separation (") : 1.374
 C/A sky separation (km) : 5265.0
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk



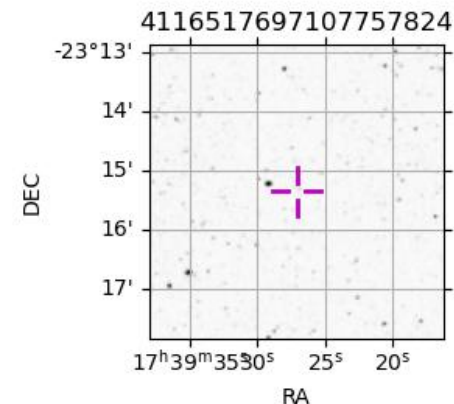
Earth
 PMO
 KAV
 AAT
 MSO



2043-09-27T12:50:26.5700 ex: 17 39 27.0388 s: -23 15 21.444 C/A 1.365° PA 183.16 deg v_sky +17.45 km/s D 05.28 AU
 Credit: Styled after SORA/Lucky Star

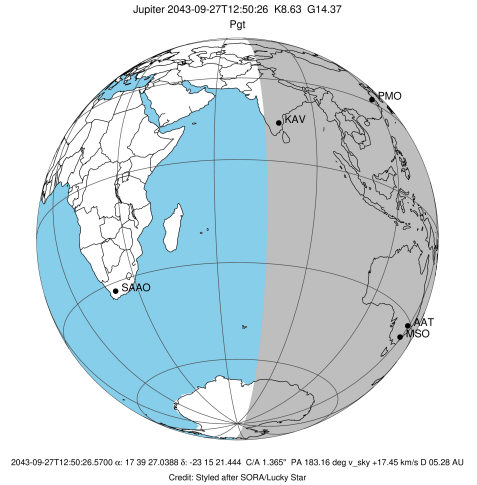
Observable events with sun below -5 deg and altitude above 5 deg

| 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 | + | SEP 27 11:45 - SEP 27 11:45 | Pin |
| 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 | + | SEP 27 14:00 - SEP 27 14:00 | Pne |
| 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 | + | SEP 27 11:47 - SEP 27 11:47 | Pin |
| SAAO | So. Afr. Astro. Obs. (Sutherland) | -32.4 | 20.8 | | | Pnn |
| MSO | Mt. Stromlo Observatory | -35.3 | 149.0 | + | SEP 27 11:46 - SEP 27 14:03 | Pie |

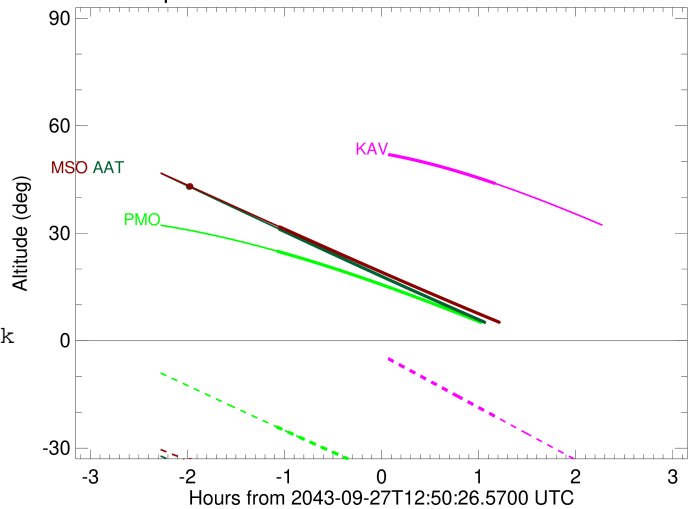


```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-09-27T12:54:25.310
Event type          : Pgt
                    : Jupiter occs: geocentric, topocentric
                    : Not a ringed target
Observer code       : PMO
Location            : Purple Mtn Obs. Nanking
Latitude (deg)      : 32.06667
E. Longitude (deg)  : 118.82089
Altitude (km)       : 0.364
Gaia source ID      : 4116517697107757824
2Mass ID (if available) : 17392703-2315211
ICRS Star Coord at Epoch: 17h 39m 27.03882s -23:15:21.44409s
RUWE (>1.4 is poor) : 0.86
K magnitude          : 8.632
G magnitude          : 14.367
RP magnitude         : 12.920
BP magnitude         : 16.962
DUPflag             : 0
Distance (au)       : 5.284
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 17.45
Sun-Target sep (deg) : 81.57
Sun-Moon sep (deg)  : 148.29
B (ring opening deg) : -2.21
PA of pole (deg)    : 1.38
Pole direction: RA (deg): 268.05674
Dec (deg): 64.49731
C/A sky separation (" ) : 2.571
C/A sky separation (km) : 9853.3
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 2043-09-27T12:50:26 K8.63 G14.37

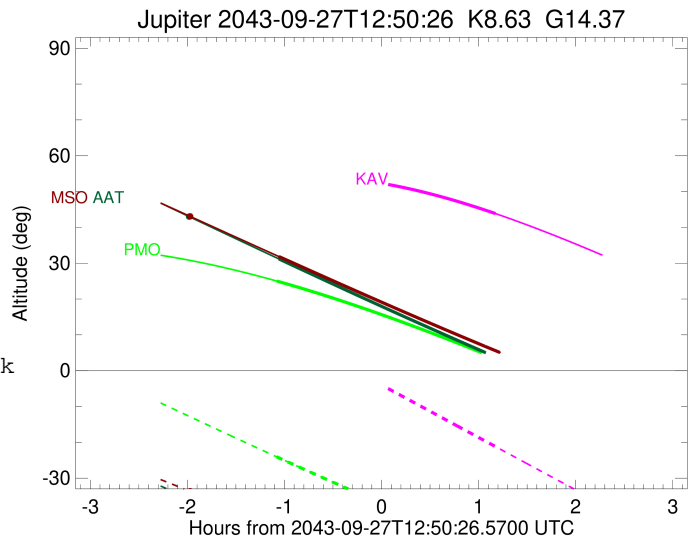
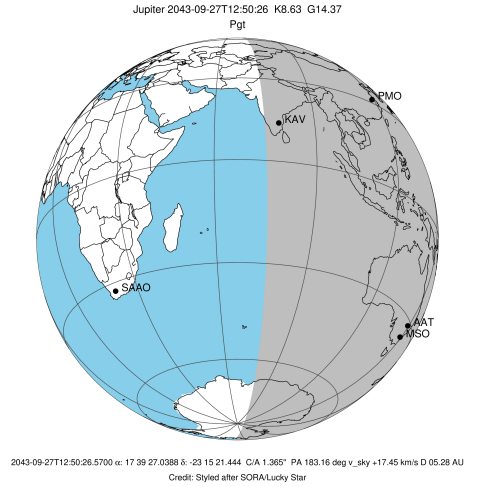


x: target alt < 5.0 deg or sun > -5.0 deg

| Target | I/E | UTC | alt | alt-sun | radius | lat-geo | lat-geodetic |
|---------|-----|-------------------------|-------|---------|---------|---------|--------------|
| Jupiter | I | 2043-09-27T11:45:37.891 | 25.02 | -24.05 | 71491.9 | 6.46 | 7.37 |
| Jupiter | E | 2043-09-27T14:02:44.755 | 3.13x | -49.80 | 71491.8 | 9.27 | 10.57 |

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-09-27T12:51:33.140
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       : 4116517697107757824
2Mass ID (if available) : 17392703-2315211
ICRS Star Coord at Epoch: 17h 39m 27.03882s -23:15:21.44409s
RUWE (>1.4 is poor) : 0.86
K magnitude           : 8.632
G magnitude           : 14.367
RP magnitude         : 12.920
BP magnitude         : 16.962
DUPflag              : 0
Distance (au)        : 5.284
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 17.45
Sun-Target sep (deg) : 81.57
Sun-Moon sep (deg)   : 148.91
B (ring opening deg) : -2.21
PA of pole (deg)     : 1.38
Pole direction: RA (deg): 268.05674
Dec (deg): 64.49731
C/A sky separation ("): 2.348
C/A sky separation (km): 8998.6
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
    
```

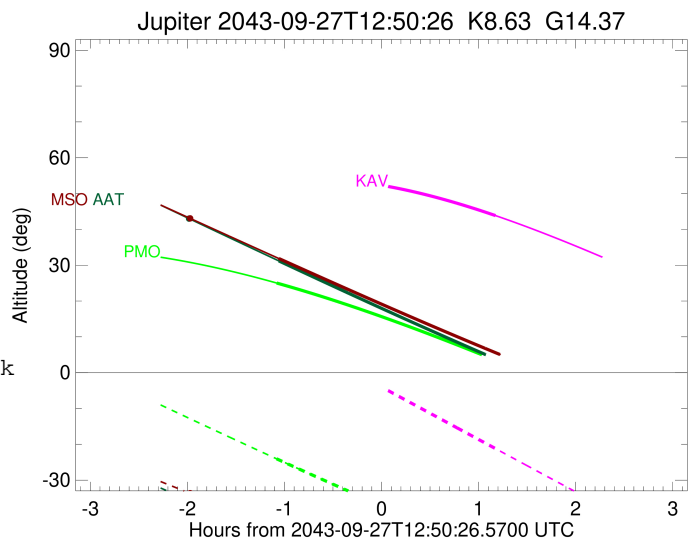
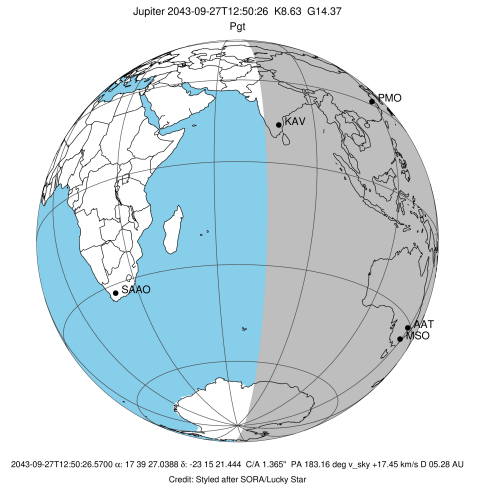


x: target alt < 5.0 deg or sun > -5.0 deg

| Target | I/E | UTC | alt | alt-sun | radius | lat-geo | lat-geodetic |
|---------|-----|-------------------------|-------|---------|---------|---------|--------------|
| Jupiter | I | 2043-09-27T11:41:58.112 | 53.89 | 12.70x | 71491.9 | 5.41 | 6.18 |
| Jupiter | E | 2043-09-27T14:00:55.626 | 43.84 | -21.20 | 71491.8 | 8.85 | 10.10 |

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-09-27T12:55:46.370
Event type            : Pgt
: Jupiter occs: geocentric, topocentric
: Not a ringed target
Observer code         : AAT
Location              : Siding Spring (AAT)
Latitude (deg)       : -31.27703
E. Longitude (deg)   : 149.06608
Altitude (km)        : 1.164
Gaia source ID       : 4116517697107757824
2Mass ID (if available) : 17392703-2315211
ICRS Star Coord at Epoch: 17h 39m 27.03882s -23:15:21.44409s
RUWE (>1.4 is poor) : 0.86
K magnitude           : 8.632
G magnitude           : 14.367
RP magnitude         : 12.920
BP magnitude         : 16.962
DUPflag              : 0
Distance (au)        : 5.284
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 17.45
Sun-Target sep (deg) : 81.57
Sun-Moon sep (deg)  : 148.00
B (ring opening deg) : -2.21
PA of pole (deg)    : 1.38
Pole direction: RA (deg): 268.05674
Dec (deg): 64.49731
C/A sky separation (") : 0.718
C/A sky separation (km) : 2753.1
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
    
```

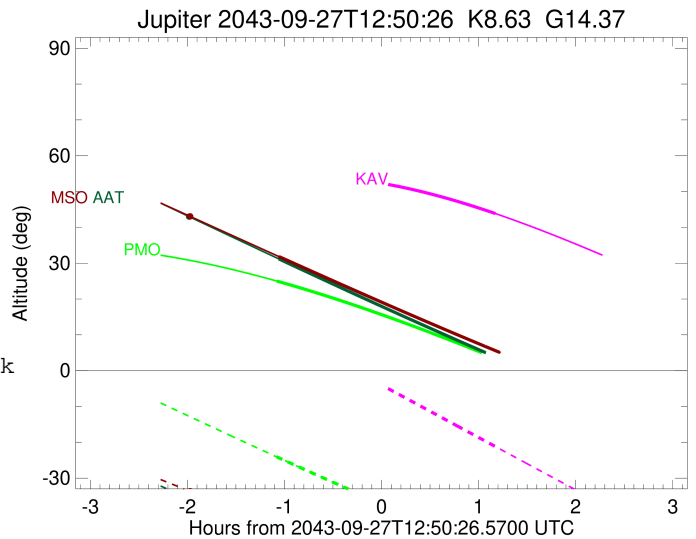
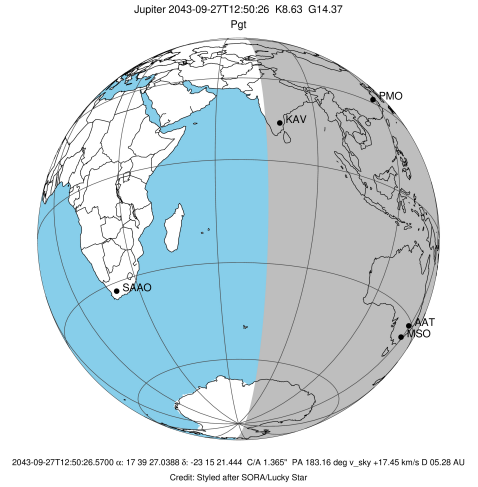


x: target alt < 5.0 deg or sun > -5.0 deg

| Target | I/E | UTC | alt | alt-sun | radius | lat-geo | lat-geodetic |
|---------|-----|-------------------------|-------|---------|---------|---------|--------------|
| Jupiter | I | 2043-09-27T11:47:05.298 | 31.18 | -45.34 | 71492.0 | 0.91 | 1.04 |
| Jupiter | E | 2043-09-27T14:03:54.135 | 3.26x | -57.08 | 71492.0 | 3.46 | 3.96 |

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-09-27T12:55:33.060
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       : 4116517697107757824
2Mass ID (if available) : 17392703-2315211
ICRS Star Coord at Epoch: 17h 39m 27.03882s -23:15:21.44409s
RUWE (>1.4 is poor) : 0.86
K magnitude          : 8.632
G magnitude          : 14.367
RP magnitude         : 12.920
BP magnitude         : 16.962
DUPflag             : 0
Distance (au)        : 5.284
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 17.45
Sun-Target sep (deg) : 81.57
Sun-Moon sep (deg)   : 148.03
B (ring opening deg) : -2.21
PA of pole (deg)     : 1.38
Pole direction: RA (deg): 268.05674
Dec (deg): 64.49731
C/A sky separation (") : 0.624
C/A sky separation (km) : 2390.4
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 | 2043-09-27T11:46:52.219 | 31.89 | -42.54 | 71492.0 | 0.60 | 0.68 |
| Jupiter | E | 2043-09-27T14:03:41.853 | 5.06 | -53.07 | 71492.0 | 3.20 | 3.65 |