

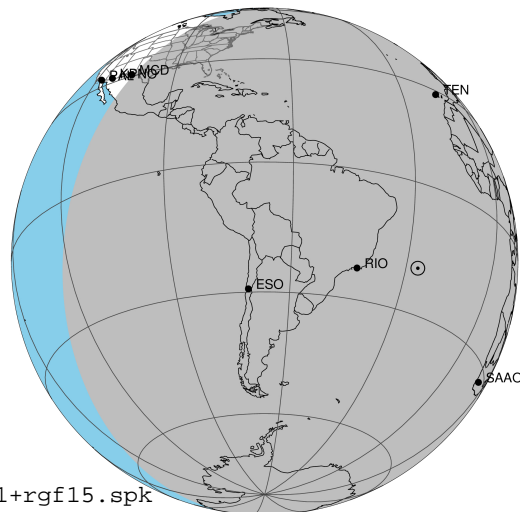
target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2043-07-25T01:52:50.610
 Event type : Pt
 : Jupiter occs: topocentric, not geocentric
 : Not a ringed target
 Gaia source ID : 4116684754130707328
 2Mass ID (if available) : 17345258-2302523

Jupiter 2043-07-25T01:52:50 K9.62 G13.77 Pt

ICRS Star Coord at Epoch: 17h 34m 52.58286s -23°02'52.37510s

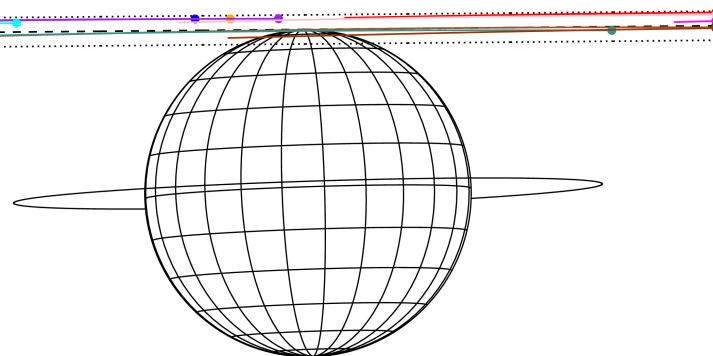
RUWE (>1.4 is poor) : 0.90
 K magnitude : 9.616
 G magnitude : 13.768
 RP magnitude : 12.655
 BP magnitude : 15.075
 DUPflag : 0
 Distance (au) : 4.410
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : -10.49
 Sun-Target sep (deg) : 142.76
 Sun-Moon sep (deg) : 72.76
 B (ring opening deg) : -2.39
 PA of pole (deg) : 1.87
 Pole direction: RA (deg): 268.05670
 Dec (deg): 64.49731
 C/A sky separation (") : 22.472
 C/A sky separation (km) : 71871.4
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk

Jupiter 2043-07-25T01:52:50 K9.62 G13.77 Pt



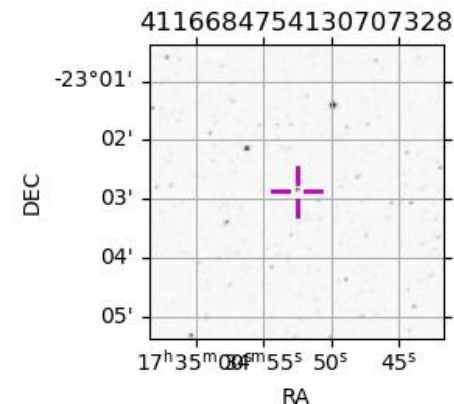
2043-07-25T01:52:50.6100 a: 17 34 52.58286 -23 02 52.375 C/A ***** PA 180.52 deg v_sky -10.49 km/s D 04.41 AU
 Credit: Styled after SORA/Lucky Star

Earth
 PIC
 PAL
 KPNO
 MCD
 TEN
 IRTF
 KAV
 RIO
 ESO
 SAAO



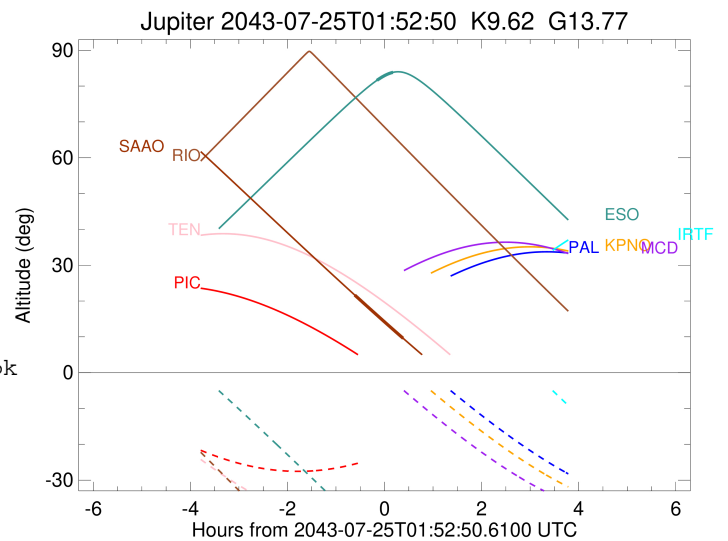
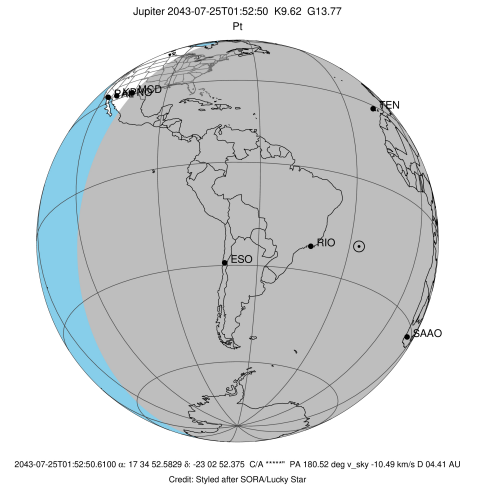
Observable events with sun below -5 deg and altitude above 5 deg

| 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 | | | Pnn |
| 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 | + + | JUL 25 01:43 - JUL 25 02:03 | Pie |
| AAT | Siding Spring (AAT) | -31.3 | 149.1 | | | Pnn |
| SAAO | So. Afr. Astro. Obs. (Sutherland) | -32.4 | 20.8 | + + | JUL 25 01:16 - JUL 25 02:15 | Pie |
| MSO | Mt. Stromlo Observatory | -35.3 | 149.0 | | | Pnn |



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target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-07-25T01:53:19.920
Event type           : Pt
: Jupiter occs: topocentric, not geocentric
: Not a ringed target
Observer code        : ESO
Location             : European Southern Obs. (3.6m)
Latitude (deg)       : -29.26097
E. Longitude (deg)   : 289.26831
Altitude (km)        : 2.400
Gaia source ID       : 4116684754130707328
2Mass ID (if available) : 17345258-2302523
ICRS Star Coord at Epoch: 17h 34m 52.58286s -23:02:52.37510s
RUWE (>1.4 is poor) : 0.90
K magnitude           : 9.616
G magnitude           : 13.768
RP magnitude          : 12.655
BP magnitude          : 15.075
DUPflag              : 0
Distance (au)         : 4.410
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : -10.49
Sun-Target sep (deg)  : 142.76
Sun-Moon sep (deg)   : 73.69
B (ring opening deg) : -2.39
PA of pole (deg)     : 1.87
Pole direction: RA (deg): 268.05670
Dec (deg): 64.49731
C/A sky separation ("): 22.261
C/A sky separation (km): 71195.4
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
    
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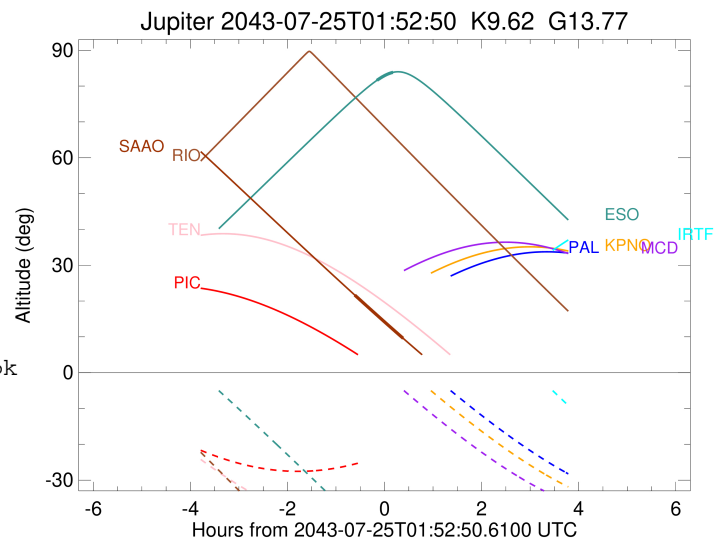
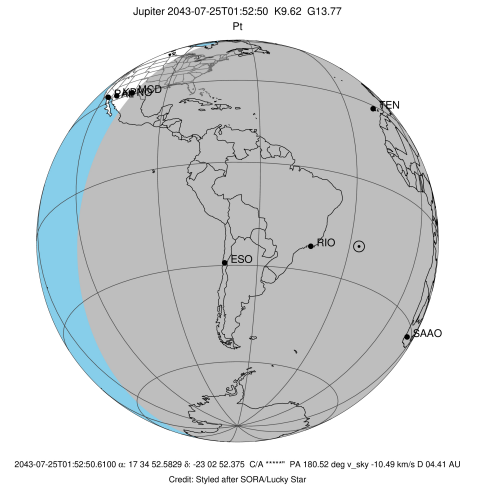


x: target alt < 5.0 deg or sun > -5.0 deg

| Target | I/E | UTC | alt | alt-sun | radius | lat-geo | lat-geodetic |
|---------|-----|-------------------------|-------|---------|---------|---------|--------------|
| Jupiter | I | 2043-07-25T01:43:28.510 | 81.59 | -46.91 | 71484.4 | 82.99 | 83.82 |
| Jupiter | E | 2043-07-25T02:03:11.301 | 83.82 | -51.21 | 71484.3 | 85.56 | 86.08 |

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target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-07-25T01:45:52.670
Event type           : Pt
: Jupiter occs: topocentric, not geocentric
: Not a ringed target
Observer code        : SAAO
Location             : So. Afr. Astro. Obs. (Sutherland)
Latitude (deg)       : -32.37953
E. Longitude (deg)   : 20.81070
Altitude (km)        : 1.768
Gaia source ID       : 4116684754130707328
2Mass ID (if available) : 17345258-2302523
ICRS Star Coord at Epoch: 17h 34m 52.58286s -23:02:52.37510s
RUWE (>1.4 is poor) : 0.90
K magnitude          : 9.616
G magnitude          : 13.768
RP magnitude         : 12.655
BP magnitude         : 15.075
DUPflag             : 0
Distance (au)        : 4.410
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : -10.49
Sun-Target sep (deg) : 142.76
Sun-Moon sep (deg)   : 72.73
B (ring opening deg) : -2.39
PA of pole (deg)     : 1.87
Pole direction: RA (deg): 268.05670
Dec (deg): 64.49731
C/A sky separation (") : 21.556
C/A sky separation (km) : 68939.6
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 | 2043-07-25T01:15:59.668 | 21.68 | -53.69 | 71484.8 | 73.97 | 75.79 |
| Jupiter | E | 2043-07-25T02:15:54.917 | 9.58 | -41.09 | 71484.7 | 74.99 | 76.71 |