

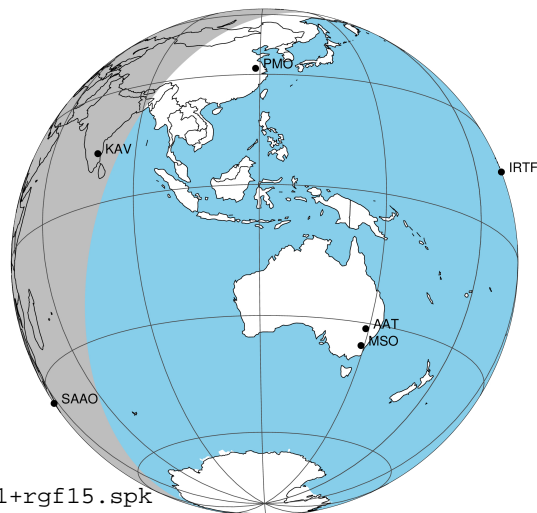
target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2042-01-01T00:40:07.390
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 6258015500603722496
 2Mass ID (if available) : 15255924-1745288

Jupiter 2042-01-01T00:40:07 K9.74 G12.58 Pgt

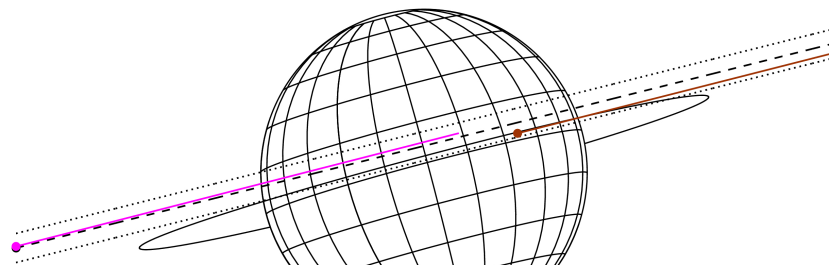
ICRS Star Coord at Epoch: 15h 25m 59.23055s -17:45:29.16114s

RUWE (>1.4 is poor) : 1.15
 K magnitude : 9.736
 G magnitude : 12.584
 RP magnitude : 11.760
 BP magnitude : 13.309
 DUPflag : 0
 Distance (au) : 6.044
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : 33.29
 Sun-Target sep (deg) : 46.51
 Sun-Moon sep (deg) : 160.59
 B (ring opening deg) : -3.10
 PA of pole (deg) : 14.88
 Pole direction: RA (deg): 268.05639
 Dec (deg): 64.49727
 C/A sky separation (") : 2.575
 C/A sky separation (km) : 11288.0
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk

Jupiter 2042-01-01T00:40:07 K9.74 G12.58
 Pgt



Earth
 KAV
 SAAO

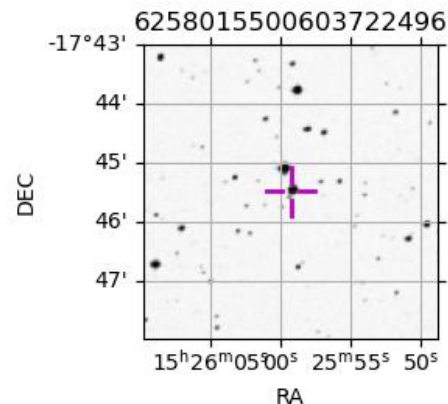


2042-01-01T00:40:07.3900 ex: 15 25 59.2306 s: -17 45 29.161 C/A 2.566" PA 194.04 deg v_sky +33.29 km/s D 06.04 AU

Credit: Styled after SORA/Lucky Star

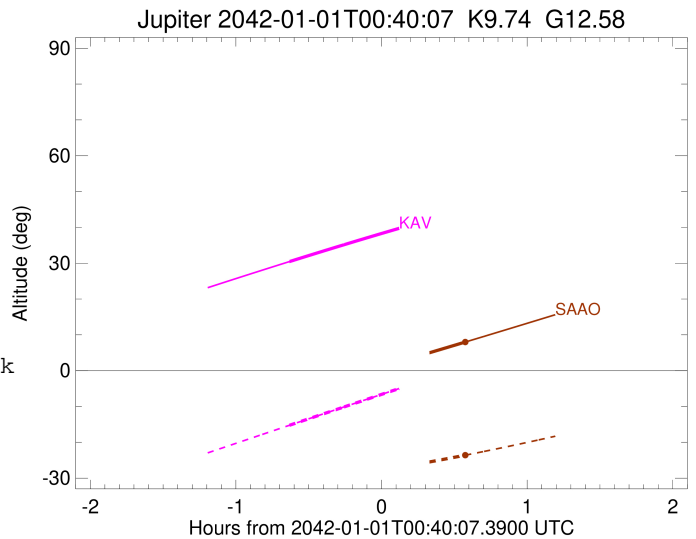
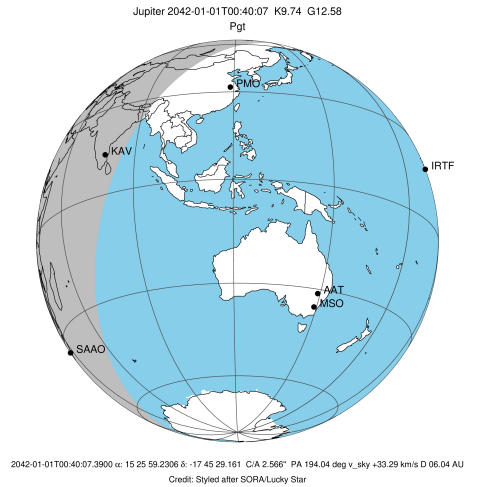
Observable events with sun below -5 deg and altitude above 5 deg

| 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 | | | 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 | + | JAN 01 00:02 - JAN 01 00:02 | Pin |
| 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 | + | JAN 01 01:13 - JAN 01 01:13 | Pne |
| MSO | Mt. Stromlo Observatory | -35.3 | 149.0 | | | Pnn |



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target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2042-01-01T00:37:41.980
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       : 6258015500603722496
2Mass ID (if available) : 15255924-1745288
ICRS Star Coord at Epoch: 15h 25m 59.23055s -17:45:29.16114s
RUWE (>1.4 is poor) : 1.15
K magnitude           : 9.736
G magnitude           : 12.584
RP magnitude         : 11.760
BP magnitude         : 13.309
DUPflag              : 0
Distance (au)        : 6.044
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 33.29
Sun-Target sep (deg) : 46.51
Sun-Moon sep (deg)   : 160.13
B (ring opening deg) : -3.10
PA of pole (deg)     : 14.88
Pole direction: RA (deg): 268.05639
Dec (deg): 64.49727
C/A sky separation (") : 2.944
C/A sky separation (km) : 12905.3
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
    
```

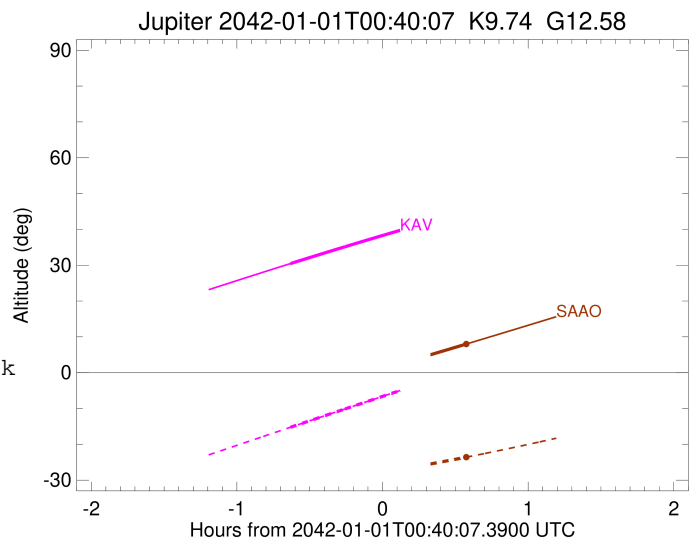
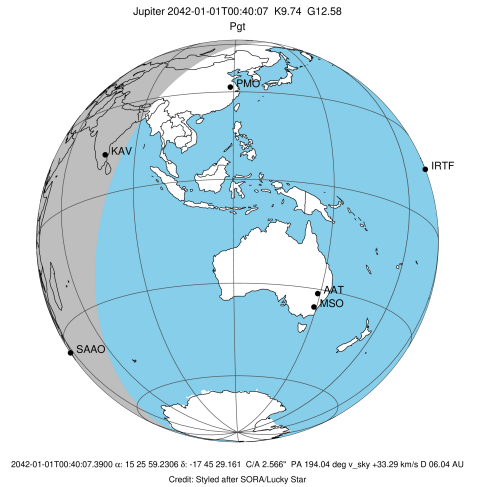


x: target alt < 5.0 deg or sun > -5.0 deg

| Target | I/E | UTC | alt | alt-sun | radius | lat-geo | lat-geodetic |
|---------|-----|-------------------------|-------|---------|---------|---------|--------------|
| Jupiter | I | 2042-01-01T00:02:12.542 | 30.45 | -15.24 | 71491.5 | 10.92 | 12.44 |
| Jupiter | E | 2042-01-01T01:13:15.323 | 44.65 | 0.82x | 71491.6 | 9.84 | 11.22 |

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target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2042-01-01T00:37:57.900
Event type            : Pgt
: Jupiter occs: geocentric, topocentric
: 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        : 6258015500603722496
2Mass ID (if available) : 15255924-1745288
ICRS Star Coord at Epoch: 15h 25m 59.23055s -17:45:29.16114s
RUWE (>1.4 is poor) : 1.15
K magnitude           : 9.736
G magnitude           : 12.584
RP magnitude          : 11.760
BP magnitude          : 13.309
DUPflag              : 0
Distance (au)         : 6.044
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 33.29
Sun-Target sep (deg)  : 46.51
Sun-Moon sep (deg)    : 159.94
B (ring opening deg) : -3.10
PA of pole (deg)      : 14.88
Pole direction: RA (deg): 268.05639
Dec (deg): 64.49727
C/A sky separation (") : 1.500
C/A sky separation (km) : 6575.9
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 | 2042-01-01T00:02:28.067 | -6.29x | -31.38 | 71491.9 | 5.96 | 6.80 |
| Jupiter | E | 2042-01-01T01:13:32.017 | 7.76 | -23.73 | 71491.9 | 4.61 | 5.27 |