

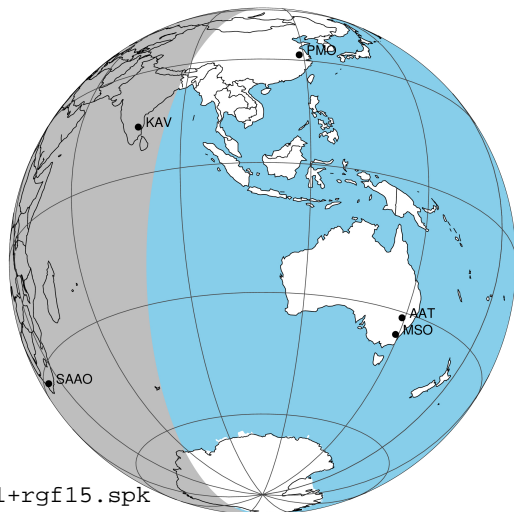
target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2043-02-20T00:38:18.070
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 4068707147536402304
 2Mass ID (if available) : 17511326-2257377

Jupiter 2043-02-20T00:38:18 K9.21 G12.73 Pgt

ICRS Star Coord at Epoch: 17h 51m 13.28394s -22:57:37.64762s

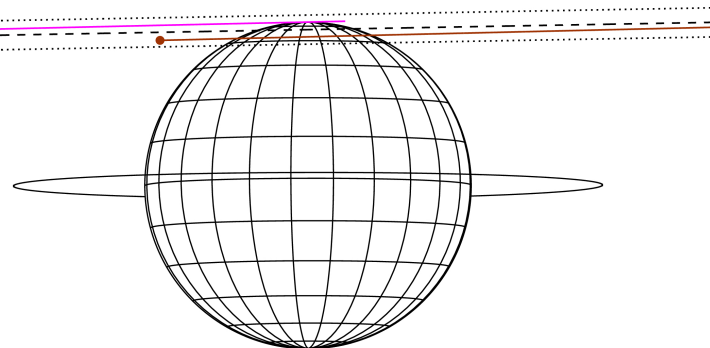
RUWE (>1.4 is poor) : 0.81
 K magnitude : 9.206
 G magnitude : 12.726
 RP magnitude : 11.735
 BP magnitude : 13.741
 DUPflag : 0
 Distance (au) : 5.687
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : 26.85
 Sun-Target sep (deg) : 62.68
 Sun-Moon sep (deg) : 163.72
 B (ring opening deg) : -2.54
 PA of pole (deg) : 0.11
 Pole direction: RA (deg): 268.05662
 Dec (deg): 64.49732
 C/A sky separation (") : 16.550
 C/A sky separation (km) : 68265.4
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk

Jupiter 2043-02-20T00:38:18 K9.21 G12.73
 Pgt



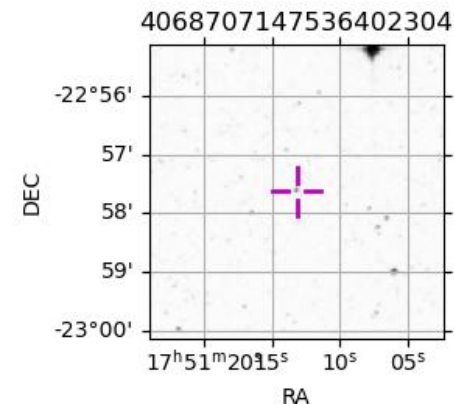
2043-02-20T00:38:18.0700 α: 17 51 13.2839 δ: -22 57 37.648 C/A ***** PA 181.03 deg v_sky +26.85 km/s D 05.69 AU
 Credit: Styled after SORA/Lucky Star

Earth
 KAV
 SAAO



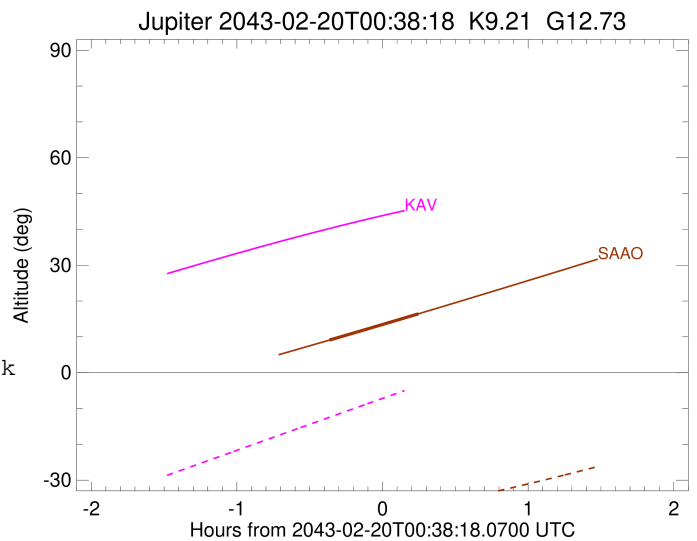
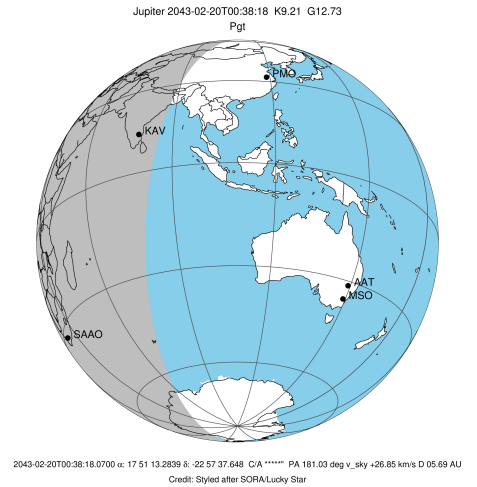
Observable events with sun below -5 deg and altitude above 5 deg

| 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 | | | Pnn |
| AAT | Siding Spring (AAT) | -31.3 | 149.1 | | | Pnn |
| SAAO | So. Afr. Astro. Obs. (Sutherland) | -32.4 | 20.8 | + + | FEB 20 00:16 - FEB 20 00:53 | Pie |
| MSO | Mt. Stromlo Observatory | -35.3 | 149.0 | | | Pnn |



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target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-02-20T00:34:44.910
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       : 4068707147536402304
2Mass ID (if available) : 17511326-2257377
ICRS Star Coord at Epoch: 17h 51m 13.28394s -22:57:37.64762s
RUWE (>1.4 is poor) : 0.81
K magnitude          : 9.206
G magnitude          : 12.726
RP magnitude         : 11.735
BP magnitude         : 13.741
DUPflag             : 0
Distance (au)        : 5.687
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 26.85
Sun-Target sep (deg) : 62.68
Sun-Moon sep (deg)   : 164.34
B (ring opening deg) : -2.54
PA of pole (deg)     : 0.11
Pole direction: RA (deg): 268.05662
Dec (deg): 64.49732
C/A sky separation (") : 15.783
C/A sky separation (km) : 65099.9
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 | 2043-02-20T00:16:25.620 | 9.09 | -42.13 | 71484.9 | 64.23 | 66.97 |
| Jupiter | E | 2043-02-20T00:53:05.746 | 16.43 | -37.77 | 71484.6 | 66.72 | 69.25 |