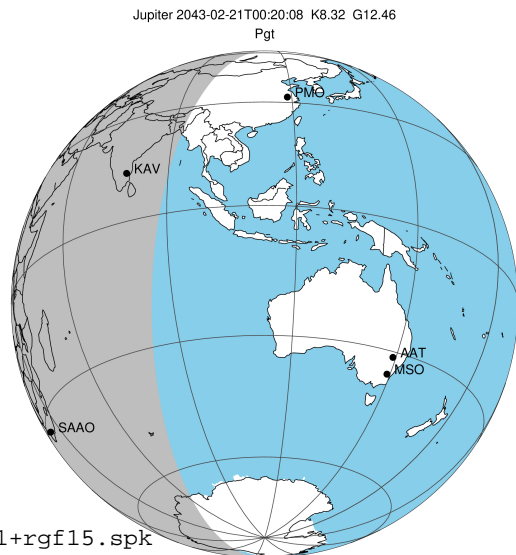


target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2043-02-21T00:20:08.760
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 4068700516114343168
 2Mass ID (if available) : 17515319-2258209

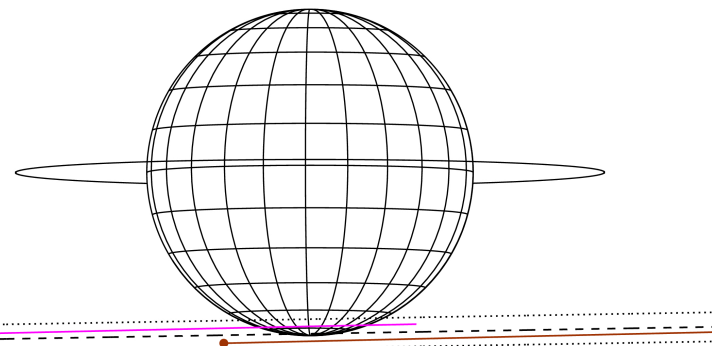
Jupiter 2043-02-21T00:20:08 K8.32 G12.46 Pgt

ICRS Star Coord at Epoch: 17h 51m 53.19970s -22:58:21.02987s
 RUWE (>1.4 is poor) : 0.78
 K magnitude : 8.316
 G magnitude : 12.463
 RP magnitude : 11.346
 BP magnitude : 13.772
 DUPflag : 0
 Distance (au) : 5.673
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : 26.46
 Sun-Target sep (deg) : 63.53
 Sun-Moon sep (deg) : 151.04
 B (ring opening deg) : -2.53
 PA of pole (deg) : 0.04
 Pole direction: RA (deg): 268.05662
 Dec (deg): 64.49732
 C/A sky separation (") : 17.166
 C/A sky separation (km) : 70627.1
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk
 URKALLv1.spk
 naif0012.tls
 nep097.bsp
 nep101.bsp
 sat4401.bsp



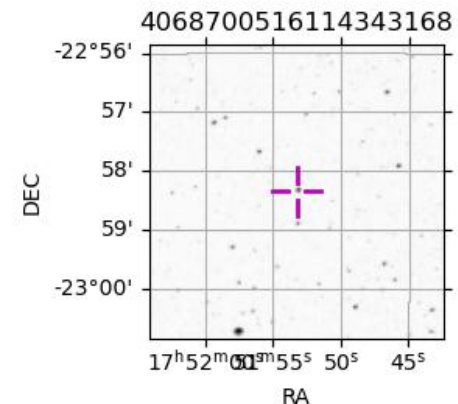
2043-02-21T00:20:08.7600 α: 17 51 53.1997 δ: -22 58 21.030 C/A ***** PA 0.98 deg v_sky +26.46 km/s D 05.67 AU
 Credit: Styled after SORA/Lucky Star

Earth
 KAV
 SAAO



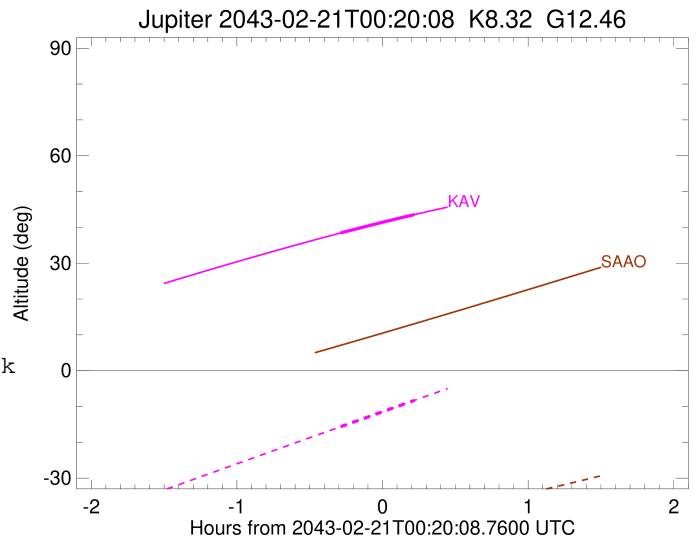
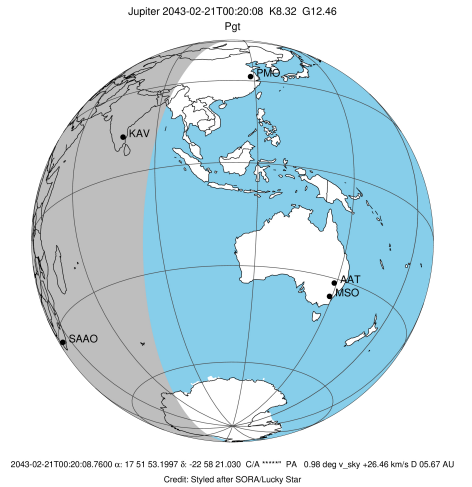
Observable events with sun below -5 deg and altitude above 5 deg

| 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 | + + | FEB 21 00:02 - FEB 21 00:33 | Pie |
| 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             : 2043-02-21T00:18:04.410
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        : 4068700516114343168
2Mass ID (if available) : 17515319-2258209
ICRS Star Coord at Epoch: 17h 51m 53.19970s -22:58:21.02987s
RUWE (>1.4 is poor) : 0.78
K magnitude           : 8.316
G magnitude           : 12.463
RP magnitude          : 11.346
BP magnitude          : 13.772
DUPflag              : 0
Distance (au)         : 5.673
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 26.46
Sun-Target sep (deg) : 63.53
Sun-Moon sep (deg)   : 151.88
B (ring opening deg) : -2.53
PA of pole (deg)     : 0.04
Pole direction: RA (deg): 268.05662
Dec (deg): 64.49732
C/A sky separation (") : 16.381
C/A sky separation (km) : 67396.2
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 | 2043-02-21T00:02:51.872 | 38.43 | -15.64 | 71484.1 | -71.54 | -73.61 |
| Jupiter | E | 2043-02-21T00:33:17.736 | 43.56 | -8.30 | 71484.3 | -69.22 | -71.52 |