

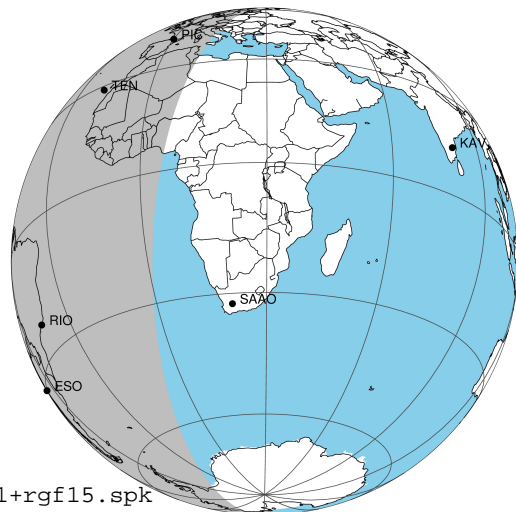
target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2043-02-21T05:52:31.810
 Event type : Pt
 : Jupiter occs: topocentric, not geocentric
 : Not a ringed target
 Gaia source ID : 4068699828919558784
 2Mass ID (if available) : 17520248-2258236

Jupiter 2043-02-21T05:52:31 K9.99 G14.33 Pt

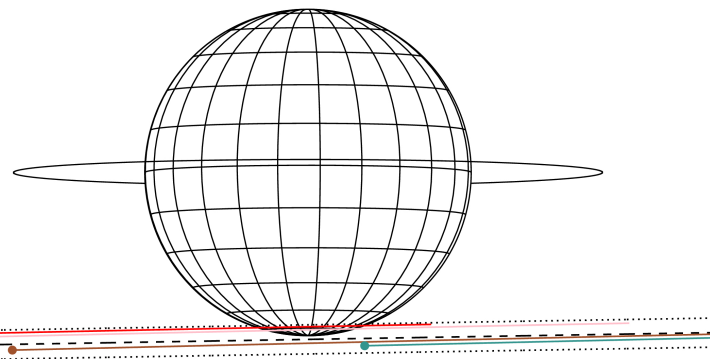
ICRS Star Coord at Epoch: 17h 52m 02.47055s -22:58:23.79563s

RUWE (>1.4 is poor) : 0.94
 K magnitude : 9.994
 G magnitude : 14.331
 RP magnitude : 13.166
 BP magnitude : 15.781
 DUPflag : 0
 Distance (au) : 5.669
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : 26.37
 Sun-Target sep (deg) : 63.72
 Sun-Moon sep (deg) : 148.06
 B (ring opening deg) : -2.53
 PA of pole (deg) : 0.02
 Pole direction: RA (deg): 268.05662
 Dec (deg): 64.49732
 C/A sky separation (") : 17.778
 C/A sky separation (km) : 73102.9
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk

Jupiter 2043-02-21T05:52:31 K9.99 G14.33 Pt



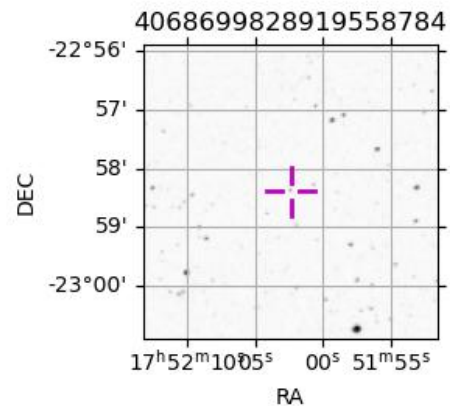
Earth
 PIC
 TEN
 RIO
 ESO
 SAAO



2043-02-21T05:52:31.8100 α: 17 52 02.4705 δ: -22 58 23.796 C/A ***** PA 0.96 deg v_sky +26.37 km/s D 05.67 AU
 Credit: Styled after SORA/Lucky Star

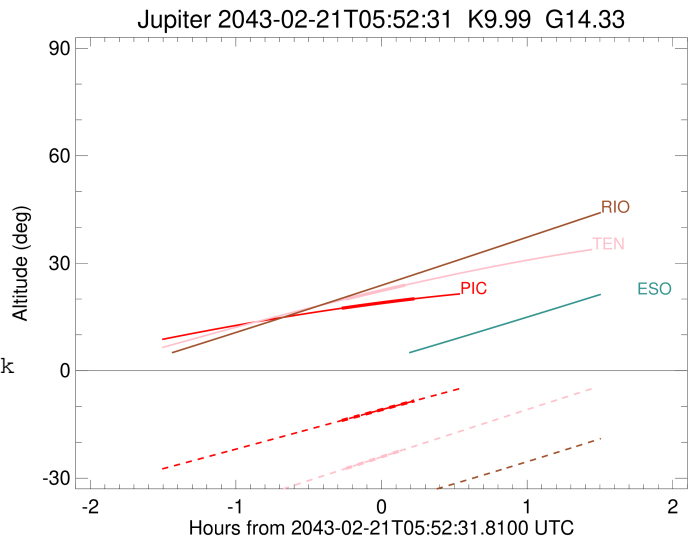
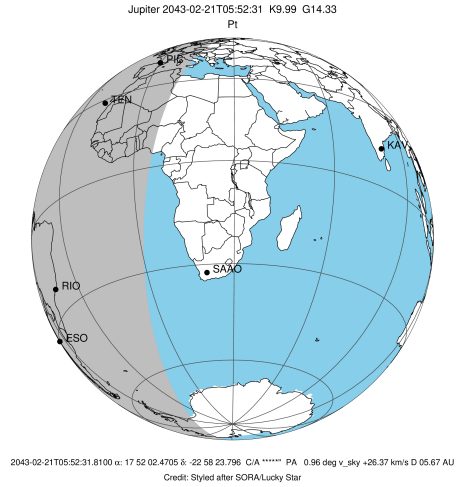
Observable events with sun below -5 deg and altitude above 5 deg

| Obs | Location | lat | Elon | Target | Observed Events Interval | OCode |
|------|-----------------------------------|-------|-------|--------|-----------------------------|-------|
| PIC | Pic du Midi | 42.9 | 0.1 | + + | FEB 21 05:36 - FEB 21 06:06 | Pie |
| 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 | + + | FEB 21 05:37 - FEB 21 06:02 | Pie |
| 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 | | | Pnn |
| MSO | Mt. Stromlo Observatory | -35.3 | 149.0 | | | Pnn |



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target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-02-21T05:51:08.250
Event type            : Pt
: Jupiter occs: topocentric, not geocentric
: Not a ringed target
Observer code         : PIC
Location              : Pic du Midi
Latitude (deg)        : 42.93656
E. Longitude (deg)    : 0.14231
Altitude (km)         : 2.890
Gaia source ID        : 4068699828919558784
2Mass ID (if available) : 17520248-2258236
ICRS Star Coord at Epoch: 17h 52m 02.47055s -22:58:23.79563s
RUWE (>1.4 is poor)  : 0.94
K magnitude           : 9.994
G magnitude           : 14.331
RP magnitude          : 13.166
BP magnitude          : 15.781
DUPflag              : 0
Distance (au)         : 5.669
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 26.37
Sun-Target sep (deg)  : 63.72
Sun-Moon sep (deg)    : 148.63
B (ring opening deg) : -2.53
PA of pole (deg)      : 0.02
Pole direction: RA (deg): 268.05662
Dec (deg): 64.49732
C/A sky separation (") : 16.431
C/A sky separation (km) : 67563.3
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
    
```

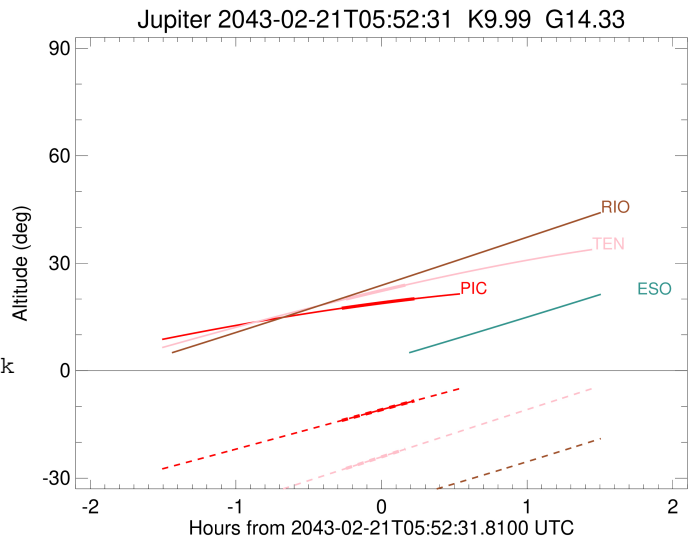
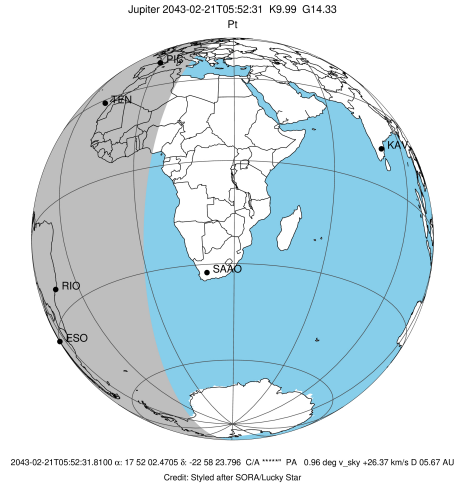


x: target alt < 5.0 deg or sun > -5.0 deg

| Target | I/E | UTC | alt | alt-sun | radius | lat-geo | lat-geodetic |
|---------|-----|-------------------------|-------|---------|---------|---------|--------------|
| Jupiter | I | 2043-02-21T05:36:13.310 | 17.43 | -13.89 | 71484.1 | -71.87 | -73.90 |
| Jupiter | E | 2043-02-21T06:06:03.756 | 20.07 | -8.42 | 71484.3 | -69.70 | -71.95 |

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target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-02-21T05:50:06.990
Event type           : Pt
: Jupiter occs: topocentric, not geocentric
: Not a ringed target
Observer code        : TEN
Location             : Teide Obs./Tenerife
Latitude (deg)       : 28.30050
E. Longitude (deg)   : 343.48909
Altitude (km)        : 2.395
Gaia source ID       : 4068699828919558784
2Mass ID (if available) : 17520248-2258236
ICRS Star Coord at Epoch: 17h 52m 02.47055s -22:58:23.79563s
RUWE (>1.4 is poor) : 0.94
K magnitude           : 9.994
G magnitude           : 14.331
RP magnitude          : 13.166
BP magnitude          : 15.781
DUPflag              : 0
Distance (au)         : 5.669
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 26.37
Sun-Target sep (deg) : 63.72
Sun-Moon sep (deg)   : 148.85
B (ring opening deg) : -2.53
PA of pole (deg)     : 0.02
Pole direction: RA (deg): 268.05662
Dec (deg): 64.49732
C/A sky separation (") : 16.750
C/A sky separation (km) : 68876.7
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 | 2043-02-21T05:37:54.260 | 20.00 | -27.29 | 71483.8 | -75.47 | -77.13 |
| Jupiter | E | 2043-02-21T06:02:20.300 | 23.89 | -21.91 | 71484.0 | -73.10 | -75.01 |