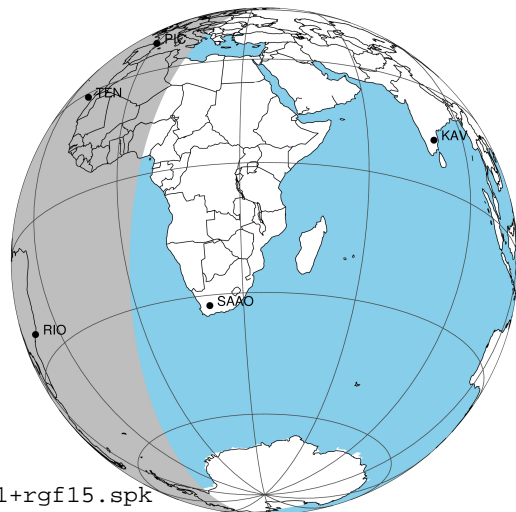


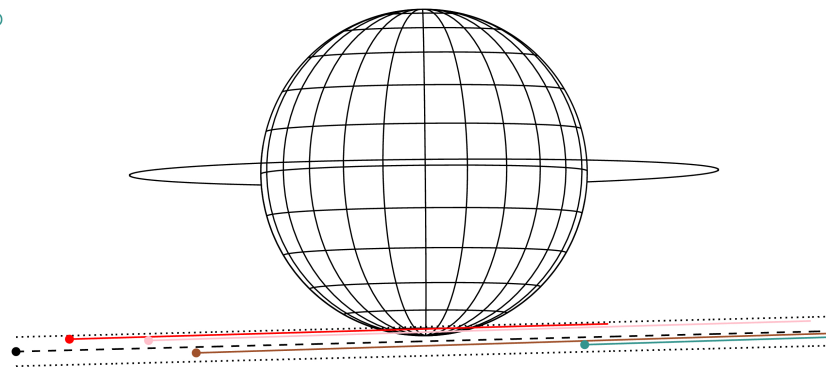
target : Jupiter  
 target radius (km) : 71492.00  
 C/A epoch : 2043-02-14T05:50:31.680  
 Event type : Pt  
 : Jupiter occs: topocentric, not geocentric  
 : Not a ringed target  
 Gaia source ID : 4068932994099027840  
 2Mass ID (if available) : 17470978-2256589

Jupiter 2043-02-14T05:50:31 K9.23 G14.42 Pt

ICRS Star Coord at Epoch: 17h 47m 09.76163s -22:56:59.23173s  
 RUWE (>1.4 is poor) : 1.00  
 K magnitude : 9.227  
 G magnitude : 14.419  
 RP magnitude : 13.074  
 BP magnitude : 16.566  
 DUPflag : 0  
 Distance (au) : 5.769  
 f0 (km) : 0.00  
 g0 (km) : 0.00  
 skyplane vel. (km/s) : 29.07  
 Sun-Target sep (deg) : 57.78  
 Sun-Moon sep (deg) : 115.26  
 B (ring opening deg) : -2.55  
 PA of pole (deg) : 0.55  
 Pole direction: RA (deg): 268.05661  
 Dec (deg): 64.49732  
 C/A sky separation (") : 17.668  
 C/A sky separation (km) : 73924.8  
 NAIF SPICE kernels : RAJobs\_U111+rgf15.spk



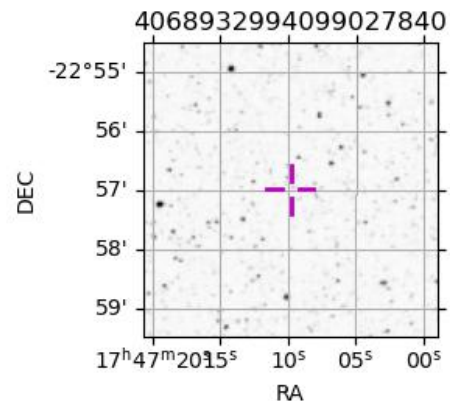
Earth  
 PIC  
 TEN  
 RIO  
 ESO



2043-02-14T05:50:31.6800 α: 17 47 09.7616 δ: -22 56 59.232 C/A \*\*\*\*\* PA 1.44 deg v\_sky +29.07 km/s D 05.77 AU  
 Credit: Styled after SORA/Lucky Star

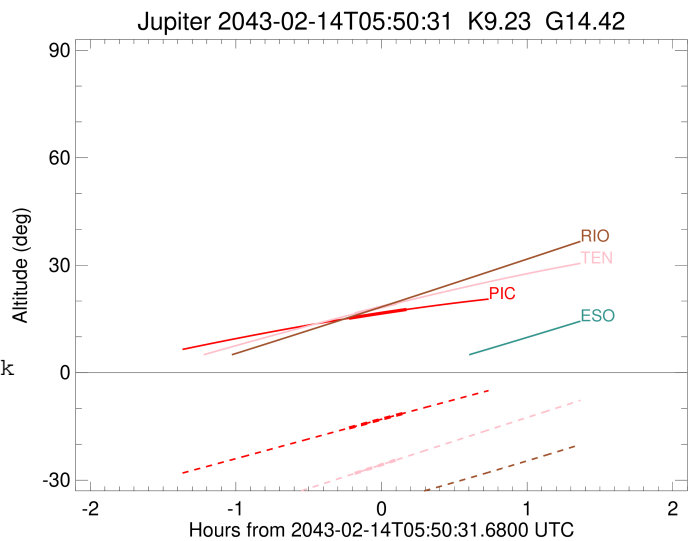
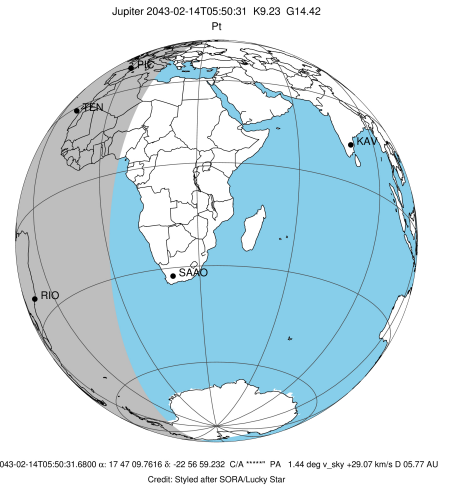
Observable events with sun below -5 deg and altitude above 5 deg

Obs	Location	lat	Elon	Target	Observed Events Interval	OCode
PIC	Pic du Midi	42.9	0.1	+ +	FEB 14 05:37 - FEB 14 06:00	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 14 05:39 - FEB 14 05:56	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



```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-02-14T05:49:00.360
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        : 4068932994099027840
2Mass ID (if available) : 17470978-2256589
ICRS Star Coord at Epoch: 17h 47m 09.76163s -22:56:59.23173s
RUWE (>1.4 is poor) : 1.00
K magnitude           : 9.227
G magnitude           : 14.419
RP magnitude          : 13.074
BP magnitude          : 16.566
DUPflag              : 0
Distance (au)         : 5.769
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 29.07
Sun-Target sep (deg) : 57.78
Sun-Moon sep (deg)   : 115.33
B (ring opening deg) : -2.55
PA of pole (deg)     : 0.55
Pole direction: RA (deg): 268.05661
Dec (deg): 64.49732
C/A sky separation (") : 16.377
C/A sky separation (km) : 68522.0
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
    
```

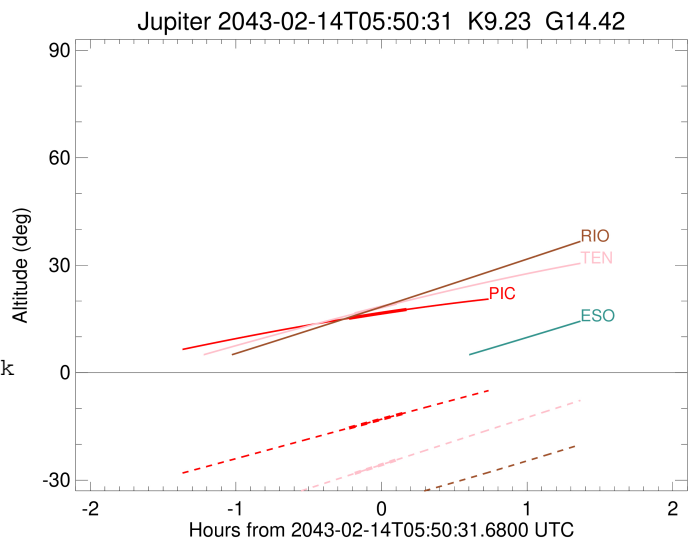
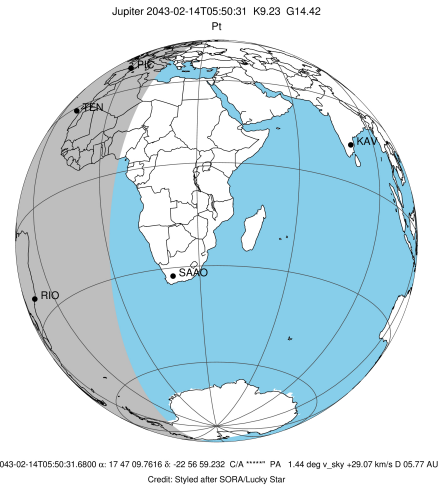


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-02-14T05:37:13.654	15.19	-15.43	71483.7	-74.31	-76.10
Jupiter	E	2043-02-14T06:00:47.427	17.63	-11.12	71483.9	-72.21	-74.22

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-02-14T05:48:05.920
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       : 4068932994099027840
2Mass ID (if available) : 17470978-2256589
ICRS Star Coord at Epoch: 17h 47m 09.76163s -22:56:59.23173s
RUWE (>1.4 is poor) : 1.00
K magnitude           : 9.227
G magnitude           : 14.419
RP magnitude         : 13.074
BP magnitude         : 16.566
DUPflag              : 0
Distance (au)        : 5.769
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 29.07
Sun-Target sep (deg) : 57.78
Sun-Moon sep (deg)   : 115.25
B (ring opening deg) : -2.55
PA of pole (deg)     : 0.55
Pole direction: RA (deg): 268.05661
Dec (deg): 64.49732
C/A sky separation (") : 16.712
C/A sky separation (km) : 69922.7
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	2043-02-14T05:39:30.875	16.44	-28.12	71483.4	-78.88	-80.17
Jupiter	E	2043-02-14T05:56:41.258	19.37	-24.34	71483.6	-76.61	-78.15