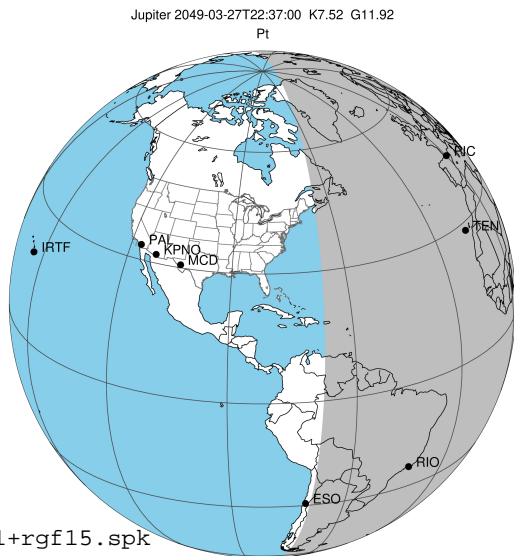


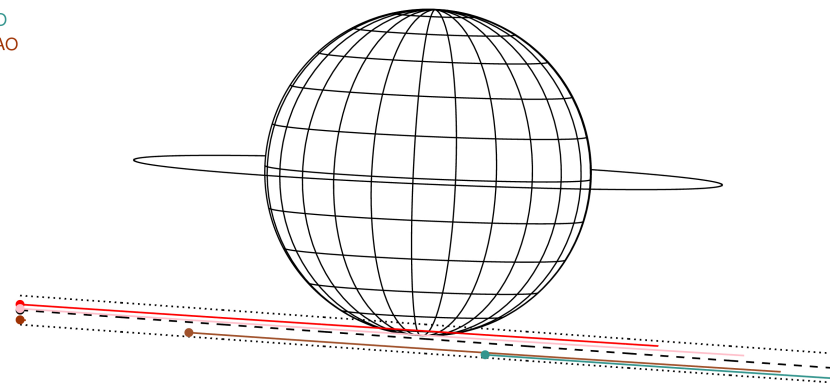
target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2049-03-27T22:37:00.650
 Event type : Pt
 : Jupiter occs: topocentric, not geocentric
 : Not a ringed target
 Gaia source ID : 3416137994200697088
 2Mass ID (if available) : 05293765+2306065

Jupiter 2049-03-27T22:37:00 K7.52 G11.92 Pt

ICRS Star Coord at Epoch: 05h 29m 37.65484s +23°06'06.53146s
 RUWE (>1.4 is poor) : 0.95
 K magnitude : 7.517
 G magnitude : 11.922
 RP magnitude : 10.769
 BP magnitude : 13.341
 DUPflag : 0
 Distance (au) : 5.290
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : 19.81
 Sun-Target sep (deg) : 76.02
 Sun-Moon sep (deg) : 148.61
 B (ring opening deg) : 2.29
 PA of pole (deg) : -2.43
 Pole direction: RA (deg): 268.05742
 Dec (deg): 64.49720
 C/A sky separation (") : 18.982
 C/A sky separation (km) : 72826.2
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk



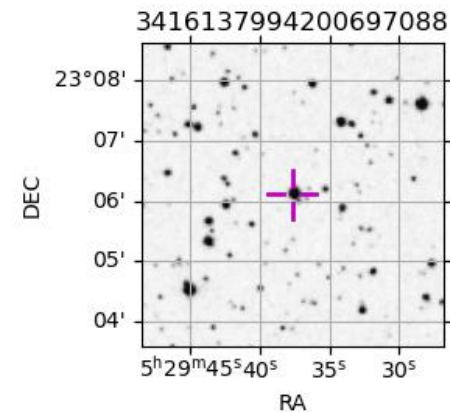
Earth
 PIC
 TEN
 RIO
 ESO
 SAAO



2049-03-27T22:37:00.6500 α: 05 29 37.6548 δ: +23 06 06.531 C/A ***** PA 355.93 deg v_sky +19.81 km/s D 05.29 AU
 Credit: Styled after SORA/Lucky Star

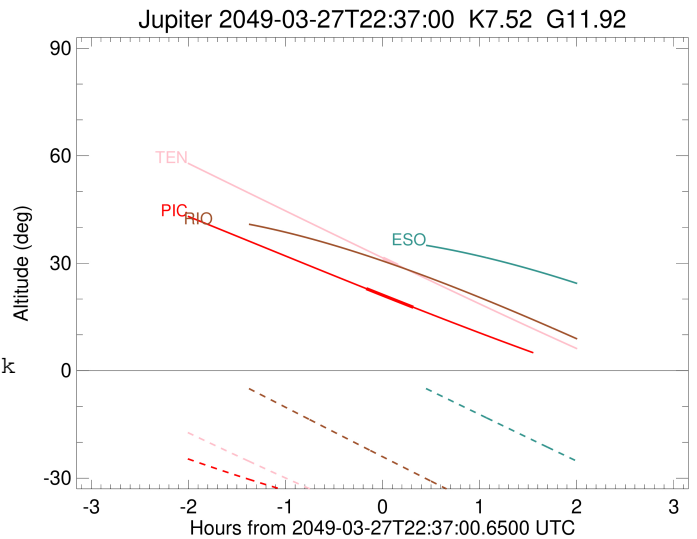
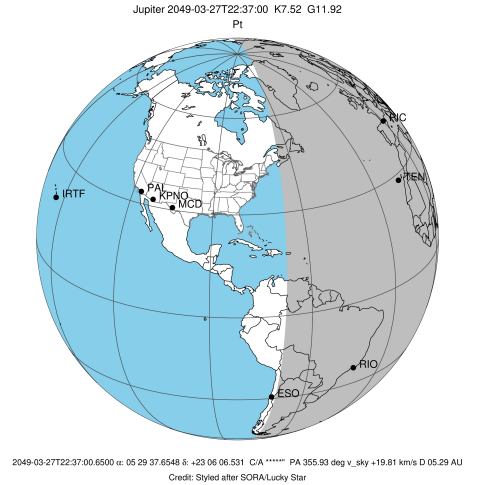
Observable events with sun below -5 deg and altitude above 5 deg

Obs	Location	lat	Elon	Target	Observed Events Interval	OCode
PIC	Pic du Midi	42.9	0.1	+ +	MAR 27 22:26 - MAR 27 22:56	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	+ +	MAR 27 22:37 - MAR 27 22:46	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             : 2049-03-27T22:41:30.270
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        : 3416137994200697088
2Mass ID (if available) : 05293765+2306065
ICRS Star Coord at Epoch: 05h 29m 37.65484s +23:06:06.53146s
RUWE (>1.4 is poor) : 0.95
K magnitude           : 7.517
G magnitude           : 11.922
RP magnitude          : 10.769
BP magnitude          : 13.341
DUPflag              : 0
Distance (au)         : 5.290
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 19.81
Sun-Target sep (deg)  : 76.02
Sun-Moon sep (deg)    : 148.21
B (ring opening deg) : 2.29
PA of pole (deg)      : -2.43
Pole direction: RA (deg): 268.05742
Dec (deg): 64.49720
C/A sky separation (") : 18.084
C/A sky separation (km) : 69383.3
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
    
```

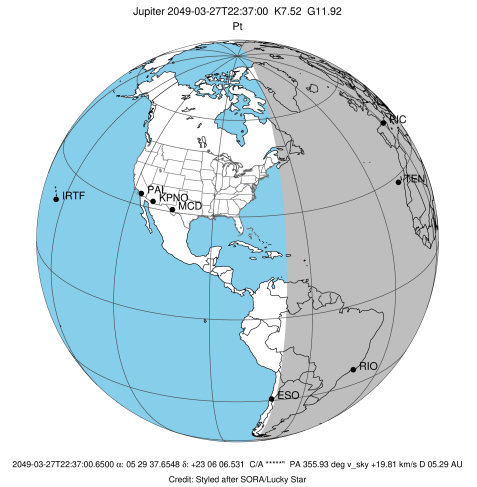


x: target alt < 5.0 deg or sun > -5.0 deg

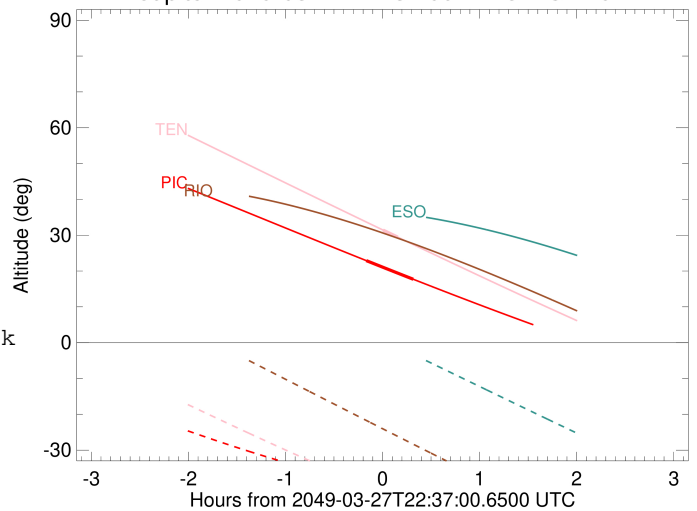
Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2049-03-27T22:26:58.584	22.90	-39.20	71485.4	-74.63	-76.39
Jupiter	E	2049-03-27T22:56:00.728	17.70	-41.67	71485.2	-77.13	-78.62

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2049-03-27T22:41:52.050
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        : 3416137994200697088
2Mass ID (if available) : 05293765+2306065
ICRS Star Coord at Epoch: 05h 29m 37.65484s +23:06:06.53146s
RUWE (>1.4 is poor) : 0.95
K magnitude           : 7.517
G magnitude           : 11.922
RP magnitude          : 10.769
BP magnitude          : 13.341
DUPflag              : 0
Distance (au)         : 5.290
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 19.81
Sun-Target sep (deg)  : 76.02
Sun-Moon sep (deg)   : 148.22
B (ring opening deg) : 2.29
PA of pole (deg)     : -2.43
Pole direction: RA (deg): 268.05742
Dec (deg): 64.49720
C/A sky separation ("): 18.579
C/A sky separation (km): 71283.5
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
    
```



Jupiter 2049-03-27T22:37:00 K7.52 G11.92



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	2049-03-27T22:37:18.734	31.43	-41.68	71484.9	-84.00	-84.71
Jupiter	E	2049-03-27T22:46:25.210	29.46	-43.33	71484.9	-86.18	-86.63