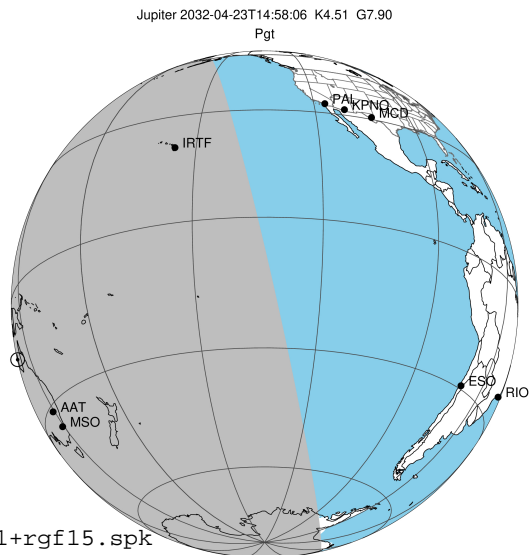


target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2032-04-23T14:58:06.360
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 6866344807161369856
 2Mass ID (if available) : 20113532-2012599

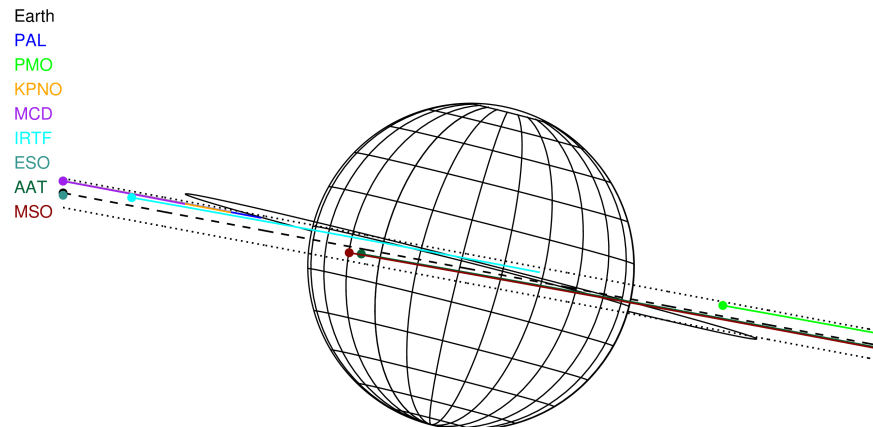
Jupiter 2032-04-23T14:58:06 K4.51 G7.90 Pgt

ICRS Star Coord at Epoch: 20h 11m 35.30687s -20:13:00.46270s

RUWE (>1.4 is poor) : 2.14
 K magnitude : 4.506
 G magnitude : 7.896
 RP magnitude : 6.941
 BP magnitude : 8.835
 DUPflag : 0
 Distance (au) : 5.019
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : 11.96
 Sun-Target sep (deg) : 92.92
 Sun-Moon sep (deg) : 110.76
 B (ring opening deg) : -1.13
 PA of pole (deg) : -14.24
 Pole direction: RA (deg): 268.05668
 Dec (deg): 64.49654
 C/A sky separation (") : 0.327
 C/A sky separation (km) : 1189.2
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk

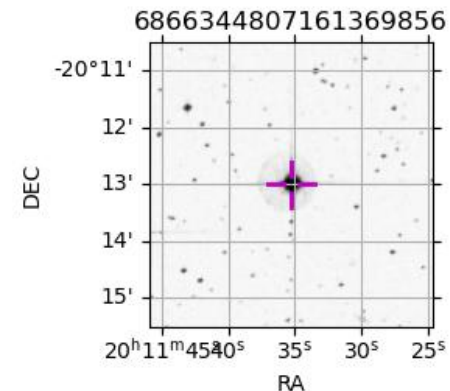


2032-04-23T14:58:06.3600 ex: 20 11 35.30687 s: -20 13 00.463 C/A 0.334" PA 349.40 deg v_sky +11.97 km/s D 05.02 AU
 Credit: Styled after SORA/Lucky Star



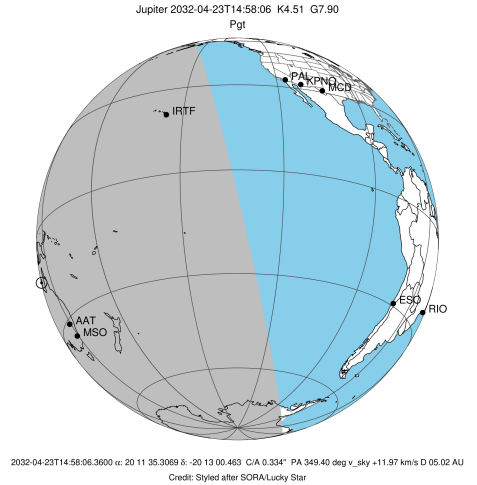
Observable events with sun below -5 deg and altitude above 5 deg

Obs	Location	lat	Elon	Target	Observed Events Interval	OCode
PIC	Pic du Midi	42.9	0.1			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	+	APR 23 13:13 - APR 23 13:13	Pin
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	+	APR 23 16:31 - APR 23 16:31	Pne
SAAO	So. Afr. Astro. Obs. (Sutherland)	-32.4	20.8			Pnn
MSO	Mt. Stromlo Observatory	-35.3	149.0	+	APR 23 16:31 - APR 23 16:31	Pne

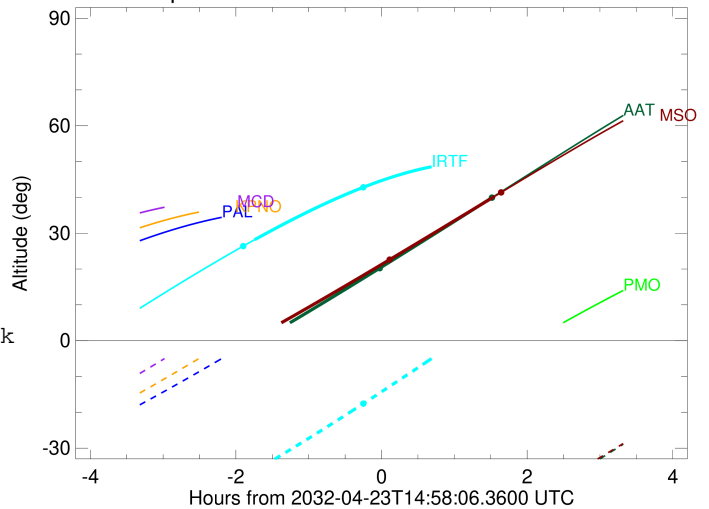


```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2032-04-23T14:55:58.160
Event type           : Pgt
: Jupiter occs: geocentric, topocentric
: Not a ringed target
Observer code        : IRTF
Location             : Mauna Kea/IRTF
Latitude (deg)       : 19.82622
E. Longitude (deg)   : 204.52800
Altitude (km)        : 4.168
Gaia source ID       : 6866344807161369856
2Mass ID (if available) : 20113532-2012599
ICRS Star Coord at Epoch: 20h 11m 35.30687s -20:13:00.46270s
RUWE (>1.4 is poor) : 2.14
K magnitude           : 4.506
G magnitude           : 7.896
RP magnitude         : 6.941
BP magnitude         : 8.835
DUPflag              : 0
Distance (au)        : 5.019
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 11.96
Sun-Target sep (deg) : 92.92
Sun-Moon sep (deg)   : 111.43
B (ring opening deg) : -1.13
PA of pole (deg)     : -14.24
Pole direction: RA (deg): 268.05668
Dec (deg): 64.49654
C/A sky separation (") : 0.851
C/A sky separation (km) : 3099.5
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 2032-04-23T14:58:06 K4.51 G7.90

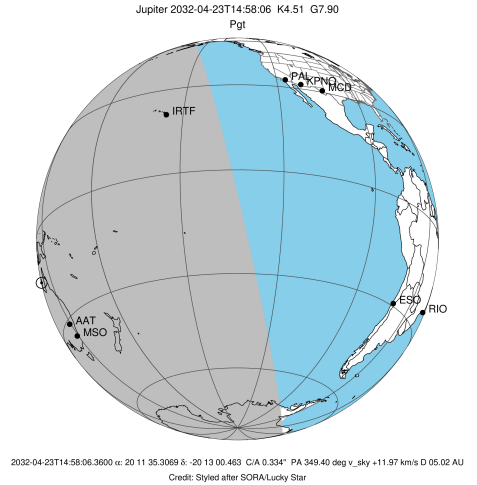


x: target alt < 5.0 deg or sun > -5.0 deg

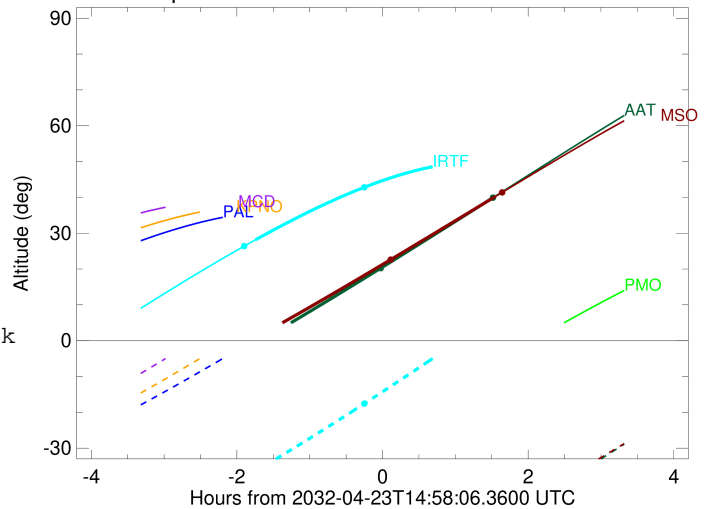
Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2032-04-23T13:13:30.512	28.16	-36.35	71492.0	-1.26	-1.44
Jupiter	E	2032-04-23T16:39:17.696	50.05	8.74x	71492.0	5.87	6.70

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2032-04-23T14:50:05.240
Event type          : Pgt
                    : Jupiter occs: geocentric, topocentric
                    : Not a ringed target
Observer code       : AAT
Location            : Siding Spring (AAT)
Latitude (deg)      : -31.27703
E. Longitude (deg)  : 149.06608
Altitude (km)       : 1.164
Gaia source ID      : 6866344807161369856
2Mass ID (if available) : 20113532-2012599
ICRS Star Coord at Epoch: 20h 11m 35.30687s -20:13:00.46270s
RUWE (>1.4 is poor) : 2.14
K magnitude          : 4.506
G magnitude          : 7.896
RP magnitude         : 6.941
BP magnitude         : 8.835
DUPflag             : 0
Distance (au)       : 5.019
f0 (km)             : 0.00
g0 (km)             : 0.00
skyplane vel. (km/s) : 11.96
Sun-Target sep (deg) : 92.92
Sun-Moon sep (deg)  : 111.37
B (ring opening deg) : -1.13
PA of pole (deg)    : -14.24
Pole direction: RA (deg): 268.05668
Dec (deg): 64.49654
C/A sky separation (") : 0.795
C/A sky separation (km) : 2892.4
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 2032-04-23T14:58:06 K4.51 G7.90

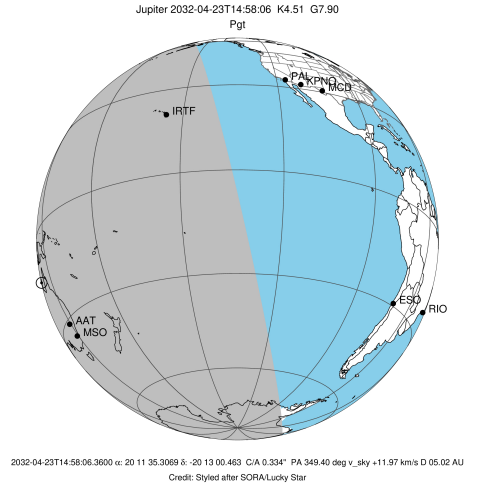


x: target alt < 5.0 deg or sun > -5.0 deg

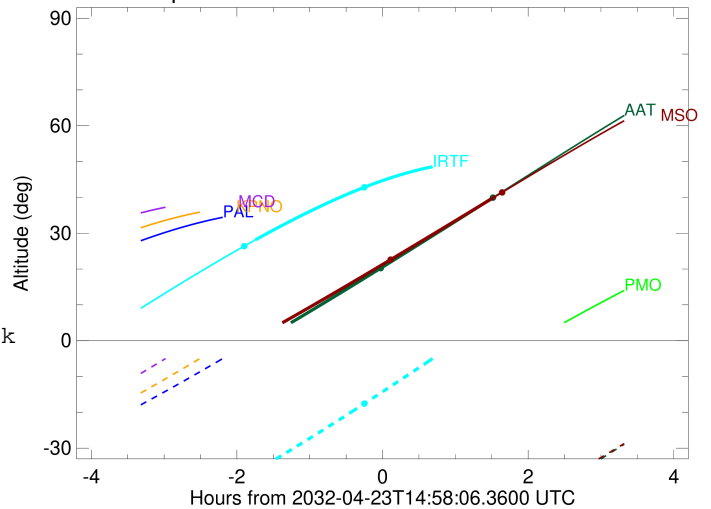
Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2032-04-23T13:10:39.955	-1.34x	-68.24	71492.0	-6.62	-7.56
Jupiter	E	2032-04-23T16:31:11.241	40.36	-51.17	71492.0	1.79	2.05

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2032-04-23T14:50:19.640
Event type            : Pgt
: Jupiter occs: geocentric, topocentric
: Not a ringed target
Observer code         : MSO
Location              : Mt. Stromlo Observatory
Latitude (deg)        : -35.32000
E. Longitude (deg)    : 149.00833
Altitude (km)         : 0.770
Gaia source ID        : 6866344807161369856
2Mass ID (if available) : 20113532-2012599
ICRS Star Coord at Epoch: 20h 11m 35.30687s -20:13:00.46270s
RUWE (>1.4 is poor) : 2.14
K magnitude           : 4.506
G magnitude           : 7.896
RP magnitude          : 6.941
BP magnitude          : 8.835
DUPflag              : 0
Distance (au)         : 5.019
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 11.96
Sun-Target sep (deg)  : 92.92
Sun-Moon sep (deg)    : 111.38
B (ring opening deg) : -1.13
PA of pole (deg)     : -14.24
Pole direction: RA (deg): 268.05668
Dec (deg): 64.49654
C/A sky separation (") : 0.906
C/A sky separation (km) : 3298.1
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 2032-04-23T14:58:06 K4.51 G7.90



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	2032-04-23T13:10:56.015	0.34x	-64.86	71492.0	-6.92	-7.90
Jupiter	E	2032-04-23T16:31:20.050	40.28	-49.68	71492.0	1.45	1.66