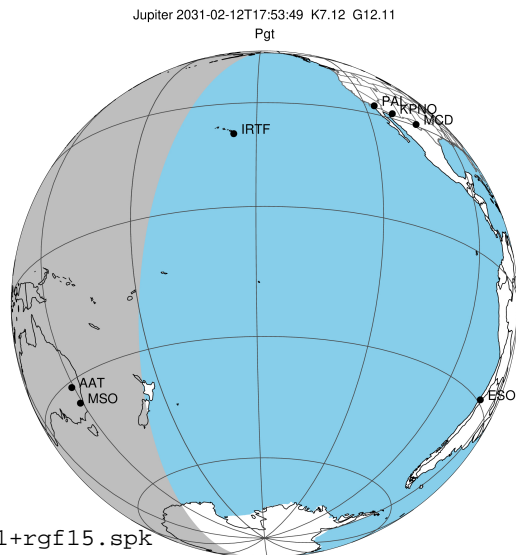


target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2031-02-12T17:53:49.270
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 4117506261079393920
 2Mass ID (if available) : 17301183-2243165

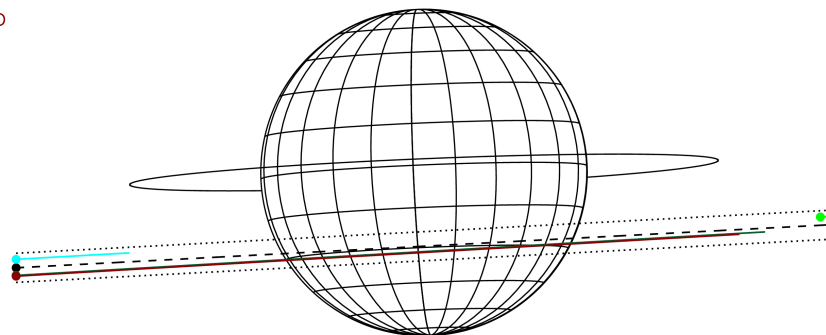
Jupiter 2031-02-12T17:53:49 K7.12 G12.11 Pgt

ICRS Star Coord at Epoch: 17h 30m 11.83560s -22:43:16.77415s

RUWE (>1.4 is poor) : 0.74
 K magnitude : 7.123
 G magnitude : 12.106
 RP magnitude : 10.852
 BP magnitude : 13.883
 DUPflag : 0
 Distance (au) : 5.741
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : 27.94
 Sun-Target sep (deg) : 60.25
 Sun-Moon sep (deg) : 57.72
 B (ring opening deg) : -2.68
 PA of pole (deg) : 2.37
 Pole direction: RA (deg): 268.05702
 Dec (deg): 64.49651
 C/A sky separation (") : 7.746
 C/A sky separation (km) : 32250.6
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk



Earth
 PMO
 IRTF
 AAT
 MSO

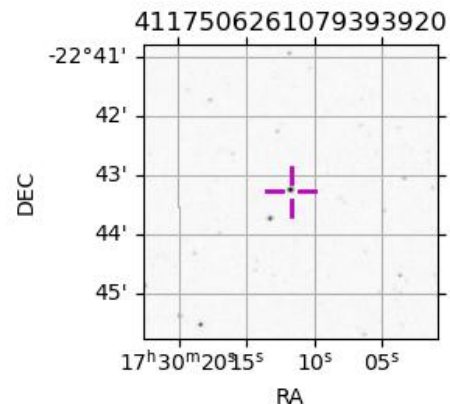


2031-02-12T17:53:49.2700 a: 17 30 11.8356 s: -22 43 16.774 C/A 7.755" PA 3.03 deg v_sky +27.94 km/s D 05.74 AU

Credit: Styled after SORA/Lucky Star

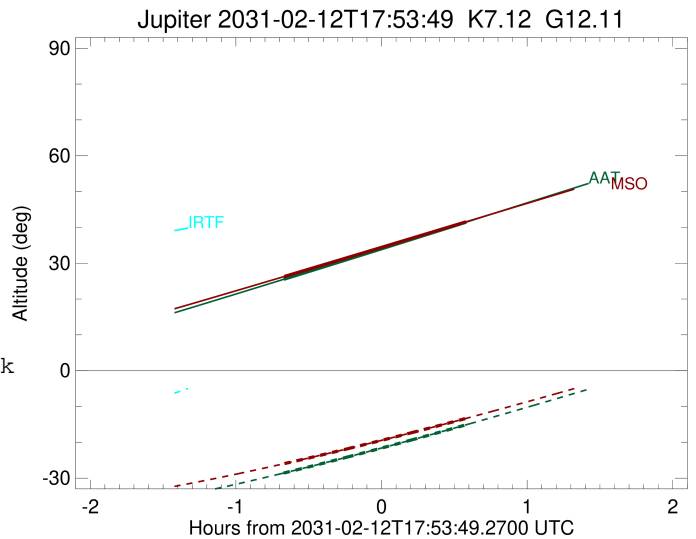
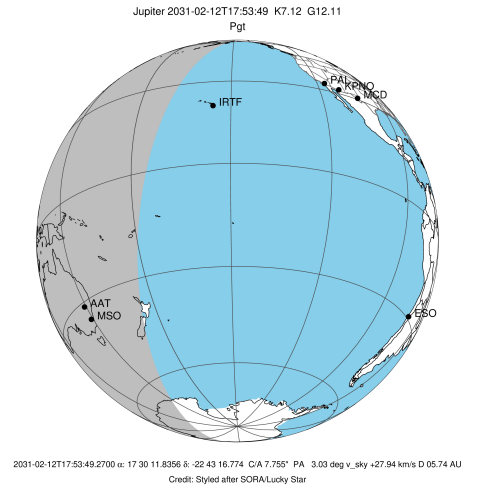
Observable events with sun below -5 deg and altitude above 5 deg

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			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	+ +	FEB 12 17:13 - FEB 12 18:28	Pie
SAAO	So. Afr. Astro. Obs. (Sutherland)	-32.4	20.8			Pnn
MSO	Mt. Stromlo Observatory	-35.3	149.0	+ +	FEB 12 17:13 - FEB 12 18:28	Pie



```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2031-02-12T17:51:04.780
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       : 4117506261079393920
2Mass ID (if available) : 17301183-2243165
ICRS Star Coord at Epoch: 17h 30m 11.83560s -22:43:16.77415s
RUWE (>1.4 is poor) : 0.74
K magnitude           : 7.123
G magnitude           : 12.106
RP magnitude          : 10.852
BP magnitude          : 13.883
DUPflag              : 0
Distance (au)        : 5.741
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 27.94
Sun-Target sep (deg) : 60.25
Sun-Moon sep (deg)   : 57.79
B (ring opening deg) : -2.68
PA of pole (deg)     : 2.37
Pole direction: RA (deg): 268.05702
Dec (deg): 64.49651
C/A sky separation (") : 8.307
C/A sky separation (km) : 34589.3
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
    
```

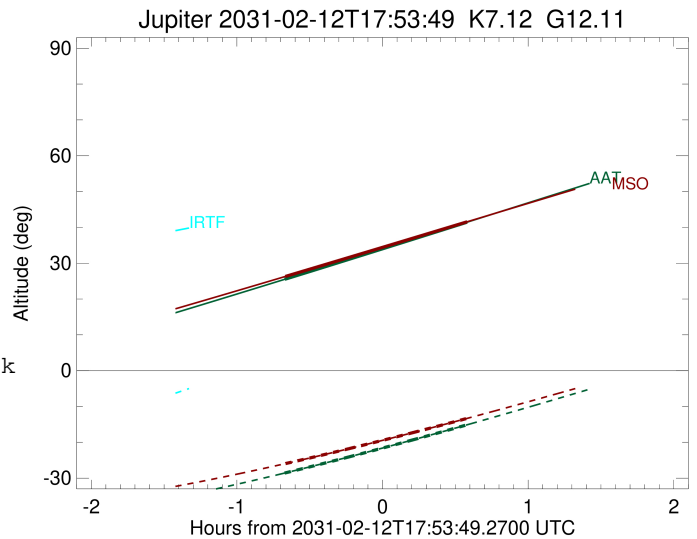
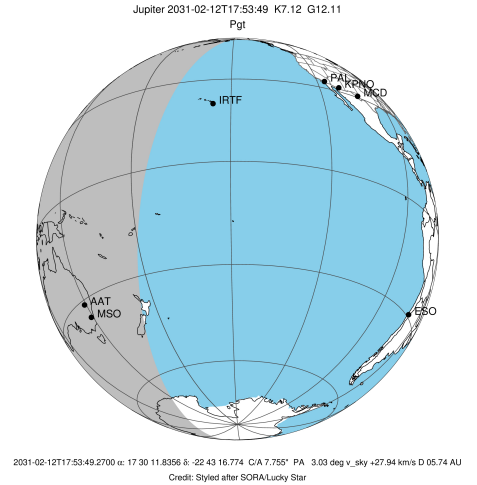


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2031-02-12T17:13:34.771	25.51	-28.56	71489.6	-29.87	-33.23
Jupiter	E	2031-02-12T18:28:40.470	41.44	-15.11	71489.8	-27.95	-31.20

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2031-02-12T17:51:13.100
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        : 4117506261079393920
2Mass ID (if available) : 17301183-2243165
ICRS Star Coord at Epoch: 17h 30m 11.83560s -22:43:16.77415s
RUWE (>1.4 is poor) : 0.74
K magnitude           : 7.123
G magnitude           : 12.106
RP magnitude          : 10.852
BP magnitude          : 13.883
DUPflag              : 0
Distance (au)         : 5.741
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 27.94
Sun-Target sep (deg) : 60.25
Sun-Moon sep (deg)   : 57.81
B (ring opening deg) : -2.68
PA of pole (deg)     : 2.37
Pole direction: RA (deg): 268.05702
Dec (deg): 64.49651
C/A sky separation ("): 8.398
C/A sky separation (km): 34966.4
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
    
```



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	2031-02-12T17:13:51.144	26.31	-25.93	71489.5	-30.20	-33.58
Jupiter	E	2031-02-12T18:28:40.484	41.55	-13.32	71489.8	-28.31	-31.58