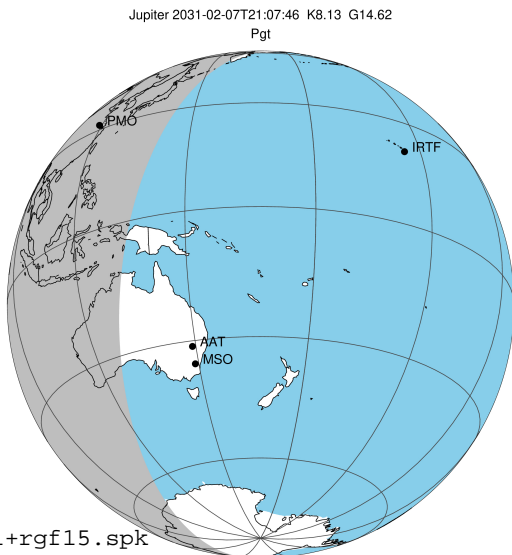


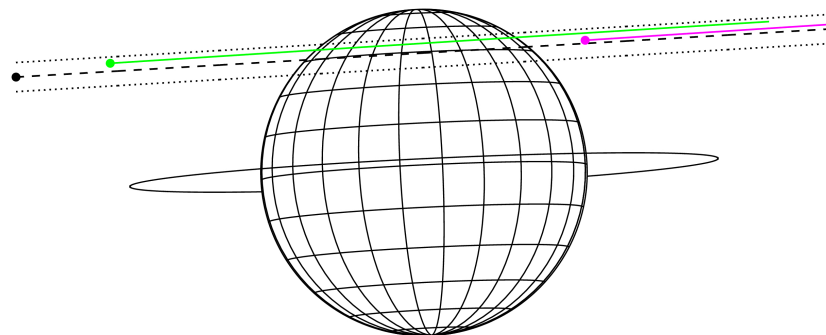
target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2031-02-07T21:07:46.770
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 4111703760240481664
 2Mass ID (if available) : 17264304-2240146

Jupiter 2031-02-07T21:07:46 K8.13 G14.62 Pgt

ICRS Star Coord at Epoch: 17h 26m 43.03073s -22:40:14.79154s
 RUWE (>1.4 is poor) : 0.97
 K magnitude : 8.127
 G magnitude : 14.623
 RP magnitude : 13.085
 BP magnitude : 18.118
 DUPflag : 0
 Distance (au) : 5.808
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : 29.75
 Sun-Target sep (deg) : 56.13
 Sun-Moon sep (deg) : 119.82
 B (ring opening deg) : -2.69
 PA of pole (deg) : 2.74
 Pole direction: RA (deg): 268.05703
 Dec (deg): 64.49651
 C/A sky separation (") : 12.408
 C/A sky separation (km) : 52269.1
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk



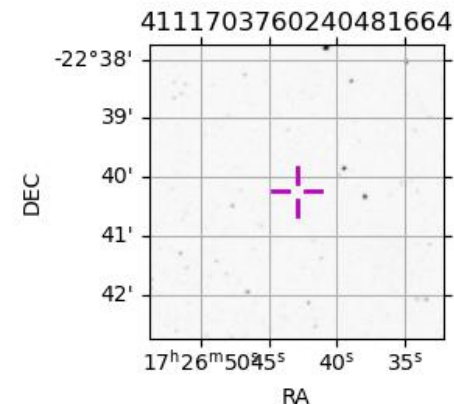
Earth
 PMO
 KAV



2031-02-07T21:07:46.7700 @: 17 26 43.0307 & -22 40 14.792 C/A ***** PA 183.38 deg v_sky +29.75 km/s D 05.81 AU
 Credit: Styled after SORA/Lucky Star

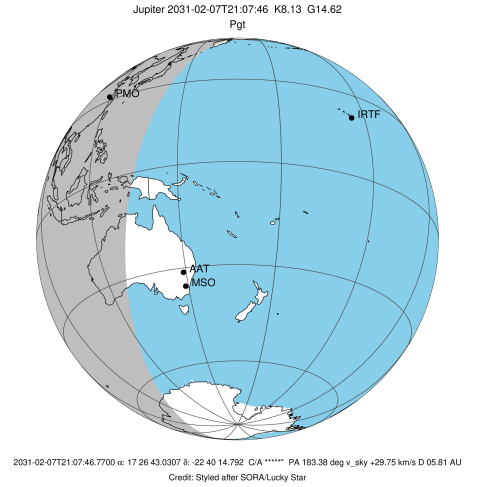
Observable events with sun below -5 deg and altitude above 5 deg

Obs	Location	lat	Elon	Target	Observed Events Interval	OEcode
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	+ +	FEB 07 20:40 - FEB 07 21:29	Pie
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			Pnn
SAAO	So. Afr. Astro. Obs. (Sutherland)	-32.4	20.8			Pnn
MSO	Mt. Stromlo Observatory	-35.3	149.0			Pnn

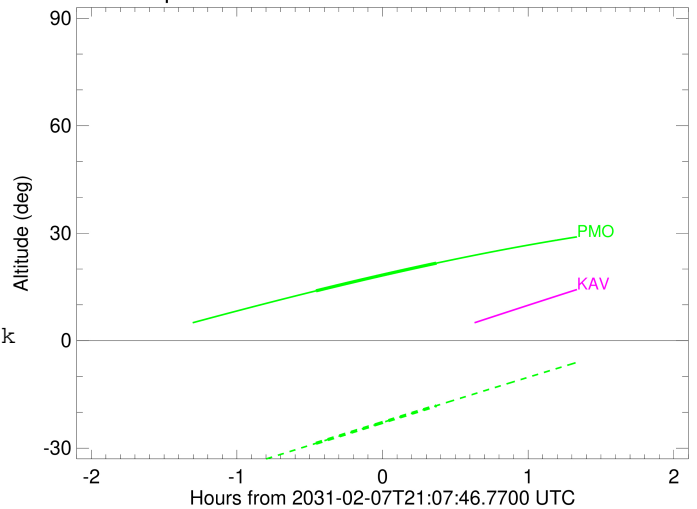


```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2031-02-07T21:05:12.520
Event type           : Pgt
: Jupiter occs: geocentric, topocentric
: Not a ringed target
Observer code        : PMO
Location             : Purple Mtn Obs. Nanking
Latitude (deg)       : 32.06667
E. Longitude (deg)   : 118.82089
Altitude (km)        : 0.364
Gaia source ID       : 4111703760240481664
2Mass ID (if available) : 17264304-2240146
ICRS Star Coord at Epoch: 17h 26m 43.03073s -22:40:14.79154s
RUWE (>1.4 is poor) : 0.97
K magnitude          : 8.127
G magnitude           : 14.623
RP magnitude         : 13.085
BP magnitude         : 18.118
DUPflag              : 0
Distance (au)        : 5.808
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 29.75
Sun-Target sep (deg) : 56.13
Sun-Moon sep (deg)   : 120.35
B (ring opening deg) : -2.69
PA of pole (deg)     : 2.74
Pole direction: RA (deg): 268.05703
Dec (deg): 64.49651
C/A sky separation (") : 13.413
C/A sky separation (km) : 56503.8
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 2031-02-07T21:07:46 K8.13 G14.62



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	2031-02-07T20:40:28.707	13.92	-28.63	71486.0	51.25	54.79
Jupiter	E	2031-02-07T21:29:58.391	21.64	-18.15	71485.7	53.02	56.49