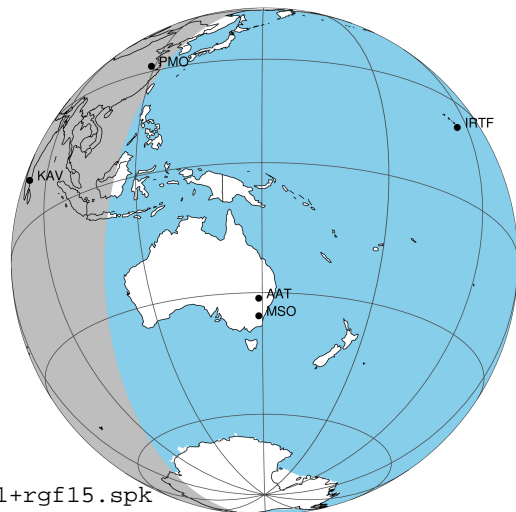


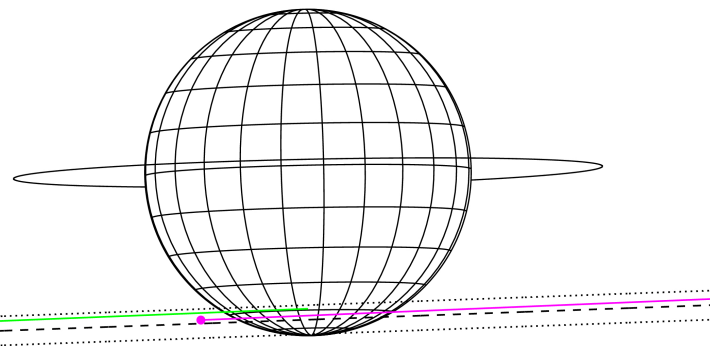
target : Jupiter  
 target radius (km) : 71492.00  
 C/A epoch : 2043-02-05T22:37:03.200  
 Event type : Pgt  
 : Jupiter occs: geocentric, topocentric  
 : Not a ringed target  
 Gaia source ID : 4116553087662098048  
 2Mass ID (if available) : 17405418-2254176

Jupiter 2043-02-05T22:37:03 K8.41 G14.96 Pgt

ICRS Star Coord at Epoch: 17h 40m 54.17521s -22:54:17.83631s  
 RUWE (>1.4 is poor) : 0.87  
 K magnitude : 8.415  
 G magnitude : 14.961  
 RP magnitude : 13.445  
 BP magnitude : 19.385  
 DUPflag : 0  
 Distance (au) : 5.879  
 f0 (km) : 0.00  
 g0 (km) : 0.00  
 skyplane vel. (km/s) : 32.03  
 Sun-Target sep (deg) : 50.82  
 Sun-Moon sep (deg) : 6.06  
 B (ring opening deg) : -2.57  
 PA of pole (deg) : 1.22  
 Pole direction: RA (deg): 268.05661  
 Dec (deg): 64.49732  
 C/A sky separation (") : 15.115  
 C/A sky separation (km) : 64448.2  
 NAIF SPICE kernels : RAJobs\_U111+rgf15.spk



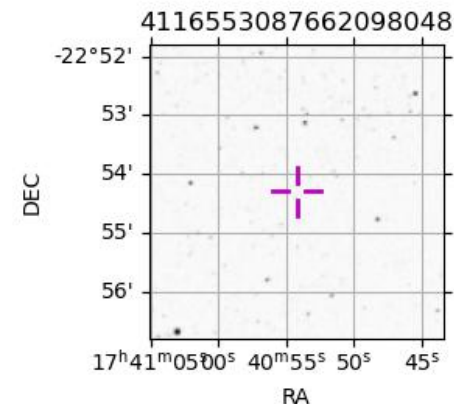
Earth  
 PMO  
 KAV



2043-02-05T22:37:03.2000 α: 17 40 54.1752 δ: -22 54 17.836 C/A \*\*\*\*\* PA 2.07 deg v\_sky +32.04 km/s D 05.88 AU  
 Credit: Styled after SORA/Lucky Star

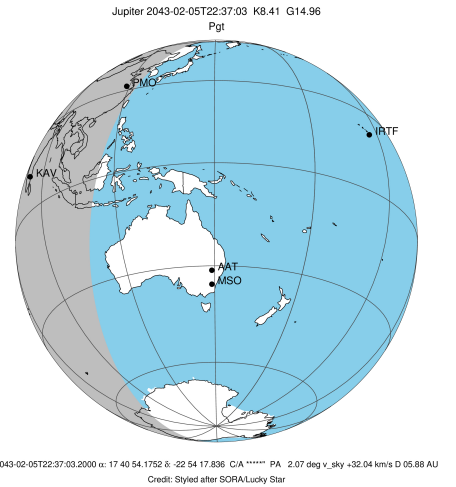
Observable events with sun below -5 deg and altitude above 5 deg

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	+	FEB 05 22:14 - FEB 05 22:14	Pin
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	+ +	FEB 05 22:16 - FEB 05 22:52	Pie
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

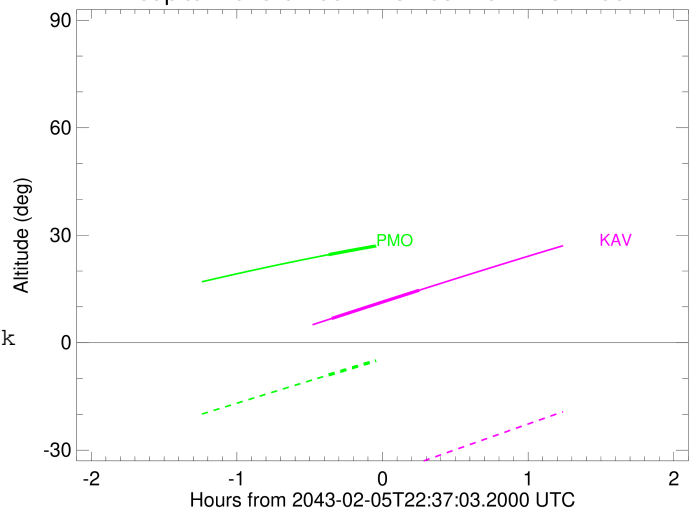


```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-02-05T22:35:33.910
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      : 4116553087662098048
2Mass ID (if available) : 17405418-2254176
ICRS Star Coord at Epoch: 17h 40m 54.17521s -22:54:17.83631s
RUWE (>1.4 is poor) : 0.87
K magnitude         : 8.415
G magnitude         : 14.961
RP magnitude        : 13.445
BP magnitude        : 19.385
DUPflag            : 0
Distance (au)       : 5.879
f0 (km)             : 0.00
g0 (km)             : 0.00
skyplane vel. (km/s) : 32.03
Sun-Target sep (deg) : 50.82
Sun-Moon sep (deg)  : 6.92
B (ring opening deg) : -2.57
PA of pole (deg)    : 1.22
Pole direction: RA (deg): 268.05661
Dec (deg): 64.49732
C/A sky separation (") : 13.992
C/A sky separation (km) : 59657.1
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 2043-02-05T22:37:03 K8.41 G14.96

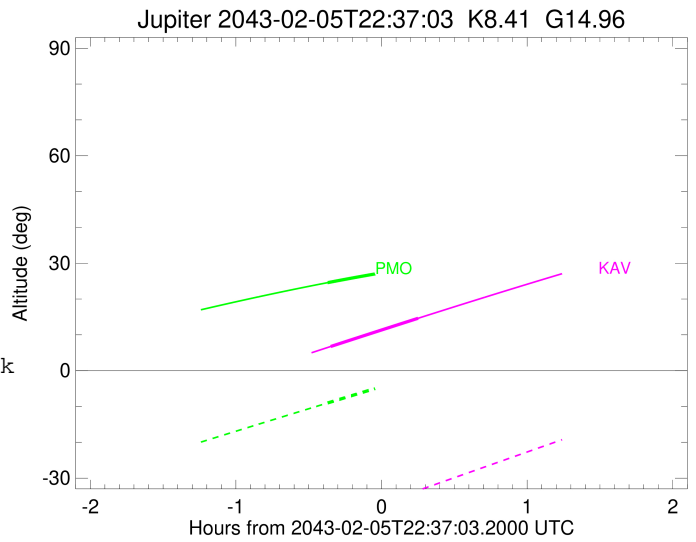
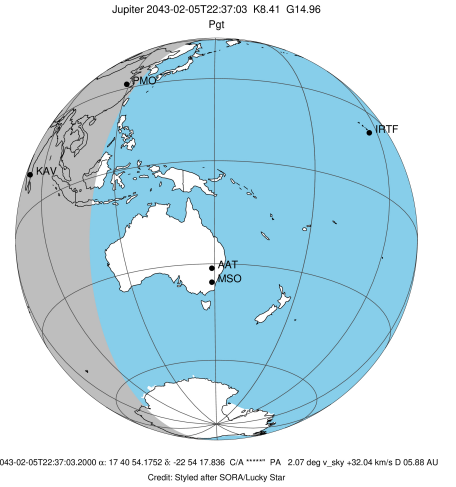


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-02-05T22:14:52.483	24.57	-9.01	71485.6	-57.51	-60.73
Jupiter	E	2043-02-05T22:56:16.322	29.41	-0.55x	71485.8	-55.47	-58.82

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-02-05T22:34:06.510
Event type            : Pgt
: Jupiter occs: geocentric, topocentric
: Not a ringed target
Observer code         : KAV
Location              : Kavalur Observatory
Latitude (deg)        : 12.57556
E. Longitude (deg)    : 78.83167
Altitude (km)         : 0.722
Gaia source ID        : 4116553087662098048
2Mass ID (if available) : 17405418-2254176
ICRS Star Coord at Epoch: 17h 40m 54.17521s -22:54:17.83631s
RUWE (>1.4 is poor) : 0.87
K magnitude           : 8.415
G magnitude           : 14.961
RP magnitude          : 13.445
BP magnitude          : 19.385
DUPflag              : 0
Distance (au)         : 5.879
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 32.03
Sun-Target sep (deg) : 50.82
Sun-Moon sep (deg)   : 6.73
B (ring opening deg) : -2.57
PA of pole (deg)     : 1.22
Pole direction: RA (deg): 268.05661
Dec (deg): 64.49732
C/A sky separation (") : 14.691
C/A sky separation (km) : 62639.0
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	2043-02-05T22:16:07.670	6.75	-42.10	71484.9	-62.25	-65.15
Jupiter	E	2043-02-05T22:52:06.671	14.62	-33.46	71485.2	-59.93	-63.00