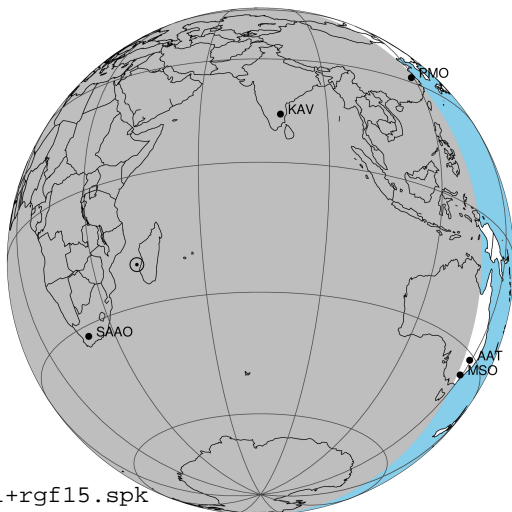


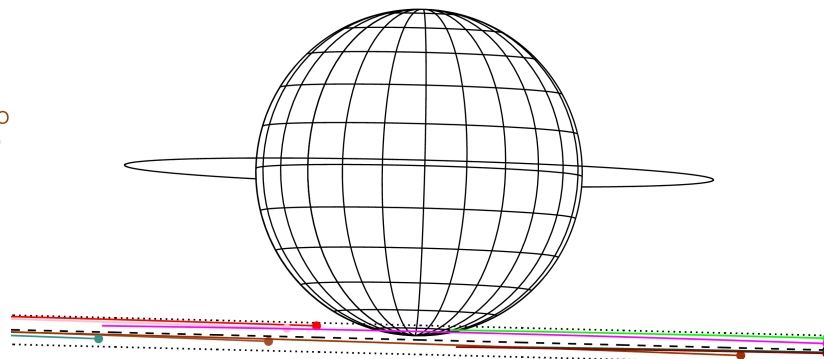
target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2043-05-23T21:05:39.460
 Event type : Pt
 : Jupiter occs: topocentric, not geocentric
 : Not a ringed target
 Gaia source ID : 4069573738815595904
 2Mass ID (if available) : 18053389-2302296

Jupiter 2043-05-23T21:05:39 K9.31 G13.86 Pt

ICRS Star Coord at Epoch: 18h 05m 33.89773s -23:02:29.88447s
 RUWE (>1.4 is poor) : 0.94
 K magnitude : 9.310
 G magnitude : 13.861
 RP magnitude : 12.633
 BP magnitude : 15.213
 DUPflag : 0
 Distance (au) : 4.369
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : -12.63
 Sun-Target sep (deg) : 150.76
 Sun-Moon sep (deg) : 30.71
 B (ring opening deg) : -2.42
 PA of pole (deg) : -1.44
 Pole direction: RA (deg): 268.05667
 Dec (deg): 64.49732
 C/A sky separation (") : 23.138
 C/A sky separation (km) : 73321.4
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk



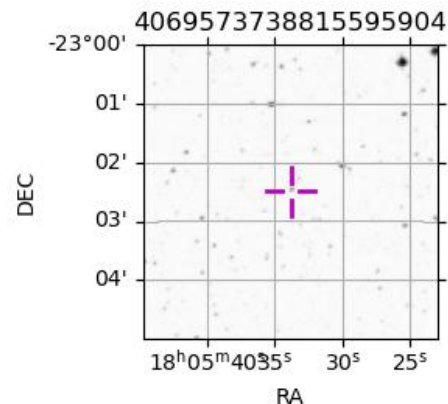
Earth
 PIC
 PMO
 TEN
 KAV
 RIO
 ESO
 AAT
 SAAO
 MSO



2043-05-23T21:05:39.4600 a: 18 05 33.8977 & -23 02 29.884 C/A ***** PA 358.57 deg v_sky -12.63 km/s D 04.37 AU
 Credit: Styled after SORA/Lucky Star

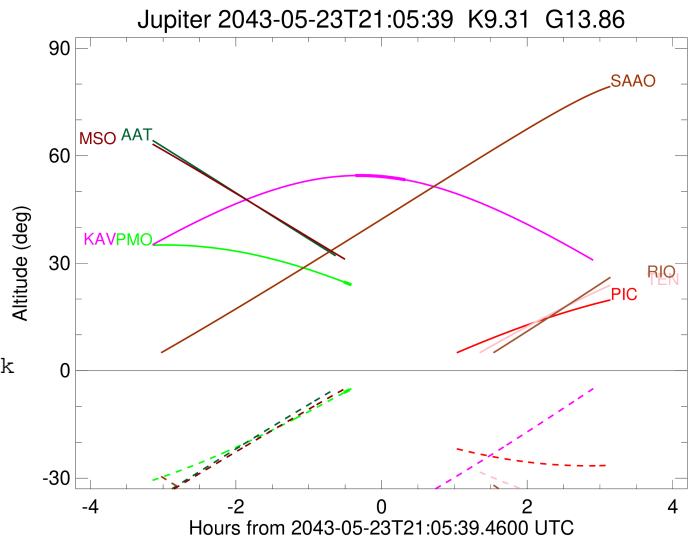
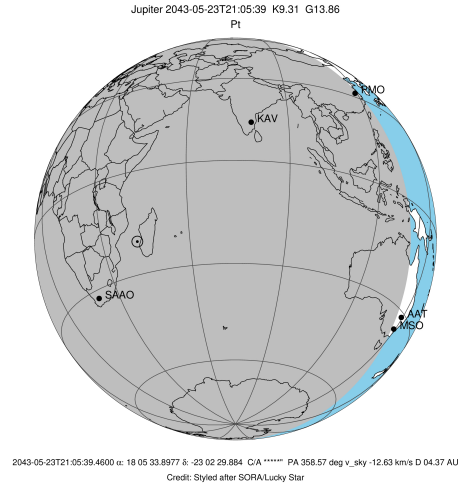
Observable events with sun below -5 deg and altitude above 5 deg

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	+	MAY 23 20:34 - MAY 23 20:34	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	+ +	MAY 23 20:44 - MAY 23 21:25	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             : 2043-05-23T20:59:48.010
Event type            : Pt
: Jupiter occs: topocentric, not geocentric
: 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        : 4069573738815595904
2Mass ID (if available) : 18053389-2302296
ICRS Star Coord at Epoch: 18h 05m 33.89773s -23:02:29.88447s
RUWE (>1.4 is poor) : 0.94
K magnitude           : 9.310
G magnitude           : 13.861
RP magnitude          : 12.633
BP magnitude          : 15.213
DUPflag              : 0
Distance (au)         : 4.369
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : -12.63
Sun-Target sep (deg)  : 150.76
Sun-Moon sep (deg)    : 31.42
B (ring opening deg) : -2.42
PA of pole (deg)     : -1.44
Pole direction: RA (deg): 268.05667
Dec (deg): 64.49732
C/A sky separation (") : 21.708
C/A sky separation (km) : 68791.1
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
    
```

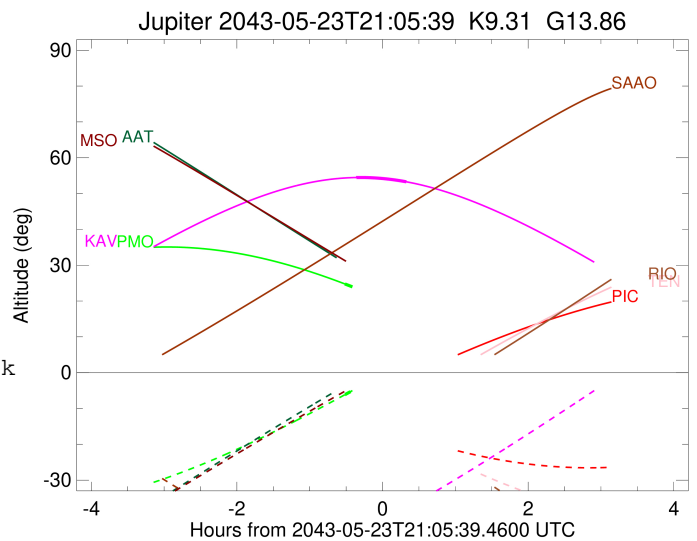
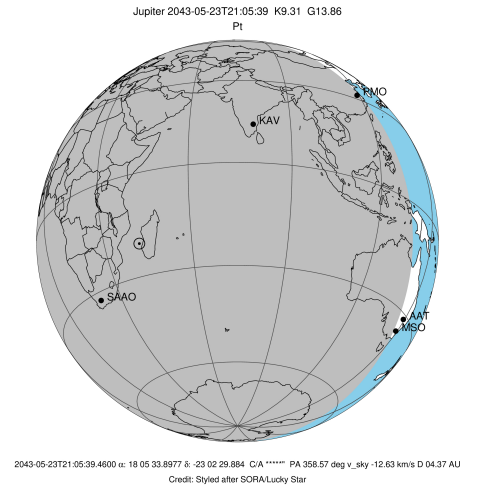


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-05-23T20:34:47.211	24.75	-6.13	71484.6	-73.56	-75.42
Jupiter	E	2043-05-23T21:24:51.939	17.56	3.46x	71484.5	-74.57	-76.33

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-05-23T21:04:42.150
Event type            : Pt
: Jupiter occs: topocentric, not geocentric
: 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        : 4069573738815595904
2Mass ID (if available) : 18053389-2302296
ICRS Star Coord at Epoch: 18h 05m 33.89773s -23:02:29.88447s
RUWE (>1.4 is poor)  : 0.94
K magnitude           : 9.310
G magnitude           : 13.861
RP magnitude          : 12.633
BP magnitude          : 15.213
DUPflag              : 0
Distance (au)         : 4.369
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : -12.63
Sun-Target sep (deg)  : 150.76
Sun-Moon sep (deg)    : 31.22
B (ring opening deg) : -2.42
PA of pole (deg)     : -1.44
Pole direction: RA (deg): 268.05667
Dec (deg): 64.49732
C/A sky separation (") : 21.976
C/A sky separation (km) : 69637.7
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	2043-05-23T20:44:11.649	54.47	-45.16	71484.4	-76.64	-78.18
Jupiter	E	2043-05-23T21:25:12.673	53.28	-37.84	71484.3	-76.89	-78.40