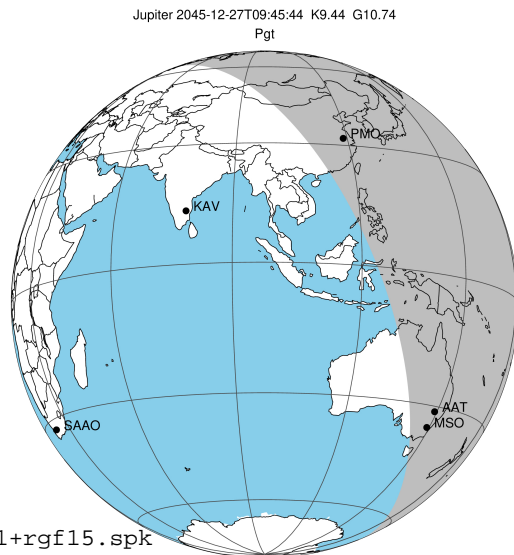


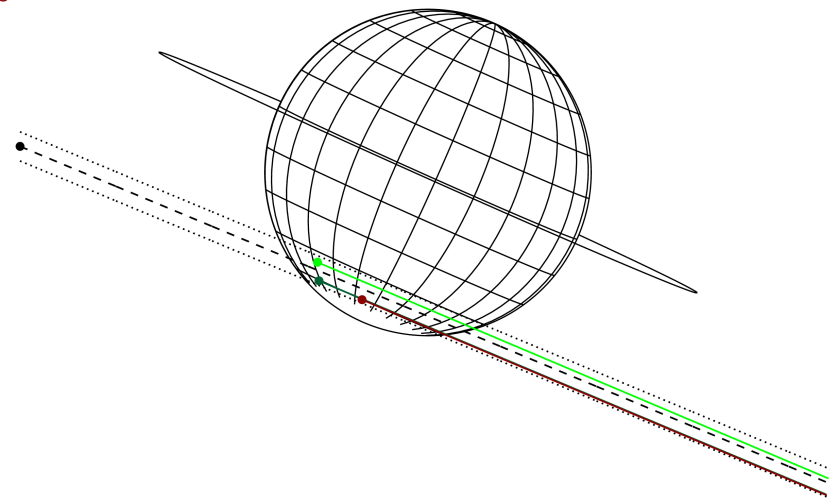
target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2045-12-27T09:45:44.070
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 2608875702388652928
 2Mass ID (if available) : 22380073-0950010

Jupiter 2045-12-27T09:45:44 K9.44 G10.74 Pgt

ICRS Star Coord at Epoch: 22h 38m 00.92242s -09:50:01.64805s
 RUWE (>1.4 is poor) : 0.95
 K magnitude : 9.444
 G magnitude : 10.738
 RP magnitude : 10.280
 BP magnitude : 11.032
 DUPflag : 0
 Distance (au) : 5.366
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : 27.64
 Sun-Target sep (deg) : 62.00
 Sun-Moon sep (deg) : 163.46
 B (ring opening deg) : 1.10
 PA of pole (deg) : -24.10
 Pole direction: RA (deg): 268.05707
 Dec (deg): 64.49723
 C/A sky separation (") : 14.938
 C/A sky separation (km) : 58134.5
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk



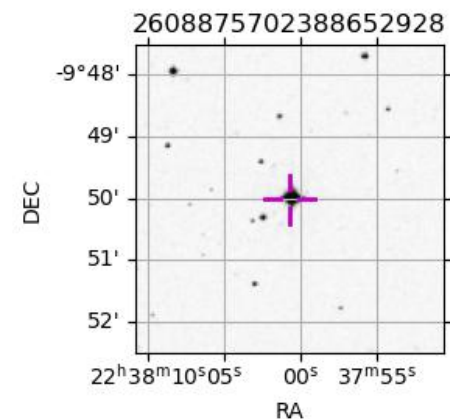
Earth
 PMO
 AAT
 MSO



2045-12-27T09:45:44.0700 at: 22 38 00.9224 s -09 50 01.648 C/A ***** PA 337.39 deg v_sky +27.64 km/s D 05.37 AU
 Credit: Styled after SORA/Lucky Star

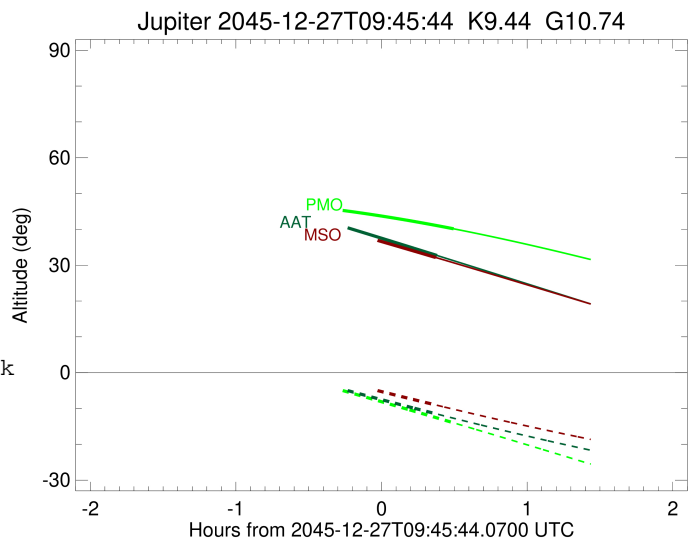
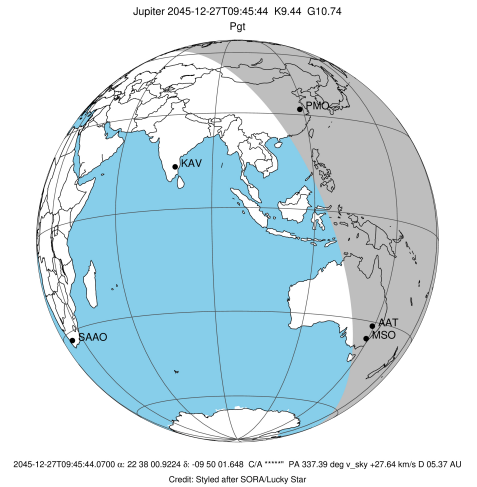
Observable events with sun below -5 deg and altitude above 5 deg

Obs	Location	lat	Elon	Target	Observed Events Interval	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	+	DEC 27 10:15 - DEC 27 10:15	Pne
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	+	DEC 27 10:08 - DEC 27 10:08	Pne
SAAO	So. Afr. Astro. Obs. (Sutherland)	-32.4	20.8			Pnn
MSO	Mt. Stromlo Observatory	-35.3	149.0	+	DEC 27 10:08 - DEC 27 10:08	Pne



```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2045-12-27T09:47:37.580
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       : 2608875702388652928
2Mass ID (if available) : 22380073-0950010
ICRS Star Coord at Epoch: 22h 38m 00.92242s -09:50:01.64805s
RUWE (>1.4 is poor) : 0.95
K magnitude           : 9.444
G magnitude           : 10.738
RP magnitude          : 10.280
BP magnitude          : 11.032
DUPflag              : 0
Distance (au)        : 5.366
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 27.64
Sun-Target sep (deg) : 62.00
Sun-Moon sep (deg)   : 164.10
B (ring opening deg) : 1.10
PA of pole (deg)     : -24.10
Pole direction: RA (deg): 268.05707
Dec (deg): 64.49723
C/A sky separation ("): 14.153
C/A sky separation (km): 55081.2
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
    
```

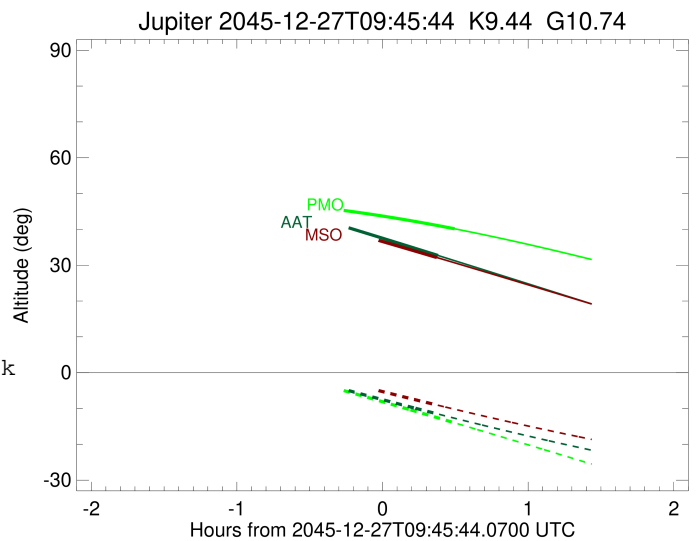
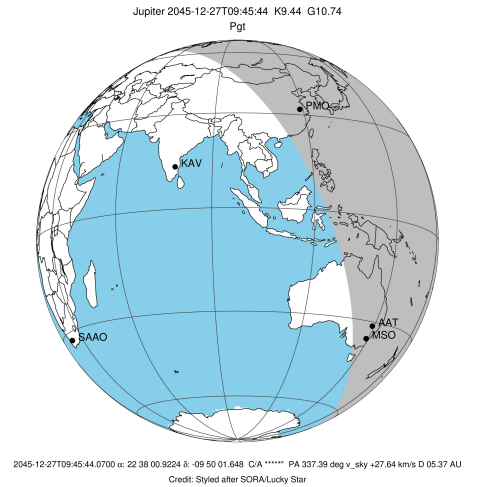


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2045-12-27T09:19:48.178	46.12	-3.08x	71491.0	-51.53	-55.06
Jupiter	E	2045-12-27T10:15:25.324	40.16	-14.00	71491.1	-49.24	-52.85

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2045-12-27T09:47:18.550
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        : 2608875702388652928
2Mass ID (if available) : 22380073-0950010
ICRS Star Coord at Epoch: 22h 38m 00.92242s -09:50:01.64805s
RUWE (>1.4 is poor)  : 0.95
K magnitude           : 9.444
G magnitude           : 10.738
RP magnitude          : 10.280
BP magnitude          : 11.032
DUPflag               : 0
Distance (au)         : 5.366
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 27.64
Sun-Target sep (deg)  : 62.00
Sun-Moon sep (deg)    : 164.13
B (ring opening deg) : 1.10
PA of pole (deg)      : -24.10
Pole direction: RA (deg): 268.05707
Dec (deg): 64.49723
C/A sky separation (") : 16.002
C/A sky separation (km) : 62277.0
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
    
```

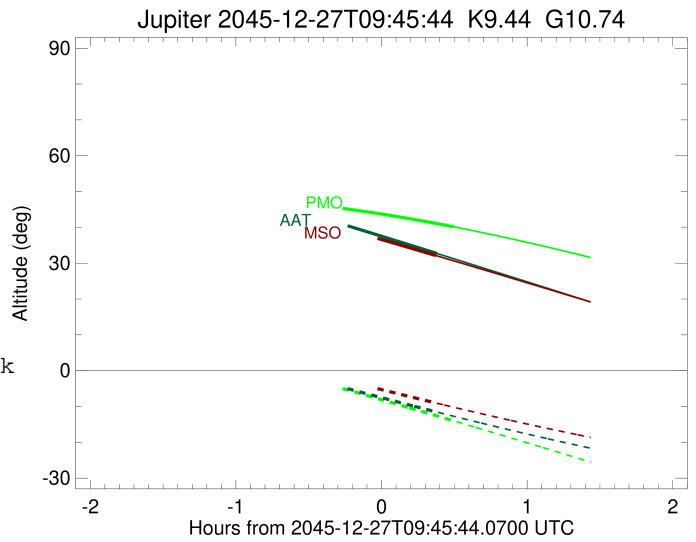
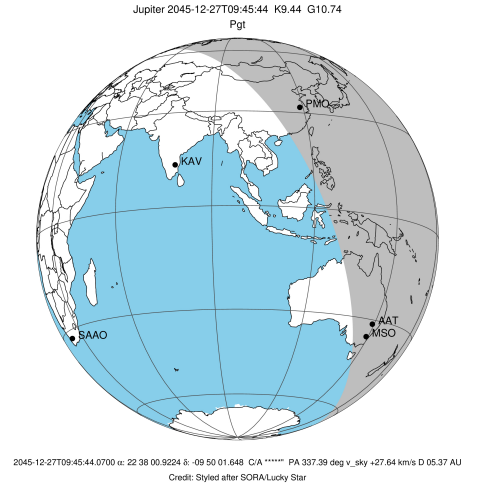


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2045-12-27T09:25:57.803	41.64	-3.93x	71490.7	-61.75	-64.69
Jupiter	E	2045-12-27T10:08:37.691	32.71	-11.56	71490.8	-59.37	-62.48

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2045-12-27T09:47:06.840
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      : 2608875702388652928
2Mass ID (if available) : 22380073-0950010
ICRS Star Coord at Epoch: 22h 38m 00.92242s -09:50:01.64805s
RUWE (>1.4 is poor) : 0.95
K magnitude         : 9.444
G magnitude         : 10.738
RP magnitude        : 10.280
BP magnitude        : 11.032
DUPflag            : 0
Distance (au)       : 5.366
f0 (km)             : 0.00
g0 (km)             : 0.00
skyplane vel. (km/s) : 27.64
Sun-Target sep (deg) : 62.00
Sun-Moon sep (deg)  : 164.08
B (ring opening deg) : 1.10
PA of pole (deg)    : -24.10
Pole direction: RA (deg): 268.05707
Dec (deg): 64.49723
C/A sky separation (") : 16.076
C/A sky separation (km) : 62562.4
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	2045-12-27T09:26:05.190	40.44	-1.87x	71490.7	-62.24	-65.13
Jupiter	E	2045-12-27T10:08:06.985	32.14	-9.02	71490.8	-59.83	-62.90