

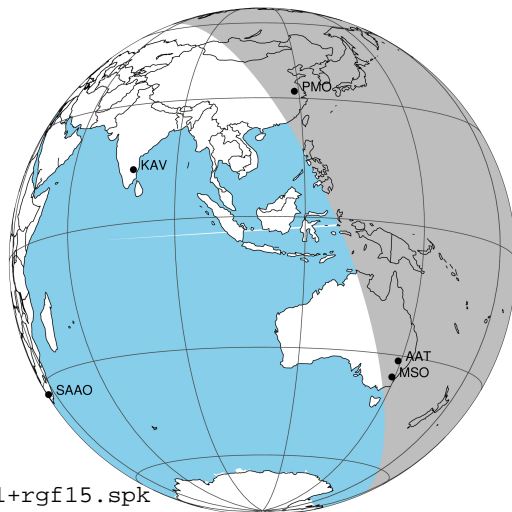
target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2045-12-17T09:27:21.070
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 2602789252694164352
 2Mass ID (if available) : 22320016-1027007

Jupiter 2045-12-17T09:27:21 K9.05 G11.40 Pgt

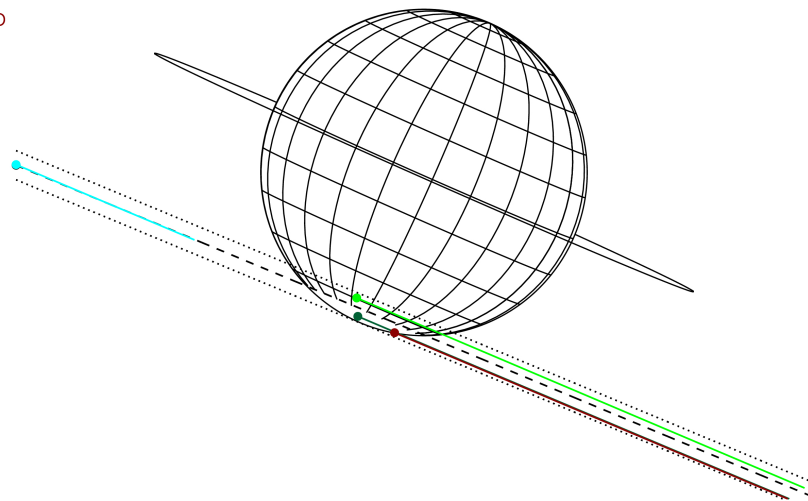
ICRS Star Coord at Epoch: 22h 32m 00.17272s -10:27:00.43960s

RUWE (>1.4 is poor) : 0.92
 K magnitude : 9.047
 G magnitude : 11.403
 RP magnitude : 10.684
 BP magnitude : 11.979
 DUPflag : 0
 Distance (au) : 5.222
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : 23.54
 Sun-Target sep (deg) : 70.59
 Sun-Moon sep (deg) : 29.12
 B (ring opening deg) : 1.06
 PA of pole (deg) : -23.86
 Pole direction: RA (deg): 268.05707
 Dec (deg): 64.49723
 C/A sky separation (") : 17.351
 C/A sky separation (km) : 65716.6
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk

Jupiter 2045-12-17T09:27:21 K9.05 G11.40
 Pgt



Earth
 PMO
 IRTF
 AAT
 MSO

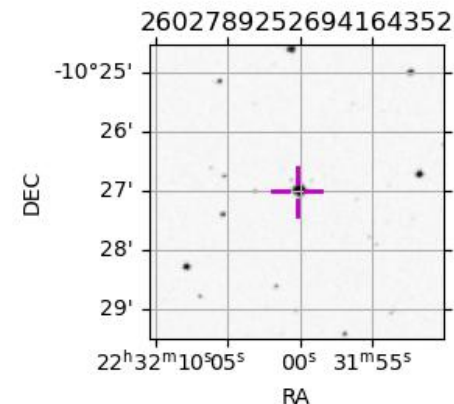


2045-12-17T09:27:21.0700 a: 22 32 00.1727 & -10 27 00.440 C/A ***** PA 337.40 deg v_sky +23.54 km/s D 05.22 AU

Credit: Styled after SORA/Lucky Star

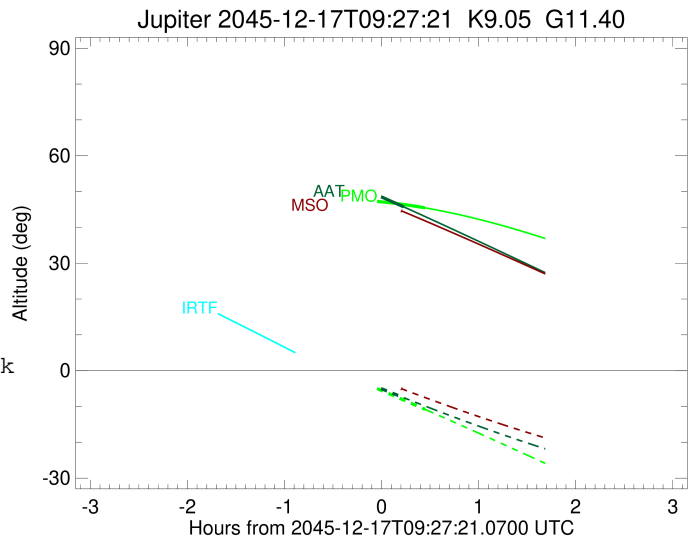
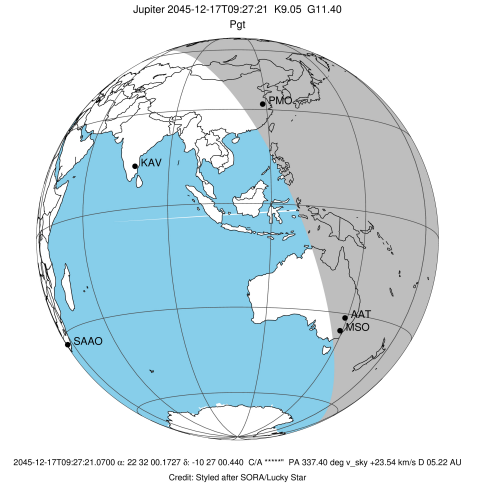
Observable events with sun below -5 deg and altitude above 5 deg

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 17 09:54 - DEC 17 09:54	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 17 09:41 - DEC 17 09:41	Pne
SAAO	So. Afr. Astro. Obs. (Sutherland)	-32.4	20.8			Pnn
MSO	Mt. Stromlo Observatory	-35.3	149.0	+	DEC 17 09:39 - DEC 17 09:39	Pne



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target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2045-12-17T09:28:45.260
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       : 2602789252694164352
2Mass ID (if available) : 22320016-1027007
ICRS Star Coord at Epoch: 22h 32m 00.17272s -10:27:00.43960s
RUWE (>1.4 is poor) : 0.92
K magnitude           : 9.047
G magnitude           : 11.403
RP magnitude         : 10.684
BP magnitude         : 11.979
DUPflag              : 0
Distance (au)        : 5.222
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 23.54
Sun-Target sep (deg) : 70.59
Sun-Moon sep (deg)   : 29.08
B (ring opening deg) : 1.06
PA of pole (deg)     : -23.86
Pole direction: RA (deg): 268.05707
Dec (deg): 64.49723
C/A sky separation ("): 16.398
C/A sky separation (km): 62107.8
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
    
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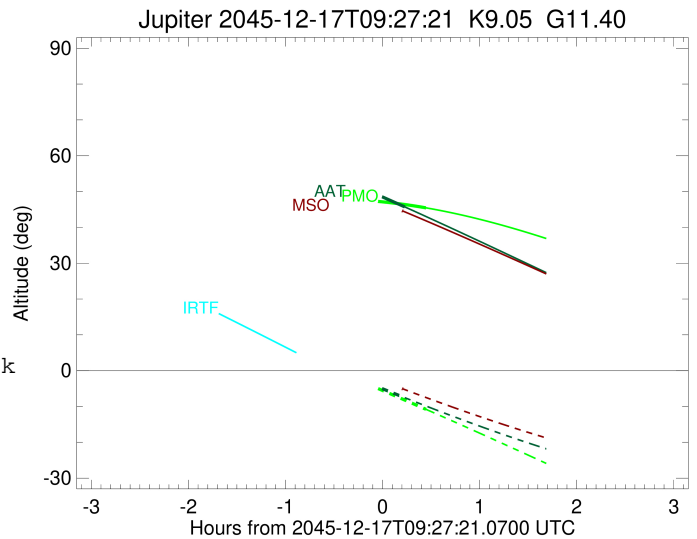
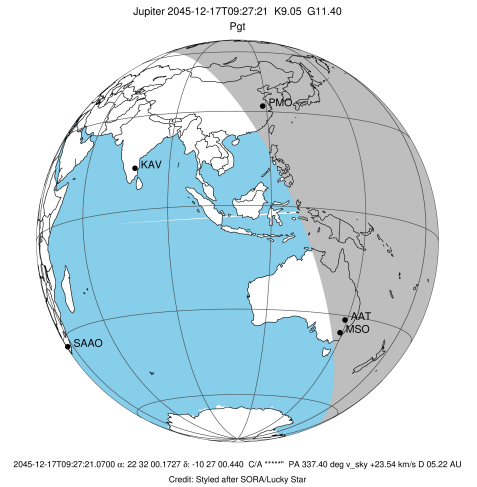


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2045-12-17T09:03:18.249	47.83	-0.92x	71490.8	-61.17	-64.15
Jupiter	E	2045-12-17T09:54:11.181	45.45	-10.78	71490.9	-59.43	-62.54

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target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2045-12-17T09:28:34.710
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        : 2602789252694164352
2Mass ID (if available) : 22320016-1027007
ICRS Star Coord at Epoch: 22h 32m 00.17272s -10:27:00.43960s
RUWE (>1.4 is poor) : 0.92
K magnitude           : 9.047
G magnitude           : 11.403
RP magnitude          : 10.684
BP magnitude          : 11.979
DUPflag              : 0
Distance (au)         : 5.222
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 23.54
Sun-Target sep (deg) : 70.59
Sun-Moon sep (deg)   : 29.26
B (ring opening deg) : 1.06
PA of pole (deg)     : -23.86
Pole direction: RA (deg): 268.05707
Dec (deg): 64.49723
C/A sky separation (") : 18.308
C/A sky separation (km) : 69341.2
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
    
```

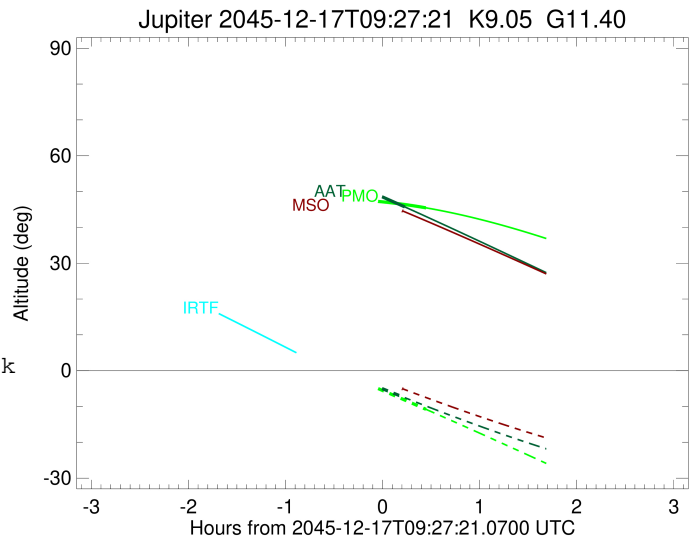
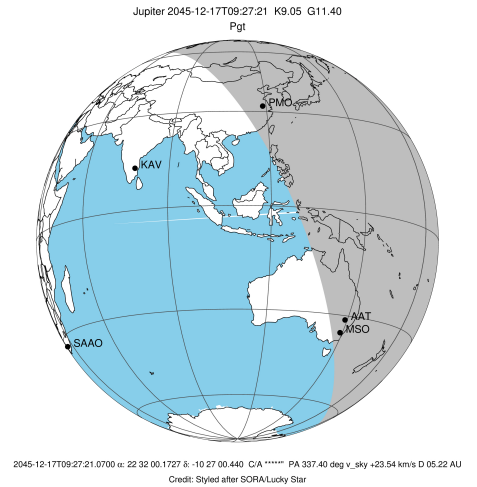


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2045-12-17T09:16:06.846	50.70	-2.98x	71490.6	-76.74	-78.27
Jupiter	E	2045-12-17T09:41:02.020	45.73	-7.53	71490.6	-75.01	-76.72

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2045-12-17T09:28:22.580
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        : 2602789252694164352
2Mass ID (if available) : 22320016-1027007
ICRS Star Coord at Epoch: 22h 32m 00.17272s -10:27:00.43960s
RUWE (>1.4 is poor) : 0.92
K magnitude           : 9.047
G magnitude           : 11.403
RP magnitude          : 10.684
BP magnitude          : 11.979
DUPflag              : 0
Distance (au)         : 5.222
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 23.54
Sun-Target sep (deg) : 70.59
Sun-Moon sep (deg)   : 29.30
B (ring opening deg) : 1.06
PA of pole (deg)     : -23.86
Pole direction: RA (deg): 268.05707
Dec (deg): 64.49723
C/A sky separation ("): 18.389
C/A sky separation (km): 69648.6
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	2045-12-17T09:16:49.872	48.82	-1.06x	71490.5	-77.81	-79.22
Jupiter	E	2045-12-17T09:39:54.821	44.56	-5.08	71490.6	-76.04	-77.64