

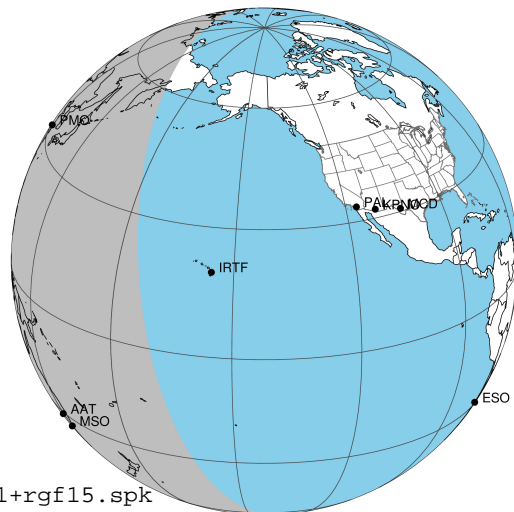
target : Jupiter  
 target radius (km) : 71492.00  
 C/A epoch : 2048-08-17T17:22:57.050  
 Event type : Pgt  
 : Jupiter occs: geocentric, topocentric  
 : Not a ringed target  
 Gaia source ID : 3404269487732608896  
 2Mass ID (if available) : 05365539+2248229

Jupiter 2048-08-17T17:22:57 K9.29 G12.01 Pgt

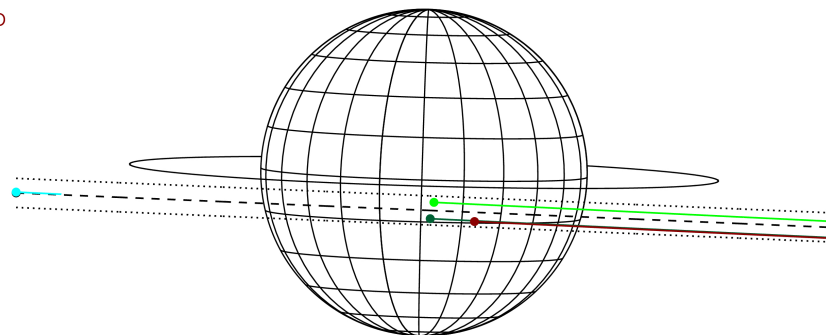
ICRS Star Coord at Epoch: 05h 36m 55.39049s +22:48:22.71856s

RUWE (>1.4 is poor) : 1.43  
 K magnitude : 9.285  
 G magnitude : 12.014  
 RP magnitude : 11.191  
 BP magnitude : 12.728  
 DUPflag : 0  
 Distance (au) : 5.494  
 f0 (km) : 0.00  
 g0 (km) : 0.00  
 skyplane vel. (km/s) : 27.46  
 Sun-Target sep (deg) : 60.12  
 Sun-Moon sep (deg) : 159.20  
 B (ring opening deg) : 2.65  
 PA of pole (deg) : -1.65  
 Pole direction: RA (deg): 268.05732  
 Dec (deg): 64.49722  
 C/A sky separation (") : 4.140  
 C/A sky separation (km) : 16497.4  
 NAIF SPICE kernels : RAJobs\_U111+rgf15.spk

Jupiter 2048-08-17T17:22:57 K9.29 G12.01  
 Pgt



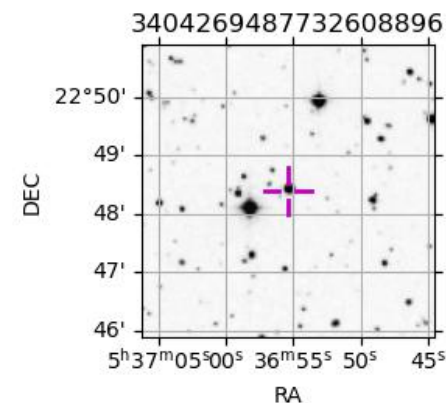
Earth  
 PMO  
 IRTF  
 AAT  
 MSO



2048-08-17T17:22:57.0500 cc: 05 36 55.3905 s: +22 48 22.719 C/A 4.131" PA 357.58 deg v\_sky +27.46 km/s D 05.49 AU  
 Credit: Styled after SORA/Lucky Star

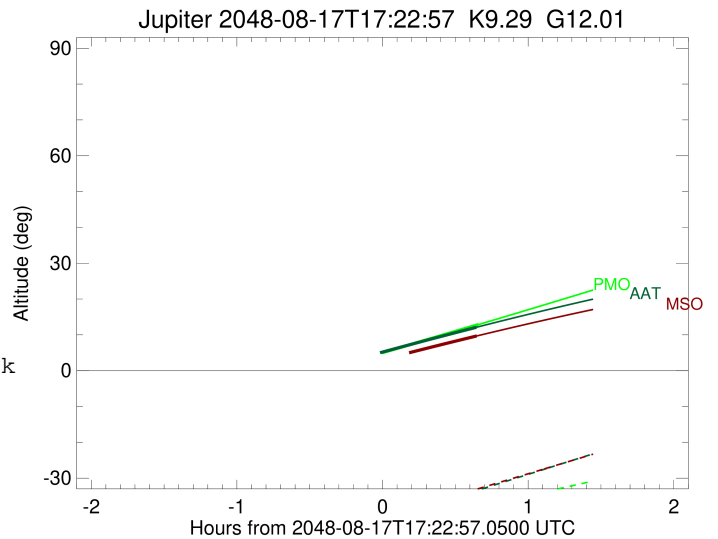
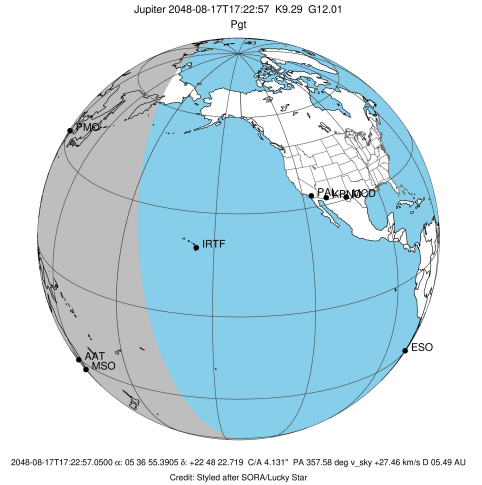
Observable events with sun below -5 deg and altitude above 5 deg

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	+	AUG 17 18:02 - AUG 17 18:02	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	+	AUG 17 18:01 - AUG 17 18:01	Pne
SAAO	So. Afr. Astro. Obs. (Sutherland)	-32.4	20.8			Pnn
MSO	Mt. Stromlo Observatory	-35.3	149.0	+	AUG 17 18:01 - AUG 17 18:01	Pne



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target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2048-08-17T17:19:44.940
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        : 3404269487732608896
2Mass ID (if available) : 05365539+2248229
ICRS Star Coord at Epoch: 05h 36m 55.39049s +22:48:22.71856s
RUWE (>1.4 is poor) : 1.43
K magnitude           : 9.285
G magnitude           : 12.014
RP magnitude          : 11.191
BP magnitude          : 12.728
DUPflag              : 0
Distance (au)         : 5.494
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 27.46
Sun-Target sep (deg) : 60.12
Sun-Moon sep (deg)   : 158.42
B (ring opening deg) : 2.65
PA of pole (deg)     : -1.65
Pole direction: RA (deg): 268.05732
Dec (deg): 64.49722
C/A sky separation (") : 3.226
C/A sky separation (km) : 12855.2
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
    
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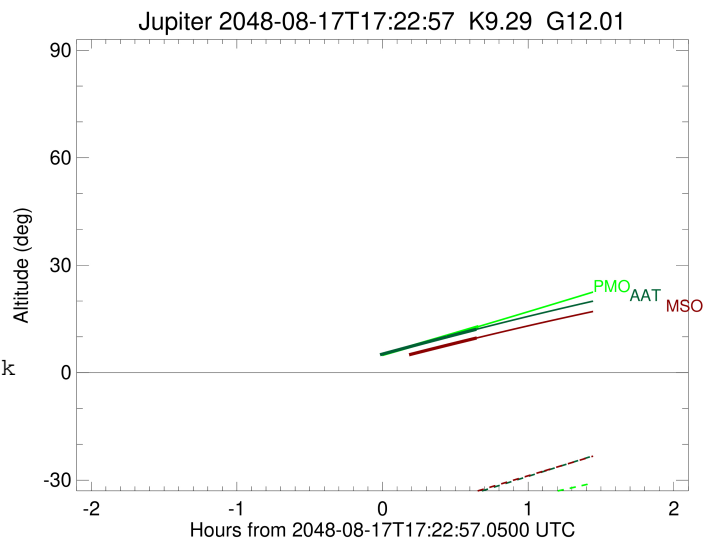
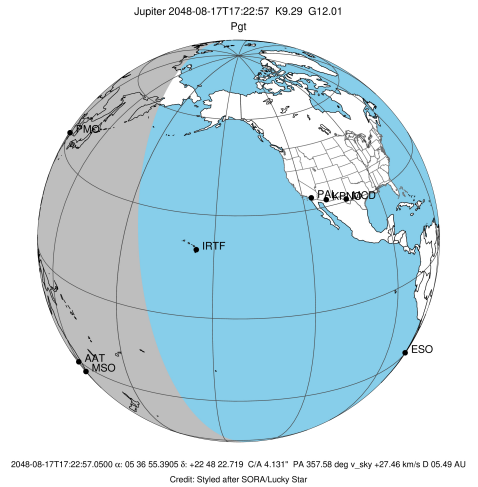


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2048-08-17T16:37:14.443	-3.64x	-44.55	71491.8	-9.27	-10.57
Jupiter	E	2048-08-17T18:02:23.330	12.85	-37.46	71491.6	-11.44	-13.02

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target                : Jupiter
target radius (km)    : 71492.00
C/A epoch              : 2048-08-17T17:19:42.300
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        : 3404269487732608896
2Mass ID (if available) : 05365539+2248229
ICRS Star Coord at Epoch: 05h 36m 55.39049s +22:48:22.71856s
RUWE (>1.4 is poor) : 1.43
K magnitude           : 9.285
G magnitude           : 12.014
RP magnitude          : 11.191
BP magnitude          : 12.728
DUPflag              : 0
Distance (au)         : 5.494
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 27.46
Sun-Target sep (deg) : 60.12
Sun-Moon sep (deg)   : 158.53
B (ring opening deg) : 2.65
PA of pole (deg)     : -1.65
Pole direction: RA (deg): 268.05732
Dec (deg): 64.49722
C/A sky separation ("): 5.043
C/A sky separation (km): 20093.0
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
    
```

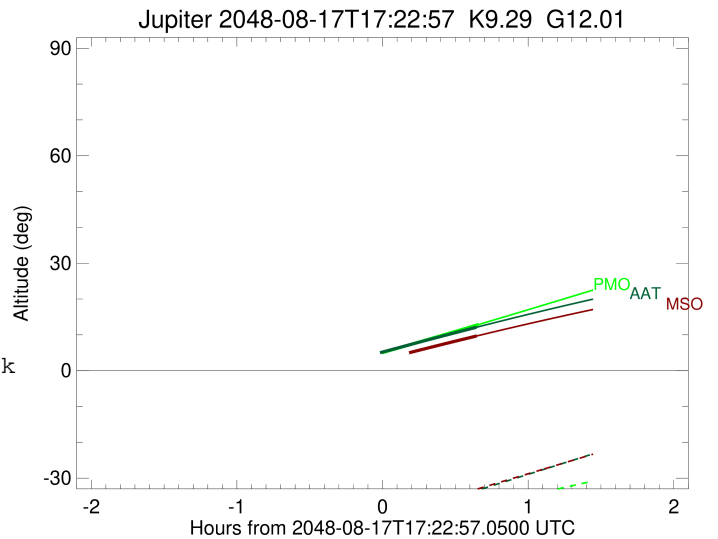
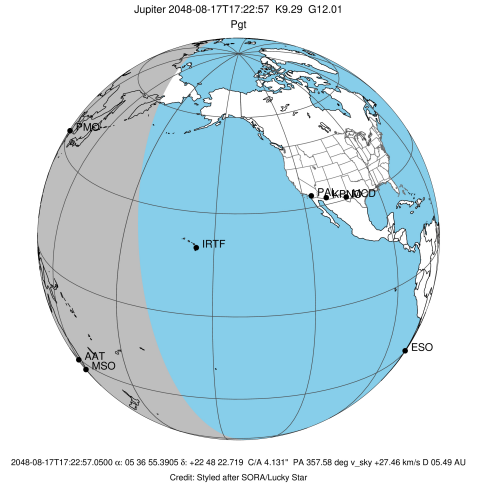


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2048-08-17T16:37:55.095	-3.37x	-51.03	71491.3	-15.21	-17.26
Jupiter	E	2048-08-17T18:01:36.959	12.11	-33.50	71491.1	-17.38	-19.68

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2048-08-17T17:19:50.350
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       : 3404269487732608896
2Mass ID (if available) : 05365539+2248229
ICRS Star Coord at Epoch: 05h 36m 55.39049s +22:48:22.71856s
RUWE (>1.4 is poor) : 1.43
K magnitude           : 9.285
G magnitude           : 12.014
RP magnitude         : 11.191
BP magnitude         : 12.728
DUPflag              : 0
Distance (au)        : 5.494
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 27.46
Sun-Target sep (deg) : 60.12
Sun-Moon sep (deg)   : 158.56
B (ring opening deg) : 2.65
PA of pole (deg)     : -1.65
Pole direction: RA (deg): 268.05732
Dec (deg): 64.49722
C/A sky separation ("): 5.123
C/A sky separation (km): 20411.7
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	2048-08-17T16:38:07.015	-5.05x	-49.57	71491.3	-15.49	-17.57
Jupiter	E	2048-08-17T18:01:40.846	9.67	-33.11	71491.1	-17.63	-19.96