

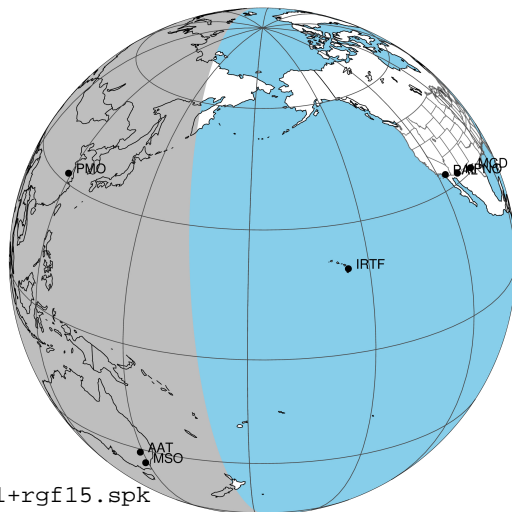
target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2048-09-02T18:46:02.980
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 3427343087136325376
 2Mass ID (if available) : 05472157+2253026

Jupiter 2048-09-02T18:46:02 K7.06 G12.62 Pgt

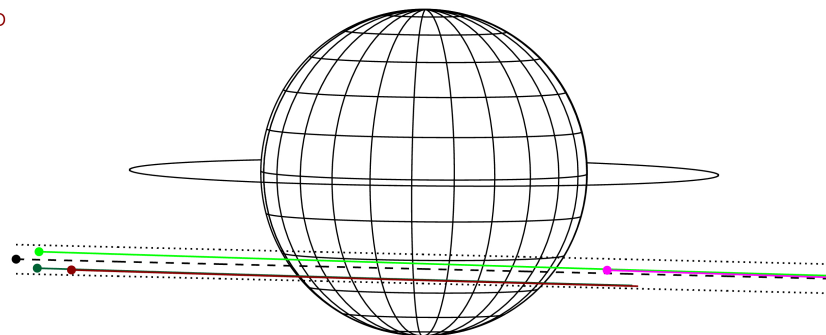
ICRS Star Coord at Epoch: 05h 47m 21.59042s +22:53:02.87816s

RUWE (>1.4 is poor) : 1.22
 K magnitude : 7.058
 G magnitude : 12.618
 RP magnitude : 11.255
 BP magnitude : 14.903
 DUPflag : 0
 Distance (au) : 5.270
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : 21.18
 Sun-Target sep (deg) : 73.20
 Sun-Moon sep (deg) : 9.93
 B (ring opening deg) : 2.61
 PA of pole (deg) : -0.52
 Pole direction: RA (deg): 268.05733
 Dec (deg): 64.49722
 C/A sky separation (") : 11.056
 C/A sky separation (km) : 42255.7
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk

Jupiter 2048-09-02T18:46:02 K7.06 G12.62
 Pgt



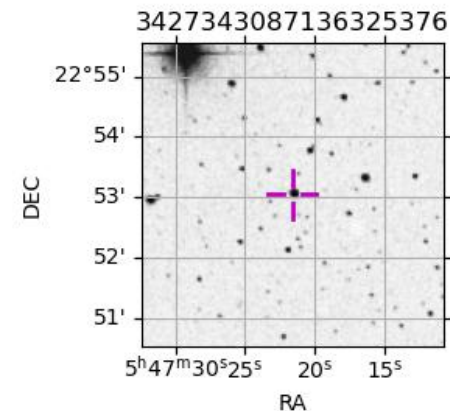
Earth
 PMO
 KAV
 AAT
 MSO



2048-09-02T18:46:02.9800 α: 05 47 21.5904 δ: +22 53 02.878 C/A ***** PA 358.63 deg v_sky +21.18 km/s D 05.27 AU
 Credit: Styled after SORA/Lucky Star

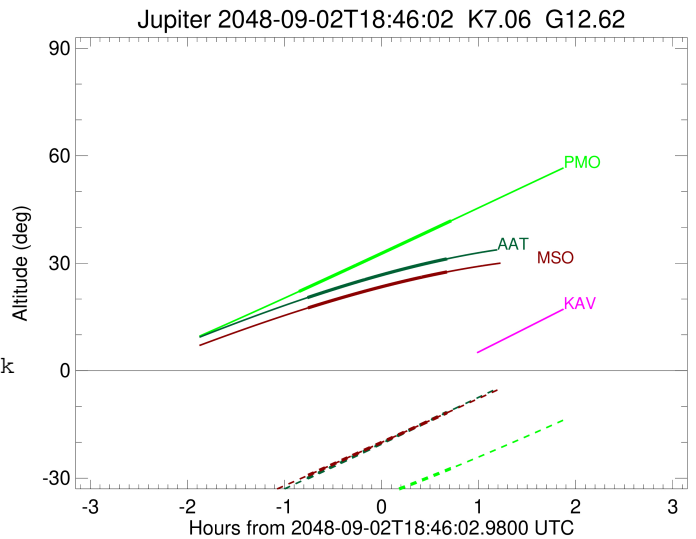
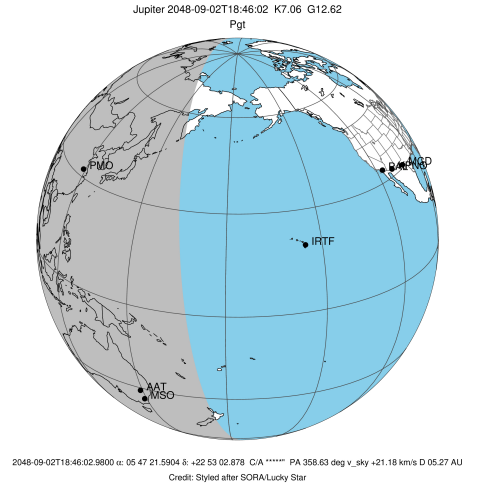
Observable events with sun below -5 deg and altitude above 5 deg

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	+ +	SEP 02 17:55 - SEP 02 19:29	Pie
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	+ +	SEP 02 18:00 - SEP 02 19:26	Pie
SAAO	So. Afr. Astro. Obs. (Sutherland)	-32.4	20.8			Pnn
MSO	Mt. Stromlo Observatory	-35.3	149.0	+ +	SEP 02 18:00 - SEP 02 19:26	Pie



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target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2048-09-02T18:41:59.460
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       : 3427343087136325376
2Mass ID (if available) : 05472157+2253026
ICRS Star Coord at Epoch: 05h 47m 21.59042s +22:53:02.87816s
RUWE (>1.4 is poor) : 1.22
K magnitude          : 7.058
G magnitude          : 12.618
RP magnitude         : 11.255
BP magnitude         : 14.903
DUPflag             : 0
Distance (au)        : 5.270
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 21.18
Sun-Target sep (deg) : 73.20
Sun-Moon sep (deg)   : 10.72
B (ring opening deg) : 2.61
PA of pole (deg)     : -0.52
Pole direction: RA (deg): 268.05733
Dec (deg): 64.49722
C/A sky separation (") : 10.447
C/A sky separation (km) : 39931.1
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
    
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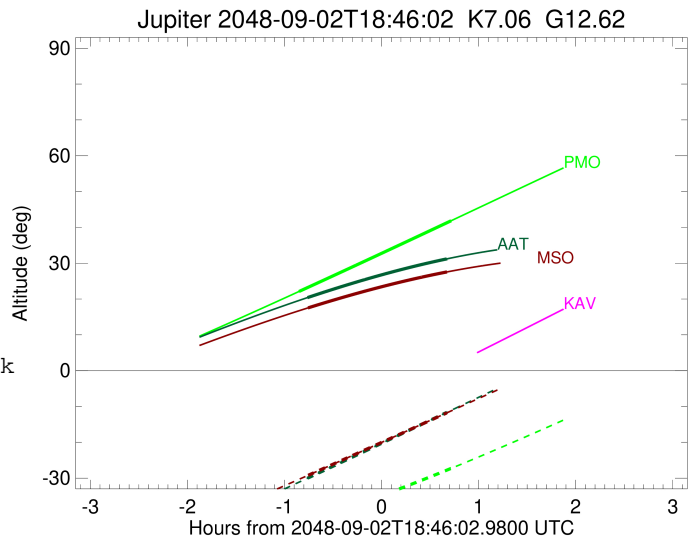
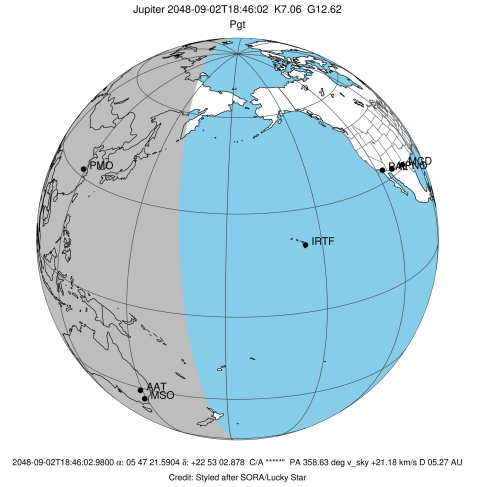


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2048-09-02T17:55:04.031	22.10	-42.56	71489.3	-32.67	-36.17
Jupiter	E	2048-09-02T19:29:07.067	41.85	-27.27	71488.9	-35.13	-38.74

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target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2048-09-02T18:43:20.660
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      : 3427343087136325376
2Mass ID (if available) : 05472157+2253026
ICRS Star Coord at Epoch: 05h 47m 21.59042s +22:53:02.87816s
RUWE (>1.4 is poor) : 1.22
K magnitude          : 7.058
G magnitude          : 12.618
RP magnitude         : 11.255
BP magnitude         : 14.903
DUPflag             : 0
Distance (au)       : 5.270
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 21.18
Sun-Target sep (deg) : 73.20
Sun-Moon sep (deg)  : 10.42
B (ring opening deg) : 2.61
PA of pole (deg)    : -0.52
Pole direction: RA (deg): 268.05733
Dec (deg): 64.49722
C/A sky separation (" ) : 12.289
C/A sky separation (km) : 46967.8
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
    
```

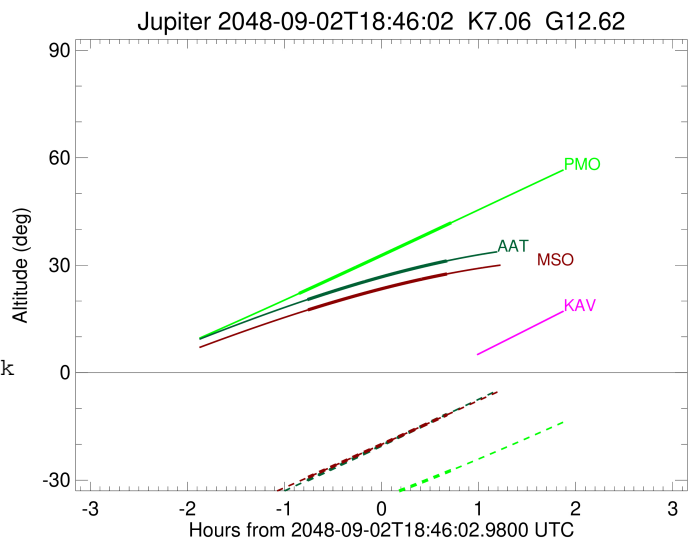
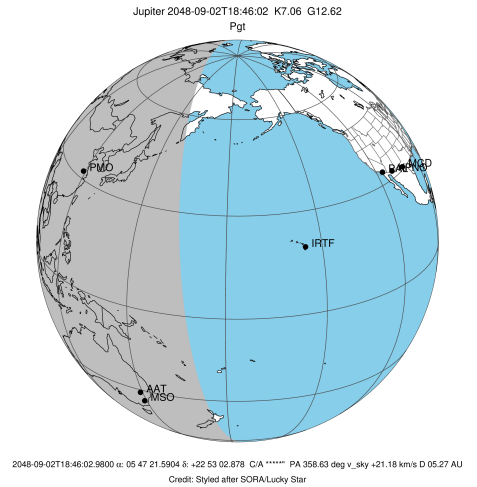


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2048-09-02T18:00:18.982	20.39	-30.01	71488.2	-39.88	-43.59
Jupiter	E	2048-09-02T19:26:29.607	31.21	-11.63	71487.8	-42.09	-45.81

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2048-09-02T18:43:27.410
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      : 3427343087136325376
2Mass ID (if available) : 05472157+2253026
ICRS Star Coord at Epoch: 05h 47m 21.59042s +22:53:02.87816s
RUWE (>1.4 is poor) : 1.22
K magnitude          : 7.058
G magnitude          : 12.618
RP magnitude         : 11.255
BP magnitude         : 14.903
DUPflag             : 0
Distance (au)       : 5.270
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 21.18
Sun-Target sep (deg) : 73.20
Sun-Moon sep (deg)  : 10.40
B (ring opening deg) : 2.61
PA of pole (deg)    : -0.52
Pole direction: RA (deg): 268.05733
Dec (deg): 64.49722
C/A sky separation (") : 12.359
C/A sky separation (km) : 47236.3
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	2048-09-02T18:00:38.700	17.52	-29.22	71488.1	-40.18	-43.89
Jupiter	E	2048-09-02T19:26:23.059	27.55	-11.79	71487.8	-42.37	-46.09