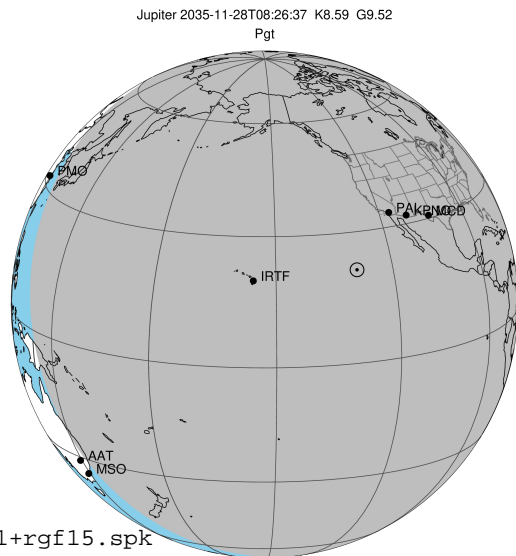


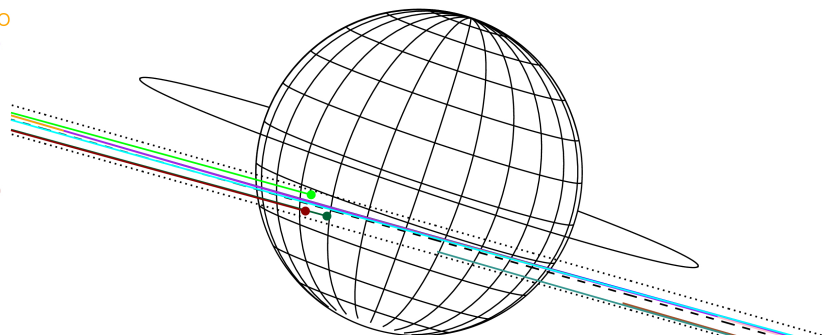
target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2035-11-28T08:26:37.180
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 32972085974380032
 2Mass ID (if available) : 02420080+1422292

Jupiter 2035-11-28T08:26:37 K8.59 G9.52 Pgt

ICRS Star Coord at Epoch: 02h 42m 00.79414s +14:22:29.12359s
 RUWE (>1.4 is poor) : 1.65
 K magnitude : 8.592
 G magnitude : 9.524
 RP magnitude : 9.178
 BP magnitude : 9.725
 DUPflag : 0
 Distance (au) : 4.065
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : -14.12
 Sun-Target sep (deg) : 157.09
 Sun-Moon sep (deg) : 172.71
 B (ring opening deg) : 3.29
 PA of pole (deg) : -18.56
 Pole direction: RA (deg): 268.05638
 Dec (deg): 64.49682
 C/A sky separation (") : 8.985
 C/A sky separation (km) : 26490.7
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk



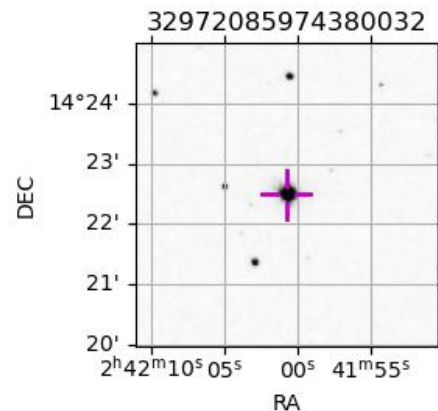
Earth
 PIC
 PAL
 PMO
 KPNO
 MCD
 TEN
 IRTF
 RIO
 ESO
 AAT
 MSO



2035-11-28T08:26:37.1800 α: 02 42 00.7941 δ: +14 22 29.124 C/A 8.973° PA 344.15 deg v_sky -14.12 km/s D 04.07 AU
 Credit: Styled after SORA/Lucky Star

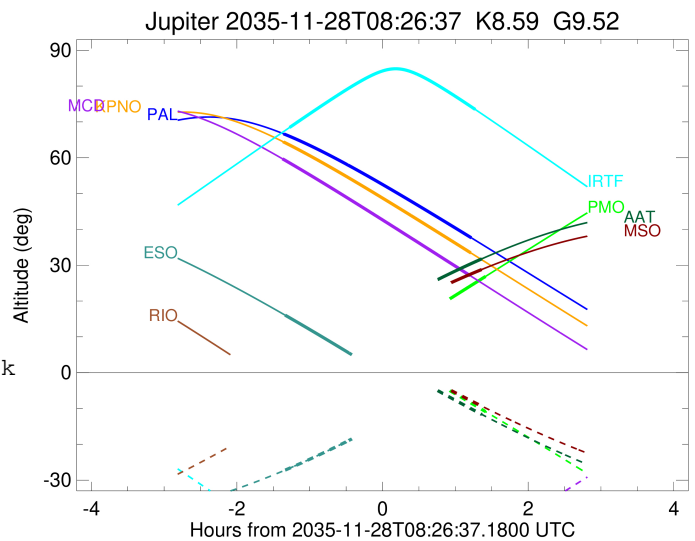
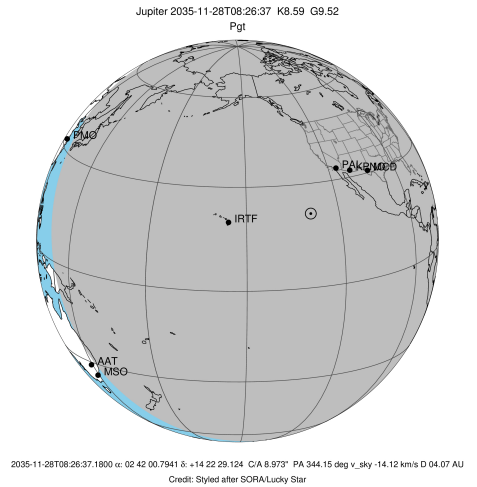
Observable events with sun below -5 deg and altitude above 5 deg

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	+ +	NOV 28 07:05 - NOV 28 09:39	Pie
PMO	Purple Mtn Obs. Nanking	32.1	118.8	+ +	NOV 28 09:51 - NOV 28 09:51	Pne
KPNO	Kitt Peak Natl Obs	32.0	248.4	+ +	NOV 28 07:04 - NOV 28 09:39	Pie
MCD	McDonald Obs. 2.7m	30.7	256.0	+ +	NOV 28 07:04 - NOV 28 09:38	Pie
TEN	Teide Obs./Tenerife	28.3	343.5			Pnn
IRTF	Mauna Kea/IRTF	19.8	204.5	+ +	NOV 28 07:10 - NOV 28 09:42	Pie
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	+ +	NOV 28 07:06 - NOV 28 07:06	Pin
AAT	Siding Spring (AAT)	-31.3	149.1	+ +	NOV 28 09:48 - NOV 28 09:48	Pne
SAAO	So. Afr. Astro. Obs. (Sutherland)	-32.4	20.8			Pnn
MSO	Mt. Stromlo Observatory	-35.3	149.0	+ +	NOV 28 09:48 - NOV 28 09:48	Pne



```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2035-11-28T08:22:21.750
Event type            : Pgt
: Jupiter occs: geocentric, topocentric
: Not a ringed target
Observer code         : PAL
Location              : Palomar Mt (200")
Latitude (deg)        : 33.35622
E. Longitude (deg)    : 243.13601
Altitude (km)         : 1.706
Gaia source ID        : 32972085974380032
2Mass ID (if available) : 02420080+1422292
ICRS Star Coord at Epoch: 02h 42m 00.79414s +14:22:29.12359s
RUWE (>1.4 is poor) : 1.65
K magnitude           : 8.592
G magnitude           : 9.524
RP magnitude          : 9.178
BP magnitude          : 9.725
DUPflag              : 0
Distance (au)         : 4.065
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : -14.12
Sun-Target sep (deg) : 157.09
Sun-Moon sep (deg)   : 172.42
B (ring opening deg) : 3.29
PA of pole (deg)     : -18.56
Pole direction: RA (deg): 268.05638
Dec (deg): 64.49682
C/A sky separation (" ) : 8.521
C/A sky separation (km) : 25122.7
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
    
```

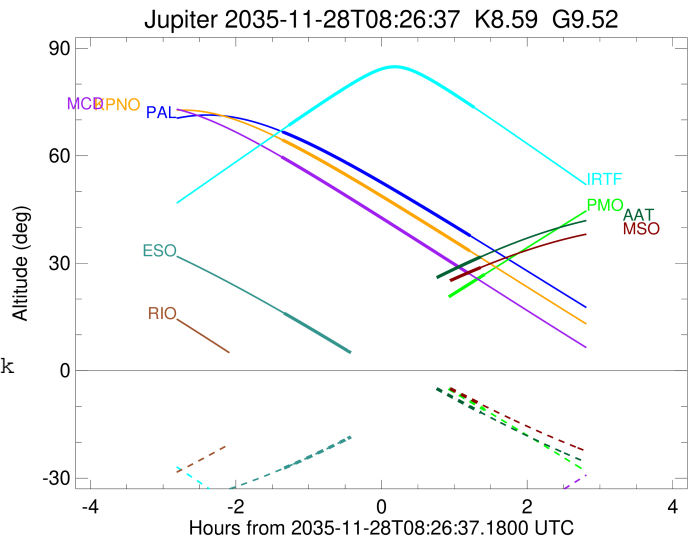
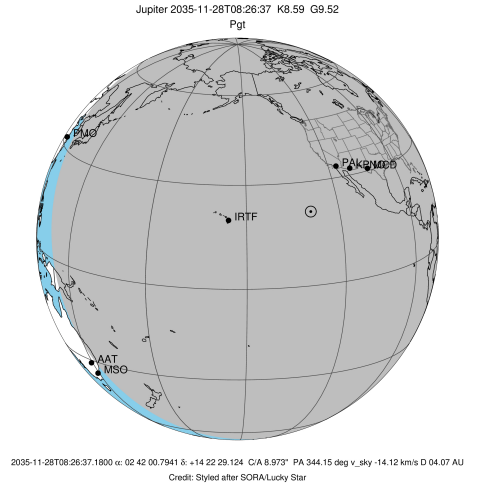


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2035-11-28T07:05:13.847	66.65	-76.37	71490.6	-17.62	-19.95
Jupiter	E	2035-11-28T09:39:53.972	37.62	-60.00	71489.7	-23.28	-26.16

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2035-11-28T08:31:33.360
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        : 32972085974380032
2Mass ID (if available) : 02420080+1422292
ICRS Star Coord at Epoch: 02h 42m 00.79414s +14:22:29.12359s
RUWE (>1.4 is poor) : 1.65
K magnitude           : 8.592
G magnitude           : 9.524
RP magnitude          : 9.178
BP magnitude          : 9.725
DUPflag              : 0
Distance (au)         : 4.065
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : -14.12
Sun-Target sep (deg)  : 157.09
Sun-Moon sep (deg)   : 173.57
B (ring opening deg) : 3.29
PA of pole (deg)     : -18.56
Pole direction: RA (deg): 268.05638
Dec (deg): 64.49682
C/A sky separation (") : 7.446
C/A sky separation (km) : 21954.0
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
    
```

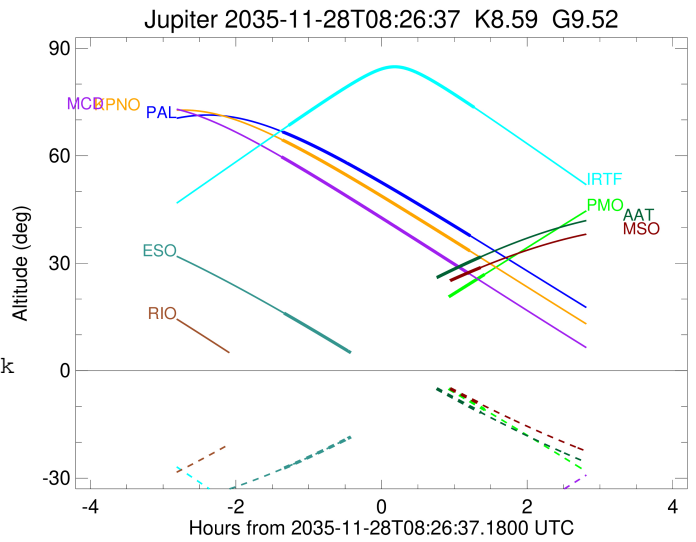
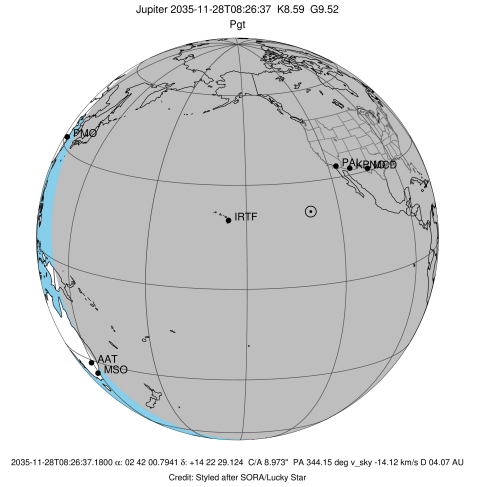


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2035-11-28T07:10:51.992	-6.52x	18.72x	71491.0	-14.83	-16.83
Jupiter	E	2035-11-28T09:51:33.651	26.87	-10.88	71490.1	-21.02	-23.70

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2035-11-28T08:21:54.900
Event type            : Pgt
: Jupiter occs: geocentric, topocentric
: Not a ringed target
Observer code         : KPNO
Location              : Kitt Peak Natl Obs
Latitude (deg)        : 31.96333
E. Longitude (deg)    : 248.40000
Altitude (km)         : 2.120
Gaia source ID        : 32972085974380032
2Mass ID (if available) : 02420080+1422292
ICRS Star Coord at Epoch: 02h 42m 00.79414s +14:22:29.12359s
RUWE (>1.4 is poor) : 1.65
K magnitude           : 8.592
G magnitude           : 9.524
RP magnitude          : 9.178
BP magnitude          : 9.725
DUPflag              : 0
Distance (au)         : 4.065
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : -14.12
Sun-Target sep (deg)  : 157.09
Sun-Moon sep (deg)    : 172.36
B (ring opening deg) : 3.29
PA of pole (deg)      : -18.56
Pole direction: RA (deg): 268.05638
Dec (deg): 64.49682
C/A sky separation (") : 8.584
C/A sky separation (km) : 25306.7
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
    
```

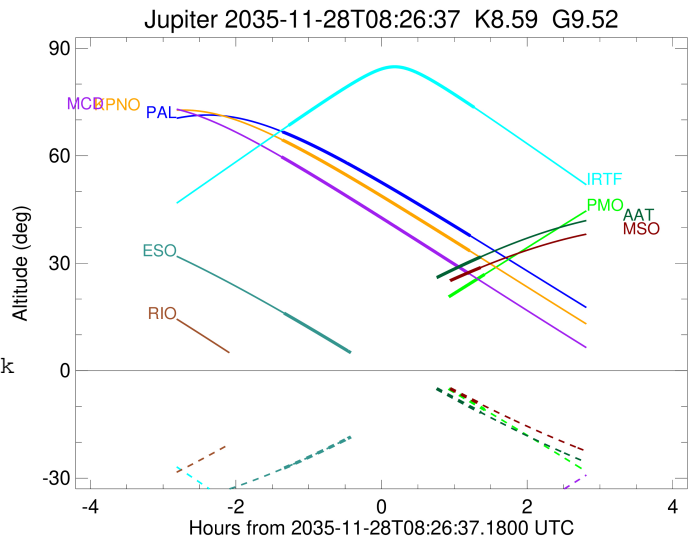
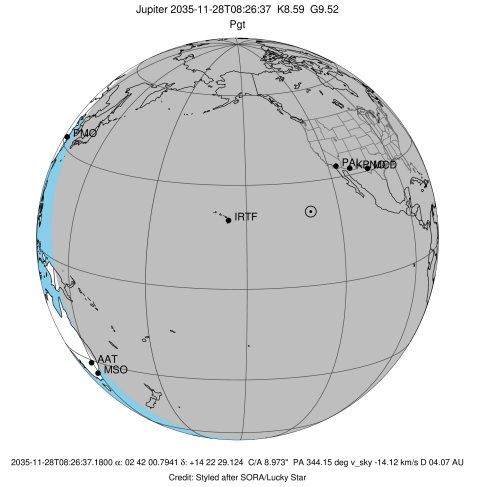


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2035-11-28T07:04:49.021	64.44	-79.28	71490.6	-17.82	-20.17
Jupiter	E	2035-11-28T09:39:28.474	33.42	-56.04	71489.7	-23.38	-26.27

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2035-11-28T08:21:19.020
Event type           : Pgt
: Jupiter occs: geocentric, topocentric
: Not a ringed target
Observer code        : MCD
Location             : McDonald Obs. 2.7m
Latitude (deg)       : 30.67158
E. Longitude (deg)   : 255.97844
Altitude (km)        : 2.075
Gaia source ID       : 32972085974380032
2Mass ID (if available) : 02420080+1422292
ICRS Star Coord at Epoch: 02h 42m 00.79414s +14:22:29.12359s
RUWE (>1.4 is poor) : 1.65
K magnitude           : 8.592
G magnitude           : 9.524
RP magnitude         : 9.178
BP magnitude         : 9.725
DUPflag              : 0
Distance (au)        : 4.065
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : -14.12
Sun-Target sep (deg) : 157.09
Sun-Moon sep (deg)   : 172.27
B (ring opening deg) : 3.29
PA of pole (deg)     : -18.56
Pole direction: RA (deg): 268.05638
Dec (deg): 64.49682
C/A sky separation ("): 8.639
C/A sky separation (km): 25468.2
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
    
```

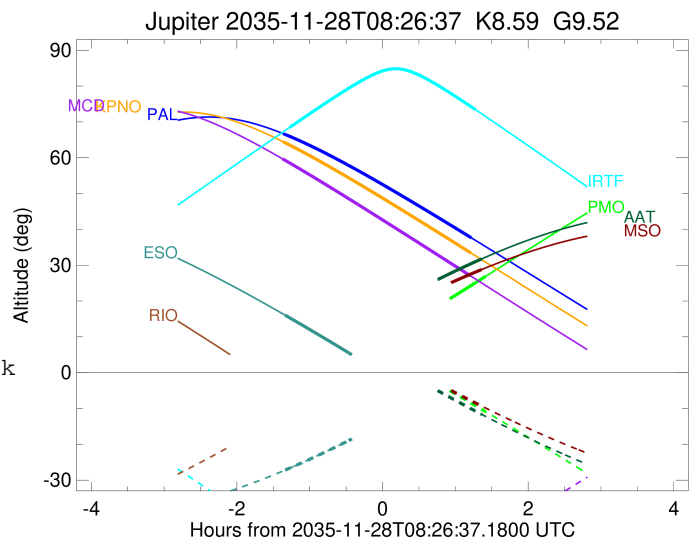
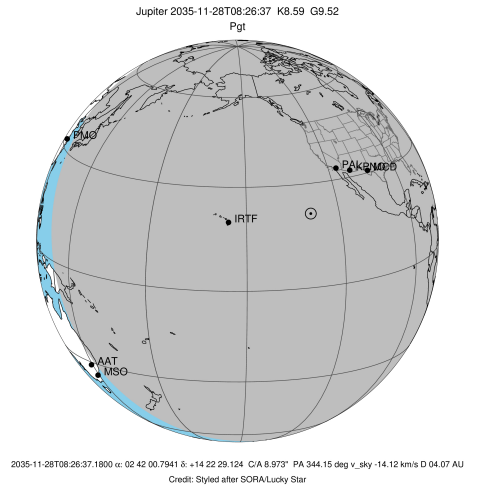


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2035-11-28T07:04:10.796	59.70	-79.71	71490.6	-18.03	-20.40
Jupiter	E	2035-11-28T09:38:59.472	27.05	-49.82	71489.7	-23.45	-26.34

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2035-11-28T08:26:30.210
Event type            : Pgt
: Jupiter occs: geocentric, topocentric
: Not a ringed target
Observer code         : IRTF
Location              : Mauna Kea/IRTF
Latitude (deg)       : 19.82622
E. Longitude (deg)   : 204.52800
Altitude (km)        : 4.168
Gaia source ID       : 32972085974380032
2Mass ID (if available) : 02420080+1422292
ICRS Star Coord at Epoch: 02h 42m 00.79414s +14:22:29.12359s
RUWE (>1.4 is poor) : 1.65
K magnitude           : 8.592
G magnitude           : 9.524
RP magnitude          : 9.178
BP magnitude          : 9.725
DUPflag              : 0
Distance (au)        : 4.065
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : -14.12
Sun-Target sep (deg) : 157.09
Sun-Moon sep (deg)   : 172.88
B (ring opening deg) : 3.29
PA of pole (deg)     : -18.56
Pole direction: RA (deg): 268.05638
Dec (deg): 64.49682
C/A sky separation (") : 8.771
C/A sky separation (km) : 25857.4
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
    
```

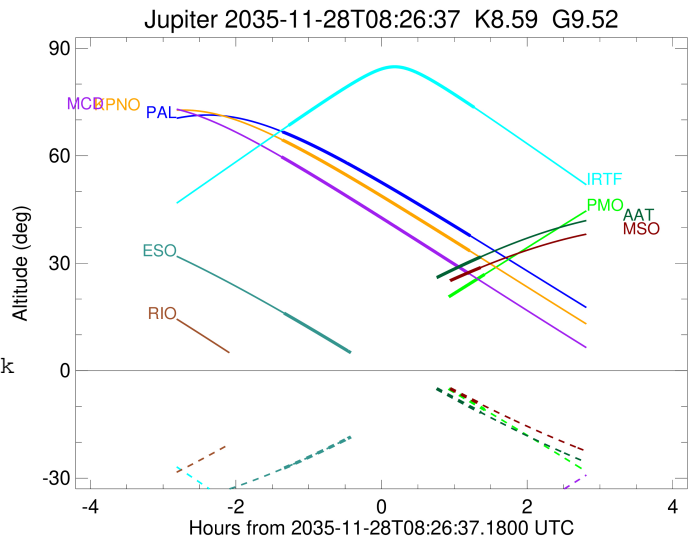
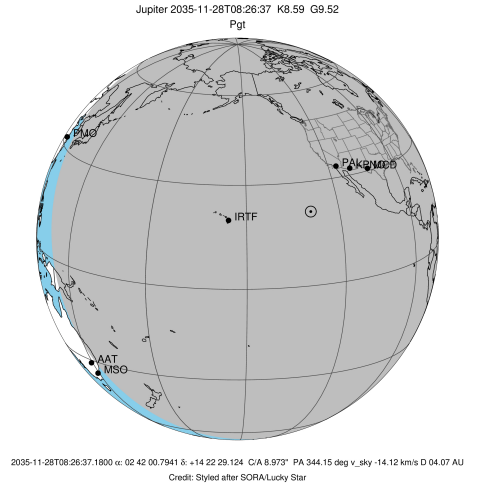


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2035-11-28T07:10:00.046	68.43	-48.04	71490.6	-17.93	-20.28
Jupiter	E	2035-11-28T09:42:59.065	73.48	-83.55	71489.5	-24.28	-27.25

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2035-11-28T08:21:36.400
Event type           : Pgt
: Jupiter occs: geocentric, topocentric
: Not a ringed target
Observer code        : ESO
Location             : European Southern Obs. (3.6m)
Latitude (deg)       : -29.26097
E. Longitude (deg)   : 289.26831
Altitude (km)        : 2.400
Gaia source ID       : 32972085974380032
2Mass ID (if available) : 02420080+1422292
ICRS Star Coord at Epoch: 02h 42m 00.79414s +14:22:29.12359s
RUWE (>1.4 is poor) : 1.65
K magnitude           : 8.592
G magnitude           : 9.524
RP magnitude          : 9.178
BP magnitude          : 9.725
DUPflag              : 0
Distance (au)         : 4.065
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : -14.12
Sun-Target sep (deg) : 157.09
Sun-Moon sep (deg)   : 171.83
B (ring opening deg) : 3.29
PA of pole (deg)     : -18.56
Pole direction: RA (deg): 268.05638
Dec (deg): 64.49682
C/A sky separation ("): 10.544
C/A sky separation (km): 31085.6
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
    
```

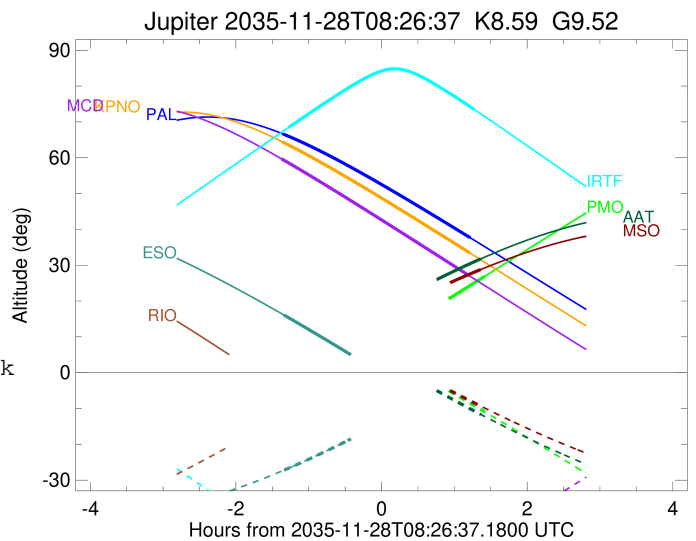
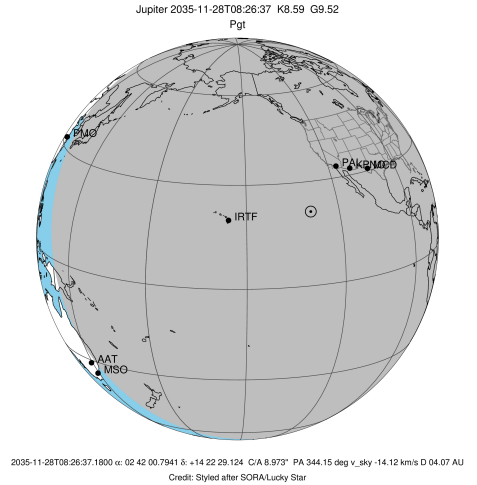


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2035-11-28T07:06:22.597	16.05	-27.19	71489.7	-23.26	-26.14
Jupiter	E	2035-11-28T09:37:32.980	-15.43x	-0.61x	71488.7	-28.03	-31.28


```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2035-11-28T08:32:43.590
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       : 32972085974380032
2Mass ID (if available) : 02420080+1422292
ICRS Star Coord at Epoch: 02h 42m 00.79414s +14:22:29.12359s
RUWE (>1.4 is poor) : 1.65
K magnitude           : 8.592
G magnitude           : 9.524
RP magnitude          : 9.178
BP magnitude          : 9.725
DUPflag              : 0
Distance (au)        : 4.065
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : -14.12
Sun-Target sep (deg) : 157.09
Sun-Moon sep (deg)   : 173.23
B (ring opening deg) : 3.29
PA of pole (deg)     : -18.56
Pole direction: RA (deg): 268.05638
Dec (deg): 64.49682
C/A sky separation ("): 9.853
C/A sky separation (km): 29049.8
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
    
```

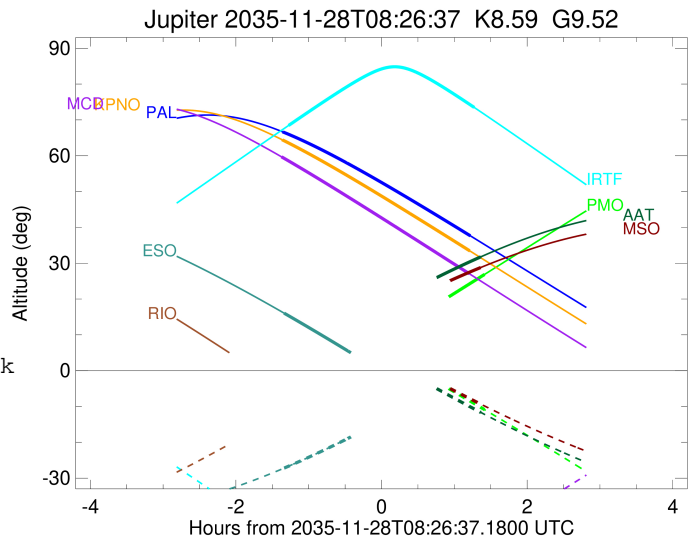
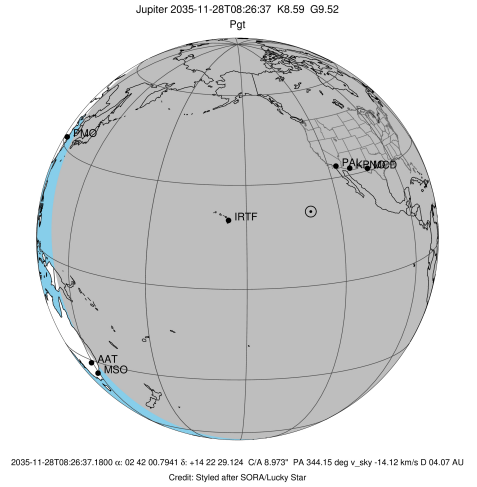


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2035-11-28T07:16:20.904	4.22x	18.02x	71490.1	-20.71	-23.36
Jupiter	E	2035-11-28T09:48:34.972	31.79	-11.67	71488.9	-27.20	-30.40


```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2035-11-28T08:32:36.770
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        : 32972085974380032
2Mass ID (if available) : 02420080+1422292
ICRS Star Coord at Epoch: 02h 42m 00.79414s +14:22:29.12359s
RUWE (>1.4 is poor) : 1.65
K magnitude           : 8.592
G magnitude           : 9.524
RP magnitude          : 9.178
BP magnitude          : 9.725
DUPflag               : 0
Distance (au)         : 4.065
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : -14.12
Sun-Target sep (deg)  : 157.09
Sun-Moon sep (deg)    : 173.18
B (ring opening deg) : 3.29
PA of pole (deg)      : -18.56
Pole direction: RA (deg): 268.05638
Dec (deg): 64.49682
C/A sky separation (") : 9.979
C/A sky separation (km) : 29419.1
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	2035-11-28T07:16:23.657	2.81x	19.02x	71490.1	-21.06	-23.74
Jupiter	E	2035-11-28T09:48:20.225	28.79	-9.33	71488.8	-27.50	-30.72