

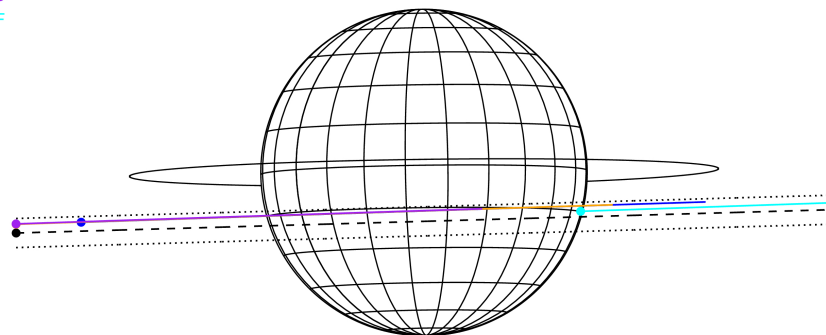
target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2043-02-11T13:07:29.290
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 4068851016167627904
 2Mass ID (if available) : 17451102-2256024

Jupiter 2043-02-11T13:07:29 K7.83 G14.68 Pgt

ICRS Star Coord at Epoch: 17h 45m 10.99774s -22:56:02.59361s
 RUWE (>1.4 is poor) : 1.09
 K magnitude : 7.830
 G magnitude : 14.685
 RP magnitude : 13.103
 BP magnitude : 18.604
 DUPflag : 0
 Distance (au) : 5.806
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : 30.07
 Sun-Target sep (deg) : 55.51
 Sun-Moon sep (deg) : 77.26
 B (ring opening deg) : -2.56
 PA of pole (deg) : 0.76
 Pole direction: RA (deg): 268.05661
 Dec (deg): 64.49732
 C/A sky separation (") : 5.080
 C/A sky separation (km) : 21388.5
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk



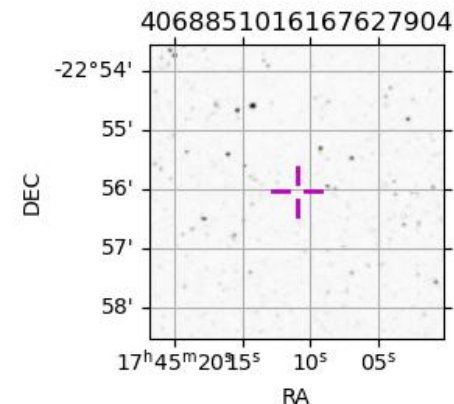
Earth
 PAL
 KPNO
 MCD
 IRTF



2043-02-11T13:07:29.2900 a: 17 45 10.9977 s: -22 56 02.594 C/A 5.089° PA 1.64 deg v_sky +30.07 km/s D 05.81 AU
 Credit: Styled after SORA/Lucky Star

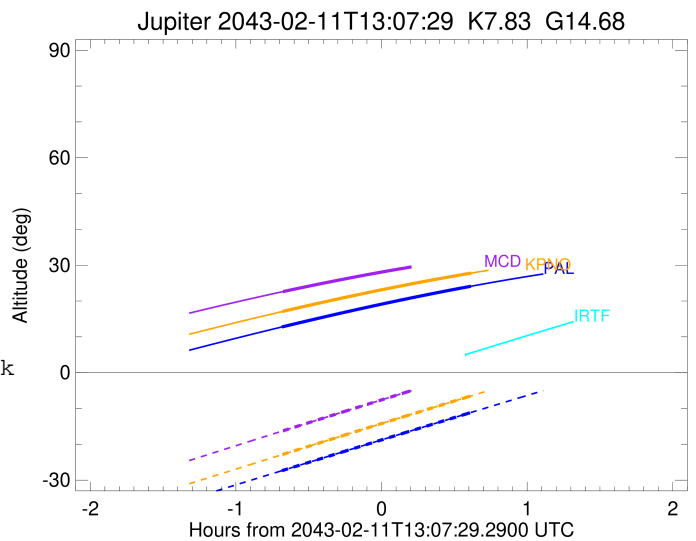
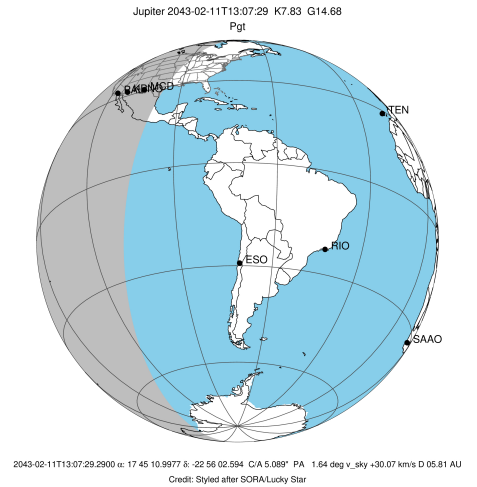
Observable events with sun below -5 deg and altitude above 5 deg

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	+ +	FEB 11 12:26 - FEB 11 13:44	Pie
PMO	Purple Mtn Obs. Nanking	32.1	118.8			Pnn
KPNO	Kitt Peak Natl Obs	32.0	248.4	+ +	FEB 11 12:26 - FEB 11 13:44	Pie
MCD	McDonald Obs. 2.7m	30.7	256.0	+	FEB 11 12:26 - FEB 11 12:26	Pin
TEN	Teide Obs./Tenerife	28.3	343.5			Pnn
IRTF	Mauna Kea/IRTF	19.8	204.5	+	FEB 11 13:42 - FEB 11 13:42	Pne
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			Pnn
SAAO	So. Afr. Astro. Obs. (Sutherland)	-32.4	20.8			Pnn
MSO	Mt. Stromlo Observatory	-35.3	149.0			Pnn



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target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-02-11T13:05:20.240
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        : 4068851016167627904
2Mass ID (if available) : 17451102-2256024
ICRS Star Coord at Epoch: 17h 45m 10.99774s -22:56:02.59361s
RUWE (>1.4 is poor) : 1.09
K magnitude           : 7.830
G magnitude           : 14.685
RP magnitude          : 13.103
BP magnitude          : 18.604
DUPflag              : 0
Distance (au)         : 5.806
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 30.07
Sun-Target sep (deg)  : 55.51
Sun-Moon sep (deg)   : 77.71
B (ring opening deg) : -2.56
PA of pole (deg)     : 0.76
Pole direction: RA (deg): 268.05661
Dec (deg): 64.49732
C/A sky separation (") : 3.996
C/A sky separation (km) : 16824.4
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
    
```

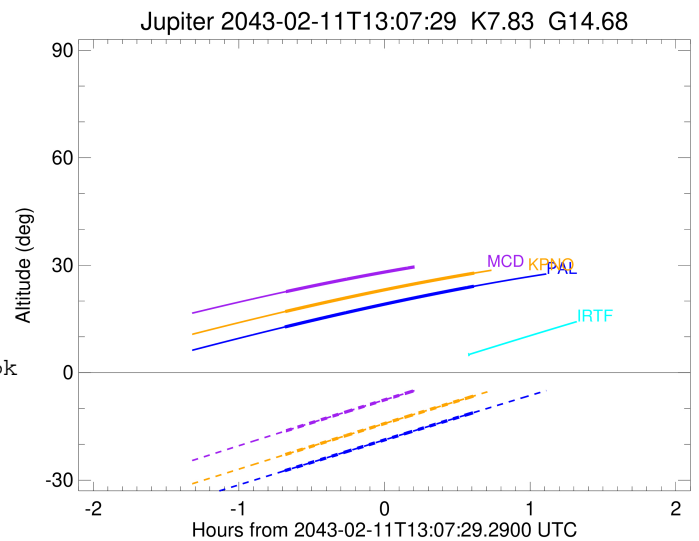
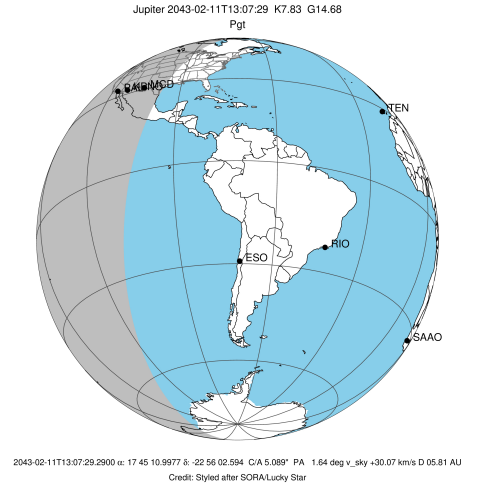


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-02-11T12:26:31.299	12.77	-27.34	71491.4	-14.71	-16.70
Jupiter	E	2043-02-11T13:44:13.815	24.10	-11.14	71491.6	-12.51	-14.24

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target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-02-11T13:05:30.190
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      : 4068851016167627904
2Mass ID (if available) : 17451102-2256024
ICRS Star Coord at Epoch: 17h 45m 10.99774s -22:56:02.59361s
RUWE (>1.4 is poor) : 1.09
K magnitude          : 7.830
G magnitude          : 14.685
RP magnitude         : 13.103
BP magnitude         : 18.604
DUPflag             : 0
Distance (au)       : 5.806
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 30.07
Sun-Target sep (deg) : 55.51
Sun-Moon sep (deg)  : 77.76
B (ring opening deg) : -2.56
PA of pole (deg)    : 0.76
Pole direction: RA (deg): 268.05661
Dec (deg): 64.49732
C/A sky separation (") : 3.985
C/A sky separation (km) : 16779.8
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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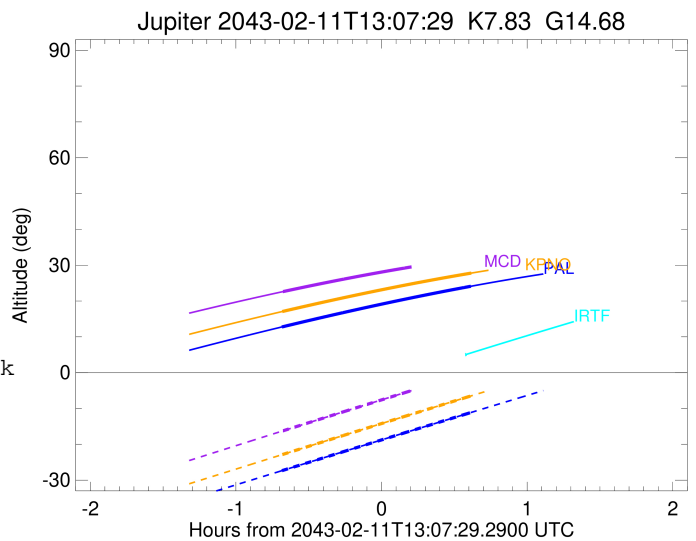
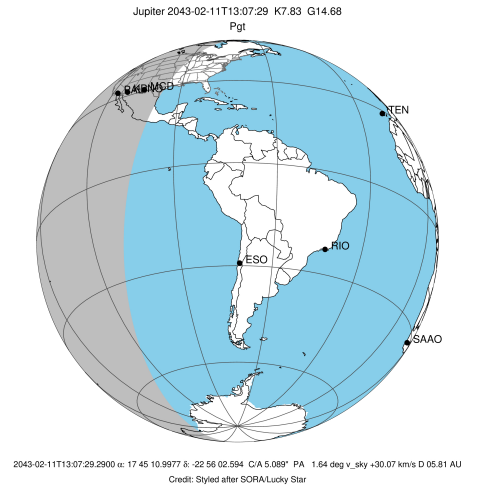


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-02-11T12:26:38.461	17.07	-22.85	71491.4	-14.66	-16.65
Jupiter	E	2043-02-11T13:44:26.276	27.79	-6.48	71491.6	-12.50	-14.21

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-02-11T13:05:47.730
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        : 4068851016167627904
2Mass ID (if available) : 17451102-2256024
ICRS Star Coord at Epoch: 17h 45m 10.99774s -22:56:02.59361s
RUWE (>1.4 is poor) : 1.09
K magnitude           : 7.830
G magnitude           : 14.685
RP magnitude          : 13.103
BP magnitude          : 18.604
DUPflag              : 0
Distance (au)         : 5.806
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 30.07
Sun-Target sep (deg)  : 55.51
Sun-Moon sep (deg)   : 77.82
B (ring opening deg) : -2.56
PA of pole (deg)     : 0.76
Pole direction: RA (deg): 268.05661
Dec (deg): 64.49732
C/A sky separation (") : 3.963
C/A sky separation (km) : 16686.2
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
    
```

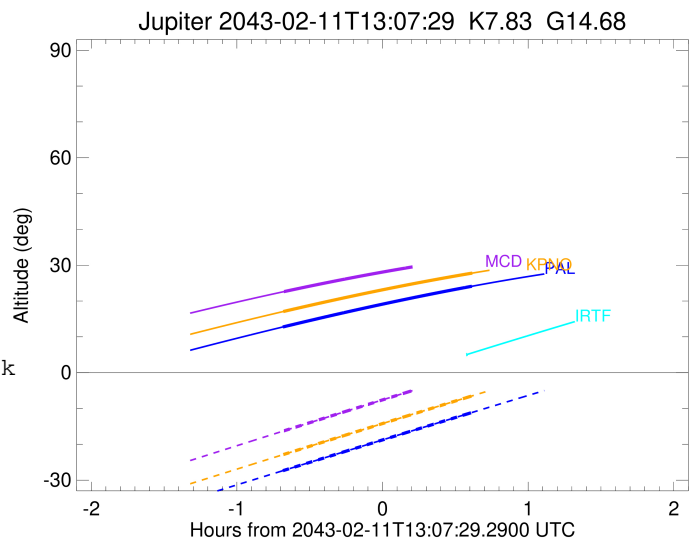
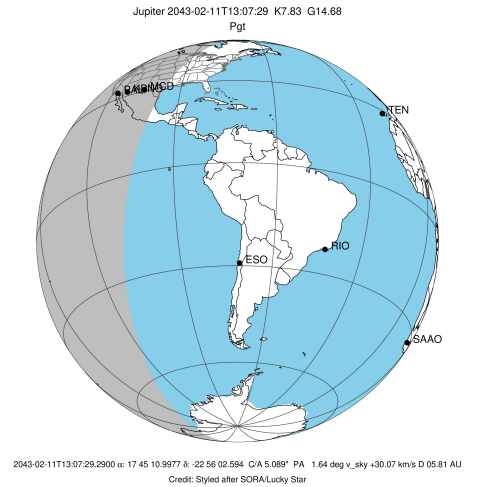


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-02-11T12:26:52.167	22.62	-16.24	71491.4	-14.56	-16.54
Jupiter	E	2043-02-11T13:44:47.172	32.08	0.20x	71491.6	-12.45	-14.16

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-02-11T13:04:12.310
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       : 4068851016167627904
2Mass ID (if available) : 17451102-2256024
ICRS Star Coord at Epoch: 17h 45m 10.99774s -22:56:02.59361s
RUWE (>1.4 is poor) : 1.09
K magnitude           : 7.830
G magnitude           : 14.685
RP magnitude         : 13.103
BP magnitude         : 18.604
DUPflag              : 0
Distance (au)        : 5.806
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 30.07
Sun-Target sep (deg) : 55.51
Sun-Moon sep (deg)  : 77.43
B (ring opening deg) : -2.56
PA of pole (deg)    : 0.76
Pole direction: RA (deg): 268.05661
Dec (deg): 64.49732
C/A sky separation (") : 4.594
C/A sky separation (km) : 19342.5
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	2043-02-11T12:26:04.034	-11.43x	-63.08	71491.2	-16.89	-19.13
Jupiter	E	2043-02-11T13:42:26.989	5.10	-45.15	71491.4	-14.48	-16.44