

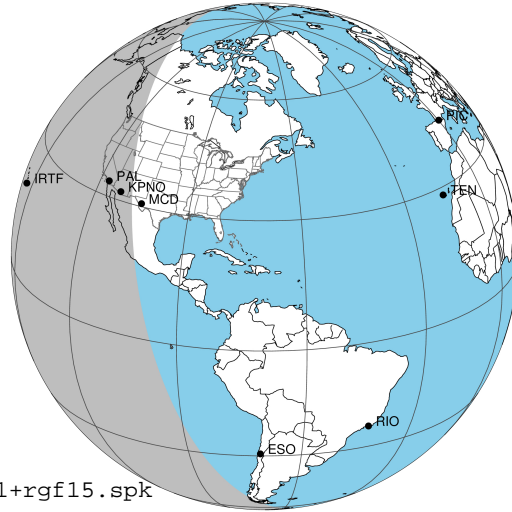
target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2024-08-06T12:33:07.480
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 3412354437249775872
 2Mass ID (if available) : 04551829+2154180

Jupiter 2024-08-06T12:33:07 K8.13 G11.43 Pgt

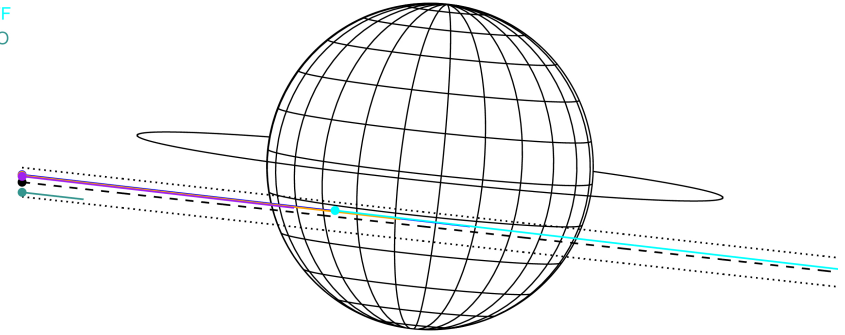
ICRS Star Coord at Epoch: 04h 55m 18.30490s +21:54:17.97612s

RUWE (>1.4 is poor) : 1.17
 K magnitude : 8.134
 G magnitude : 11.428
 RP magnitude : 10.494
 BP magnitude : 12.336
 DUPflag : 0
 Distance (au) : 5.481
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : 28.01
 Sun-Target sep (deg) : 59.18
 Sun-Moon sep (deg) : 82.37
 B (ring opening deg) : 2.89
 PA of pole (deg) : -6.08
 Pole direction: RA (deg): 268.05790
 Dec (deg): 64.49674
 C/A sky separation (") : 6.652
 C/A sky separation (km) : 26444.9
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk

Jupiter 2024-08-06T12:33:07 K8.13 G11.43
 Pgt



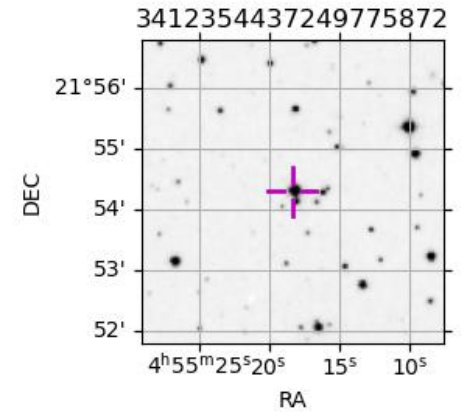
Earth
 PAL
 KPNO
 MCD
 IRTF
 ESO



2024-08-06T12:33:07.4800 ex: 04 55 18.3049 s: +21 54 17.976 C/A 6.643" PA 353.70 deg v_sky +28.01 km/s D 05.48 AU
 Credit: Styled after SORA/Lucky Star

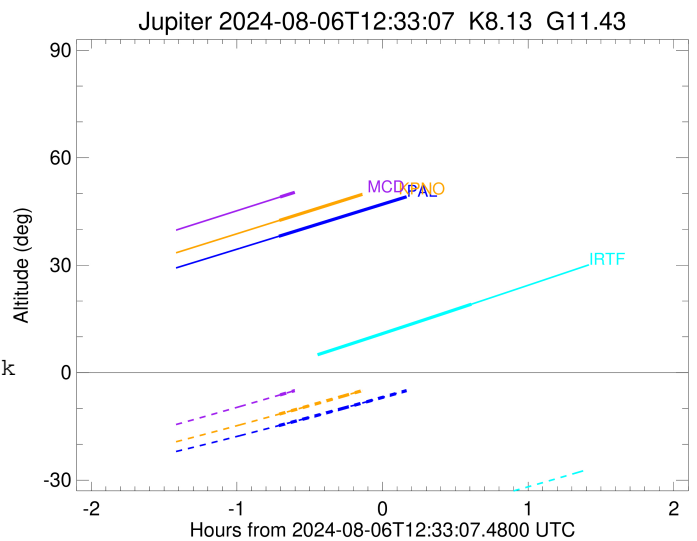
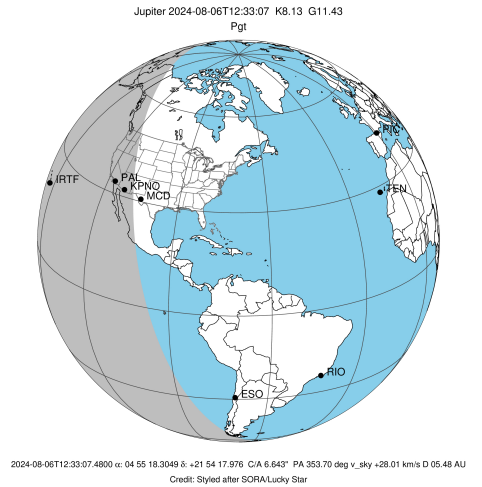
Observable events with sun below -5 deg and altitude above 5 deg

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	+	AUG 06 11:50 - AUG 06 11:50	Pin
PMO	Purple Mtn Obs. Nanking	32.1	118.8			Pnn
KPNO	Kitt Peak Natl Obs	32.0	248.4	+	AUG 06 11:50 - AUG 06 11:50	Pin
MCD	McDonald Obs. 2.7m	30.7	256.0	+	AUG 06 11:50 - AUG 06 11:50	Pin
TEN	Teide Obs./Tenerife	28.3	343.5			Pnn
IRTF	Mauna Kea/IRTF	19.8	204.5	+	AUG 06 13:09 - AUG 06 13:09	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             : 2024-08-06T12:30:50.270
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        : 3412354437249775872
2Mass ID (if available) : 04551829+2154180
ICRS Star Coord at Epoch: 04h 55m 18.30490s +21:54:17.97612s
RUWE (>1.4 is poor) : 1.17
K magnitude           : 8.134
G magnitude           : 11.428
RP magnitude          : 10.494
BP magnitude          : 12.336
DUPflag              : 0
Distance (au)         : 5.481
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 28.01
Sun-Target sep (deg) : 59.18
Sun-Moon sep (deg)   : 83.09
B (ring opening deg) : 2.89
PA of pole (deg)     : -6.08
Pole direction: RA (deg): 268.05790
Dec (deg): 64.49674
C/A sky separation ("): 6.071
C/A sky separation (km): 24135.7
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
    
```

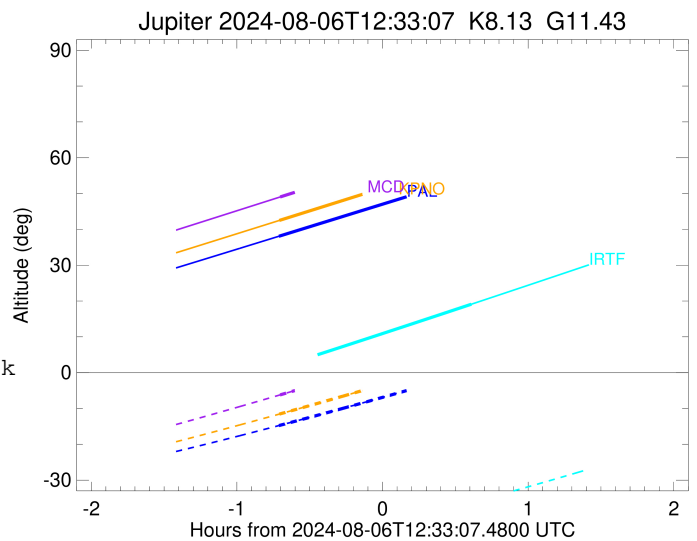
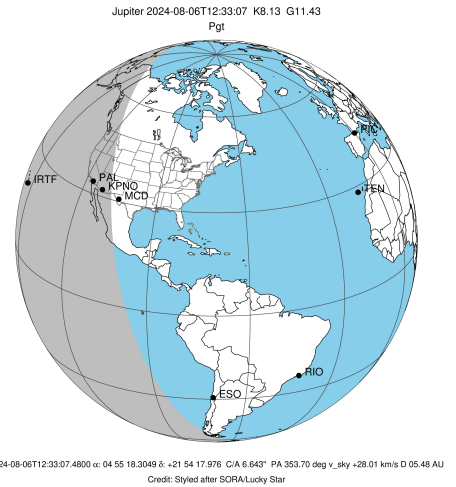


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2024-08-06T11:50:29.345	38.08	-14.76	71490.8	-19.20	-21.69
Jupiter	E	2024-08-06T13:11:16.854	54.98	0.49x	71490.6	-20.18	-22.78

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2024-08-06T12:30:59.650
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       : 3412354437249775872
2Mass ID (if available) : 04551829+2154180
ICRS Star Coord at Epoch: 04h 55m 18.30490s +21:54:17.97612s
RUWE (>1.4 is poor) : 1.17
K magnitude           : 8.134
G magnitude           : 11.428
RP magnitude         : 10.494
BP magnitude         : 12.336
DUPflag              : 0
Distance (au)        : 5.481
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 28.01
Sun-Target sep (deg) : 59.18
Sun-Moon sep (deg)   : 83.13
B (ring opening deg) : 2.89
PA of pole (deg)     : -6.08
Pole direction: RA (deg): 268.05790
Dec (deg): 64.49674
C/A sky separation (") : 6.148
C/A sky separation (km) : 24439.6
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
    
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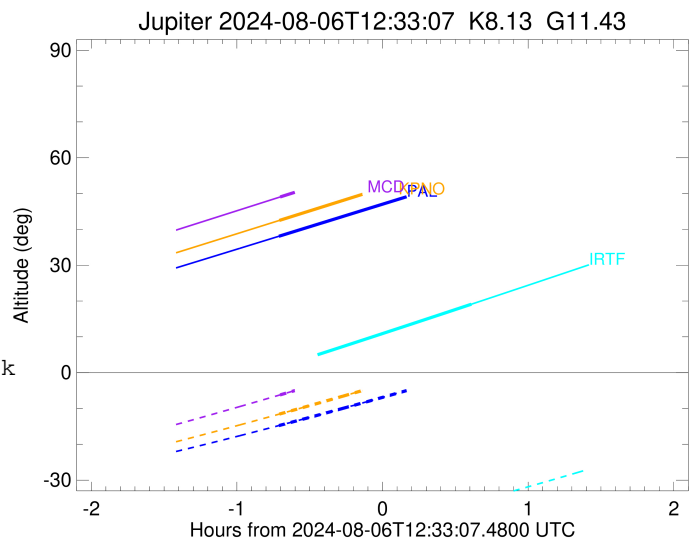
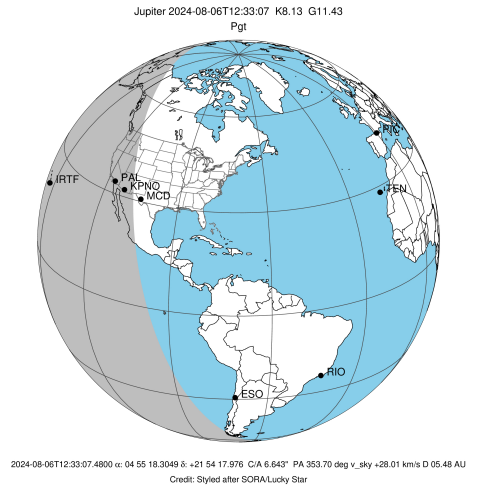


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2024-08-06T11:50:39.820	42.50	-11.55	71490.7	-19.47	-21.99
Jupiter	E	2024-08-06T13:11:24.839	59.62	4.31x	71490.6	-20.43	-23.05

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2024-08-06T12:31:17.260
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       : 3412354437249775872
2Mass ID (if available) : 04551829+2154180
ICRS Star Coord at Epoch: 04h 55m 18.30490s +21:54:17.97612s
RUWE (>1.4 is poor) : 1.17
K magnitude          : 8.134
G magnitude          : 11.428
RP magnitude         : 10.494
BP magnitude         : 12.336
DUPflag             : 0
Distance (au)        : 5.481
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 28.01
Sun-Target sep (deg) : 59.18
Sun-Moon sep (deg)   : 83.19
B (ring opening deg) : 2.89
PA of pole (deg)     : -6.08
Pole direction: RA (deg): 268.05790
Dec (deg): 64.49674
C/A sky separation (") : 6.238
C/A sky separation (km) : 24799.1
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
    
```

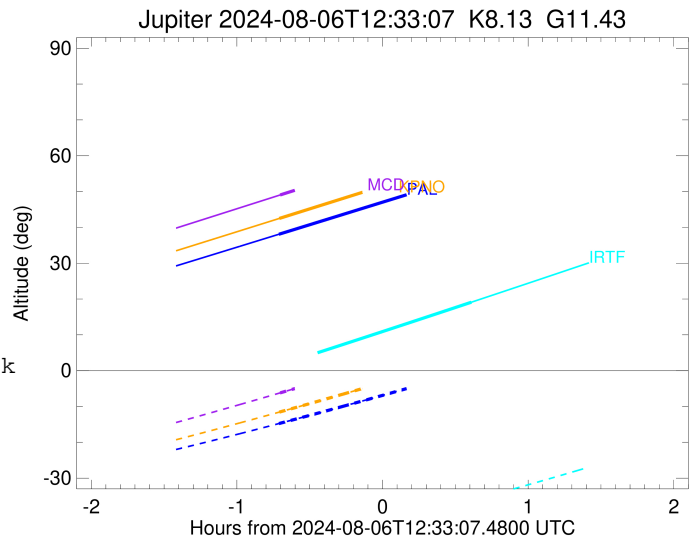
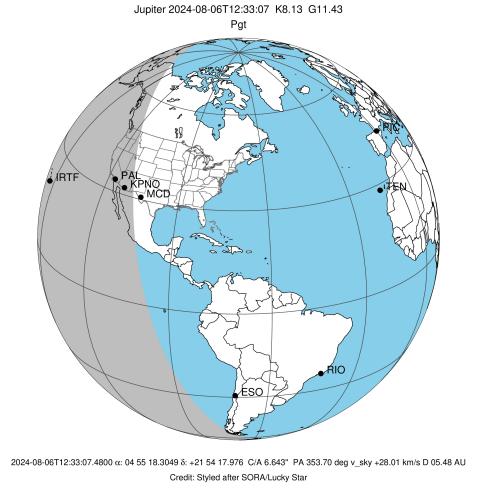


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2024-08-06T11:50:58.478	49.05	-6.20	71490.7	-19.79	-22.34
Jupiter	E	2024-08-06T13:11:40.843	66.28	10.30x	71490.6	-20.71	-23.36

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2024-08-06T12:29:36.760
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       : 3412354437249775872
2Mass ID (if available) : 04551829+2154180
ICRS Star Coord at Epoch: 04h 55m 18.30490s +21:54:17.97612s
RUWE (>1.4 is poor) : 1.17
K magnitude          : 8.134
G magnitude           : 11.428
RP magnitude         : 10.494
BP magnitude         : 12.336
DUPflag             : 0
Distance (au)        : 5.481
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 28.01
Sun-Target sep (deg) : 59.18
Sun-Moon sep (deg)   : 82.65
B (ring opening deg) : 2.89
PA of pole (deg)     : -6.08
Pole direction: RA (deg): 268.05790
Dec (deg): 64.49674
C/A sky separation (") : 6.024
C/A sky separation (km) : 23945.8
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	2024-08-06T11:49:35.450	1.34x	-48.61	71490.8	-19.00	-21.47
Jupiter	E	2024-08-06T13:09:45.685	19.11	-36.23	71490.6	-20.10	-22.69