

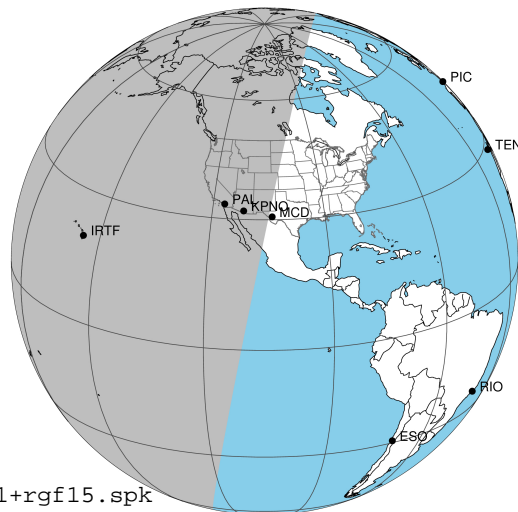
target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2037-10-20T13:09:51.760
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 670788889939194880
 2Mass ID (if available) : 08010285+2041139

Jupiter 2037-10-20T13:09:51 K6.14 G9.47 Pgt

ICRS Star Coord at Epoch: 08h 01m 02.86016s +20:41:13.78583s

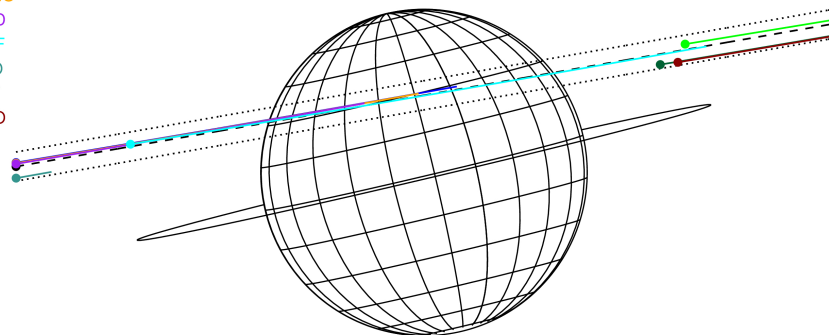
RUWE (>1.4 is poor) : 0.96
 K magnitude : 6.141
 G magnitude : 9.469
 RP magnitude : 8.500
 BP magnitude : 10.435
 DUPflag : 0
 Distance (au) : 5.126
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : 12.81
 Sun-Target sep (deg) : 88.84
 Sun-Moon sep (deg) : 130.89
 B (ring opening deg) : 1.26
 PA of pole (deg) : 13.27
 Pole direction: RA (deg): 268.05624
 Dec (deg): 64.49689
 C/A sky separation (") : 8.964
 C/A sky separation (km) : 33327.1
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk

Jupiter 2037-10-20T13:09:51 K6.14 G9.47
 Pgt



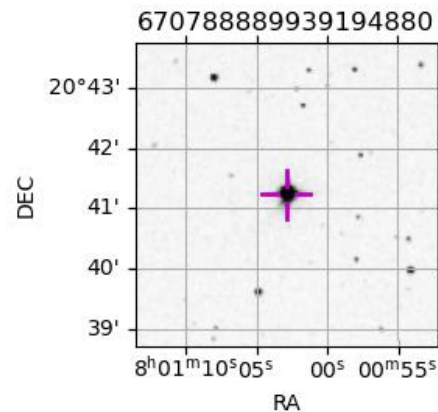
2037-10-20T13:09:51.7600 ex: 08 01 02.8602 s: +20 41 13.786 C/A 8.972" PA 189.91 deg v_sky +12.81 km/s D 05.13 AU
 Credit: Styled after SORA/Lucky Star

Earth
 PAL
 PMO
 KPNO
 MCD
 IRTF
 ESO
 AAT
 MSO



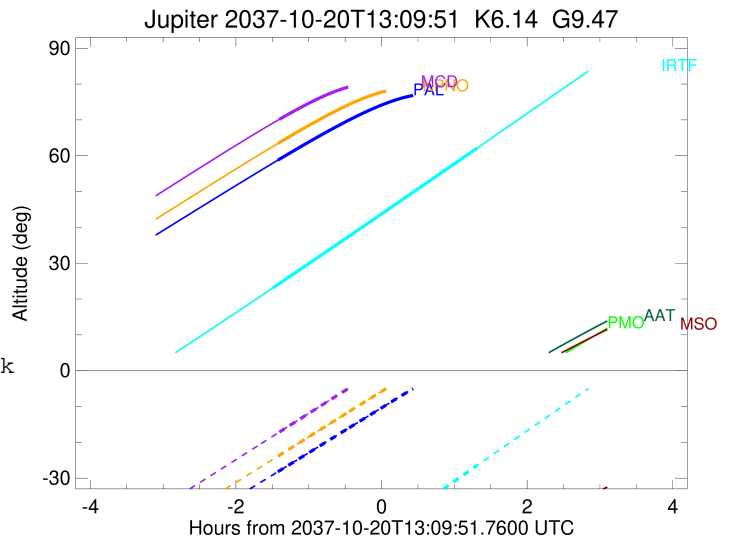
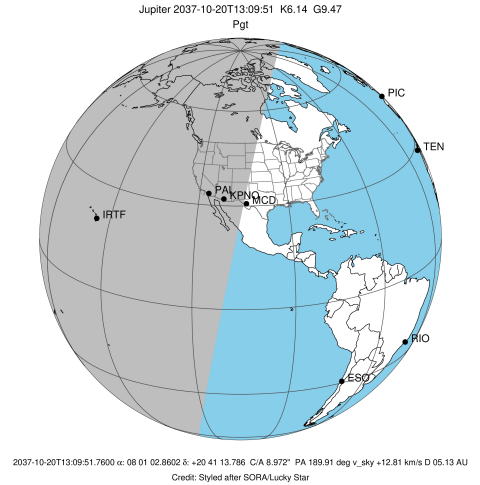
Observable events with sun below -5 deg and altitude above 5 deg

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	+	OCT 20 11:44 - OCT 20 11:44	Pin
PMO	Purple Mtn Obs. Nanking	32.1	118.8			Pnn
KPNO	Kitt Peak Natl Obs	32.0	248.4	+	OCT 20 11:44 - OCT 20 11:44	Pin
MCD	McDonald Obs. 2.7m	30.7	256.0	+	OCT 20 11:45 - OCT 20 11:45	Pin
TEN	Teide Obs./Tenerife	28.3	343.5			Pnn
IRTF	Mauna Kea/IRTF	19.8	204.5	+ +	OCT 20 11:40 - OCT 20 14:28	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			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            : 2037-10-20T13:08:03.000
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      : 670788889939194880
2Mass ID (if available) : 08010285+2041139
ICRS Star Coord at Epoch: 08h 01m 02.86016s +20:41:13.78583s
RUWE (>1.4 is poor) : 0.96
K magnitude          : 6.141
G magnitude          : 9.469
RP magnitude         : 8.500
BP magnitude         : 10.435
DUPflag             : 0
Distance (au)       : 5.126
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 12.81
Sun-Target sep (deg) : 88.84
Sun-Moon sep (deg)   : 131.65
B (ring opening deg) : 1.26
PA of pole (deg)     : 13.27
Pole direction: RA (deg): 268.05624
Dec (deg): 64.49689
C/A sky separation ("): 9.293
C/A sky separation (km): 34548.5
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
    
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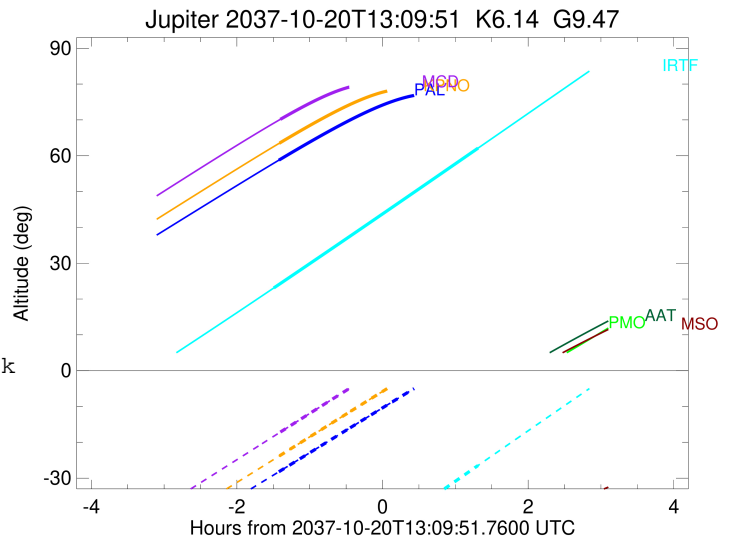
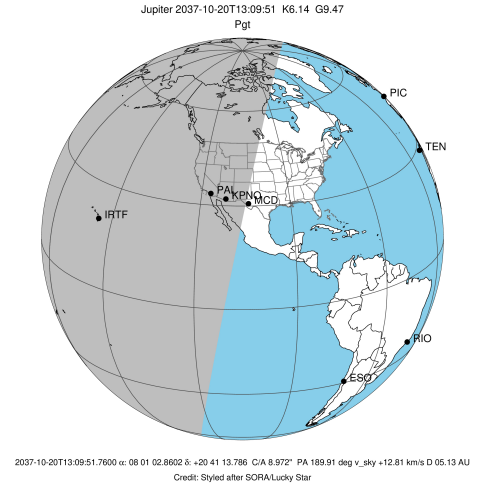


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2037-10-20T11:44:26.221	58.75	-28.22	71491.4	32.19	35.67
Jupiter	E	2037-10-20T14:31:59.562	74.72	6.42x	71491.6	25.83	28.92

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target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2037-10-20T13:08:39.990
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      : 670788889939194880
2Mass ID (if available) : 08010285+2041139
ICRS Star Coord at Epoch: 08h 01m 02.86016s +20:41:13.78583s
RUWE (>1.4 is poor) : 0.96
K magnitude          : 6.141
G magnitude          : 9.469
RP magnitude         : 8.500
BP magnitude         : 10.435
DUPflag             : 0
Distance (au)       : 5.126
f0 (km)             : 0.00
g0 (km)             : 0.00
skyplane vel. (km/s) : 12.81
Sun-Target sep (deg) : 88.84
Sun-Moon sep (deg)  : 131.61
B (ring opening deg) : 1.26
PA of pole (deg)    : 13.27
Pole direction: RA (deg): 268.05624
Dec (deg): 64.49689
C/A sky separation (") : 9.269
C/A sky separation (km) : 34459.9
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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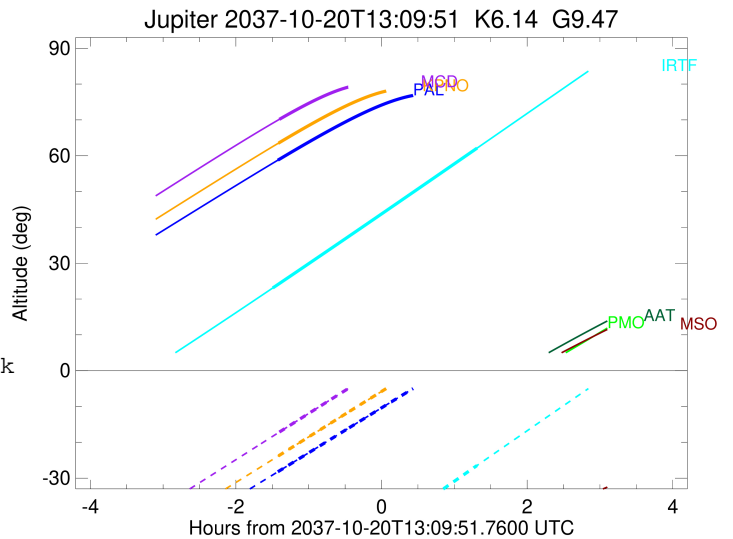
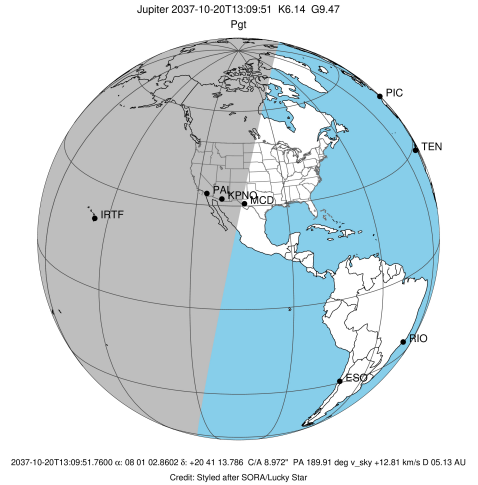


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2037-10-20T11:44:52.987	63.49	-23.80	71491.4	32.04	35.52
Jupiter	E	2037-10-20T14:32:41.717	72.40	11.21x	71491.6	25.81	28.90

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target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2037-10-20T13:09:34.580
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     : 670788889939194880
2Mass ID (if available) : 08010285+2041139
ICRS Star Coord at Epoch: 08h 01m 02.86016s +20:41:13.78583s
RUWE (>1.4 is poor) : 0.96
K magnitude        : 6.141
G magnitude        : 9.469
RP magnitude       : 8.500
BP magnitude       : 10.435
DUPflag           : 0
Distance (au)     : 5.126
f0 (km)           : 0.00
g0 (km)           : 0.00
skyplane vel. (km/s) : 12.81
Sun-Target sep (deg) : 88.84
Sun-Moon sep (deg) : 131.55
B (ring opening deg) : 1.26
PA of pole (deg)   : 13.27
Pole direction: RA (deg): 268.05624
Dec (deg): 64.49689
C/A sky separation (") : 9.264
C/A sky separation (km) : 34442.5
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
    
```

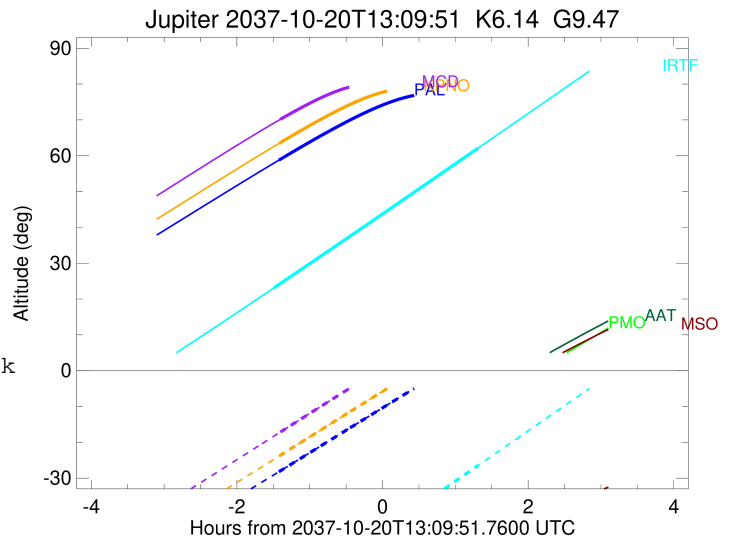
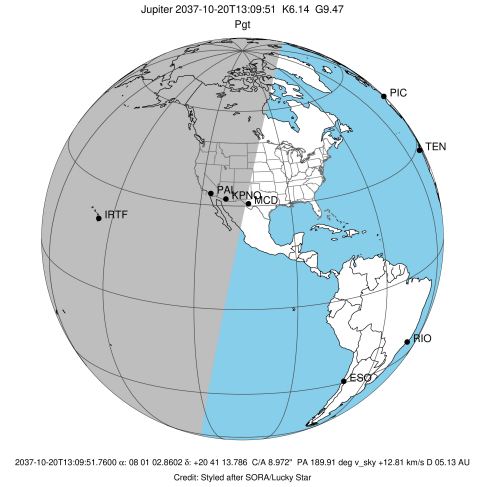


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2037-10-20T11:45:41.090	70.15	-17.14	71491.4	31.93	35.40
Jupiter	E	2037-10-20T14:33:35.132	67.08	17.87x	71491.6	25.88	28.98

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2037-10-20T13:03:58.250
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      : 670788889939194880
2Mass ID (if available) : 08010285+2041139
ICRS Star Coord at Epoch: 08h 01m 02.86016s +20:41:13.78583s
RUWE (>1.4 is poor) : 0.96
K magnitude          : 6.141
G magnitude          : 9.469
RP magnitude         : 8.500
BP magnitude         : 10.435
DUPflag             : 0
Distance (au)       : 5.126
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 12.81
Sun-Target sep (deg) : 88.84
Sun-Moon sep (deg)  : 131.79
B (ring opening deg) : 1.26
PA of pole (deg)    : 13.27
Pole direction: RA (deg): 268.05624
Dec (deg): 64.49689
C/A sky separation (") : 8.925
C/A sky separation (km) : 33182.7
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	2037-10-20T11:40:16.625	23.08	-65.65	71491.4	31.44	34.89
Jupiter	E	2037-10-20T14:28:37.782	62.12	-26.46	71491.6	24.10	27.06