

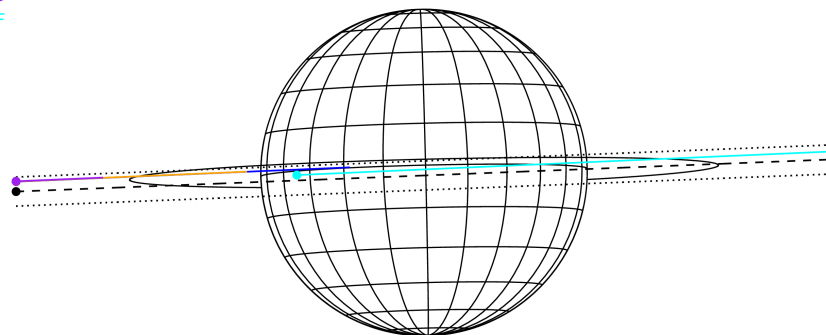
target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2043-02-03T14:38:30.690
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 4116748525780517376
 2Mass ID (if available) : 17390367-2253052

Jupiter 2043-02-03T14:38:30 K7.58 G14.77 Pgt

ICRS Star Coord at Epoch: 17h 39m 03.67478s -22:53:05.35689s
 RUWE (>1.4 is poor) : 0.97
 K magnitude : 7.578
 G magnitude : 14.767
 RP magnitude : 13.082
 BP magnitude : 18.463
 DUPflag : 0
 Distance (au) : 5.908
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : 32.81
 Sun-Target sep (deg) : 48.88
 Sun-Moon sep (deg) : 25.91
 B (ring opening deg) : -2.58
 PA of pole (deg) : 1.42
 Pole direction: RA (deg): 268.05661
 Dec (deg): 64.49732
 C/A sky separation (") : 0.306
 C/A sky separation (km) : 1311.1
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk



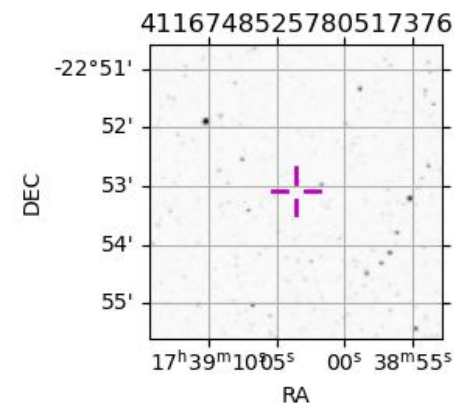
Earth
 PAL
 KPNO
 MCD
 IRTF



2043-02-03T14:38:30.6900 a: 17 39 03.6748 & -22 53 05.357 C/A 0.315" PA 2.30 deg v_sky +32.81 km/s D 05.91 AU
 Credit: Styled after SORA/Lucky Star

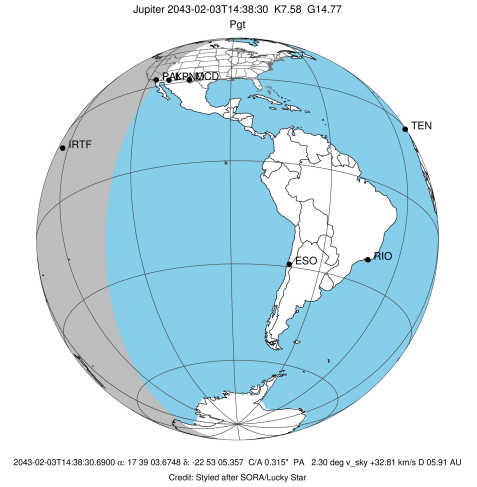
Observable events with sun below -5 deg and altitude above 5 deg

Obs	Location	lat	Elon	Target	Observed Events Interval	OEncode
PIC	Pic du Midi	42.9	0.1			Pnn
PAL	Palomar Mt (200")	33.4	243.1	+	FEB 03 14:00 - FEB 03 14:00	Pin
PMO	Purple Mtn Obs. Nanking	32.1	118.8			Pnn
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	+	FEB 03 15:12 - FEB 03 15:12	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

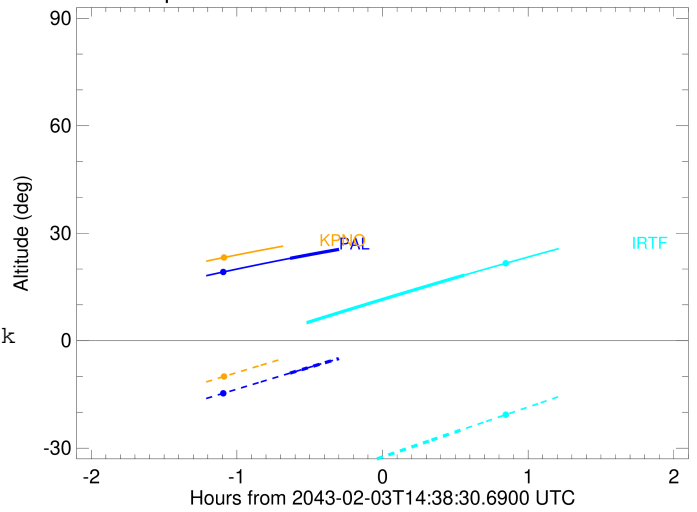


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target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-02-03T14:37:05.500
Event type            : Pgt
: Jupiter occs: geocentric, topocentric
: Not a ringed target
Observer code         : PAL
Location              : Palomar Mt (200")
Latitude (deg)        : 33.35622
E. Longitude (deg)    : 243.13601
Altitude (km)         : 1.706
Gaia source ID        : 4116748525780517376
2Mass ID (if available) : 17390367-2253052
ICRS Star Coord at Epoch: 17h 39m 03.67478s -22:53:05.35689s
RUWE (>1.4 is poor) : 0.97
K magnitude           : 7.578
G magnitude           : 14.767
RP magnitude          : 13.082
BP magnitude          : 18.463
DUPflag              : 0
Distance (au)         : 5.908
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 32.81
Sun-Target sep (deg) : 48.88
Sun-Moon sep (deg)   : 25.86
B (ring opening deg) : -2.58
PA of pole (deg)     : 1.42
Pole direction: RA (deg): 268.05661
Dec (deg): 64.49732
C/A sky separation (") : 0.844
C/A sky separation (km) : 3618.3
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
    
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Jupiter 2043-02-03T14:38:30 K7.58 G14.77

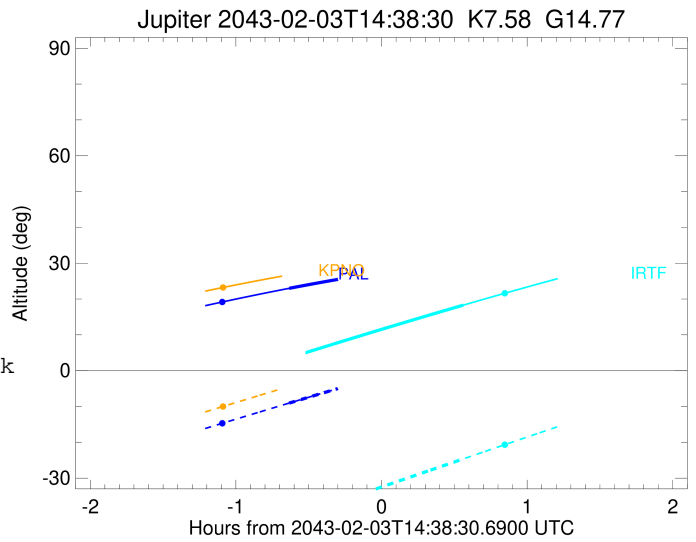
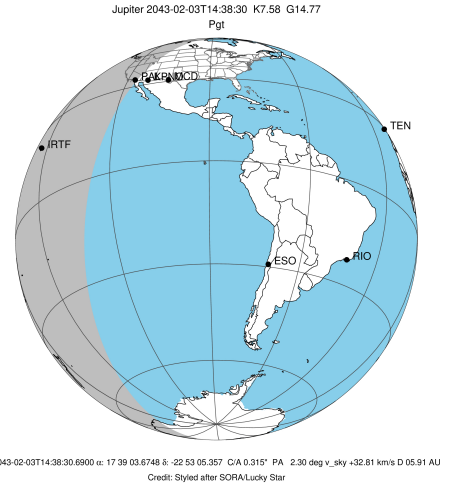


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-02-03T14:00:28.144	22.98	-9.05	71492.0	1.89	2.16
Jupiter	E	2043-02-03T15:13:45.667	30.72	5.47x	71492.0	3.87	4.42

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target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-02-03T14:35:37.480
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      : 4116748525780517376
2Mass ID (if available) : 17390367-2253052
ICRS Star Coord at Epoch: 17h 39m 03.67478s -22:53:05.35689s
RUWE (>1.4 is poor) : 0.97
K magnitude          : 7.578
G magnitude          : 14.767
RP magnitude         : 13.082
BP magnitude         : 18.463
DUPflag             : 0
Distance (au)       : 5.908
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 32.81
Sun-Target sep (deg) : 48.88
Sun-Moon sep (deg)  : 25.33
B (ring opening deg) : -2.58
PA of pole (deg)    : 1.42
Pole direction: RA (deg): 268.05661
Dec (deg): 64.49732
C/A sky separation (" ) : 0.312
C/A sky separation (km) : 1339.0
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	2043-02-03T13:59:10.958	3.30x	-41.67	71492.0	-0.06	-0.07
Jupiter	E	2043-02-03T15:12:09.043	18.28	-24.64	71492.0	2.19	2.50