

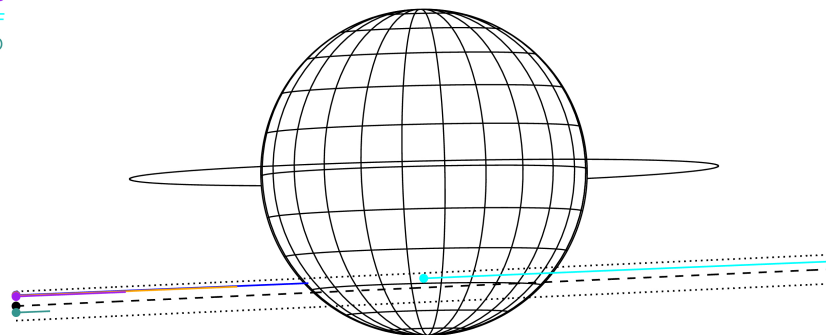
target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2031-10-25T04:09:40.800
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 4116537243382539136
 2Mass ID (if available) : 17402131-2314170

Jupiter 2031-10-25T04:09:40 K7.68 G14.56 Pgt

ICRS Star Coord at Epoch: 17h 40m 21.30826s -23:14:17.23755s
 RUWE (>1.4 is poor) : 0.92
 K magnitude : 7.679
 G magnitude : 14.564
 RP magnitude : 12.965
 BP magnitude : 18.357
 DUPflag : 0
 Distance (au) : 5.751
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : 30.55
 Sun-Target sep (deg) : 54.38
 Sun-Moon sep (deg) : 60.21
 B (ring opening deg) : -2.23
 PA of pole (deg) : 1.28
 Pole direction: RA (deg): 268.05681
 Dec (deg): 64.49652
 C/A sky separation (") : 12.078
 C/A sky separation (km) : 50375.0
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk



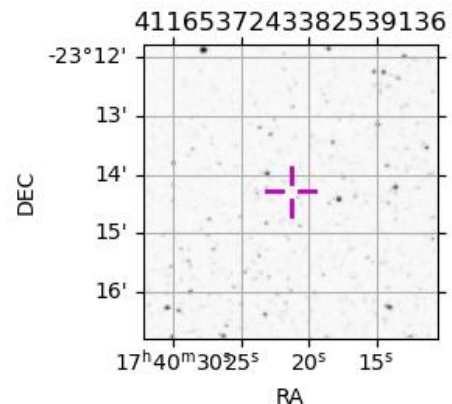
Earth
 PAL
 KPNO
 MCD
 IRTF
 ESO



2031-10-25T04:09:40.8000 α: 17 40 21.3083 δ: -23 14 17.238 C/A ***** PA 2.59 deg v_sky +30.55 km/s D 05.75 AU
 Credit: Styled after SORA/Lucky Star

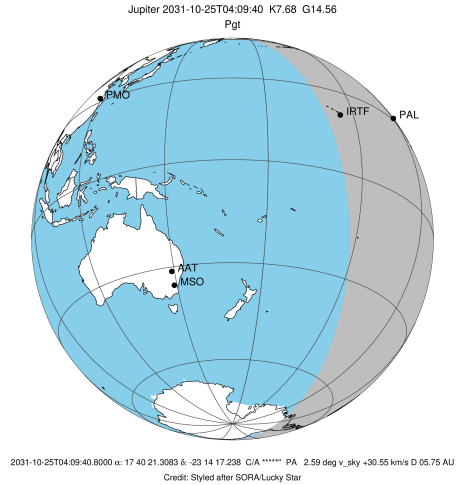
Observable events with sun below -5 deg and altitude above 5 deg

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	+	OCT 25 03:42 - OCT 25 03:42	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	+	OCT 25 04:41 - OCT 25 04:41	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

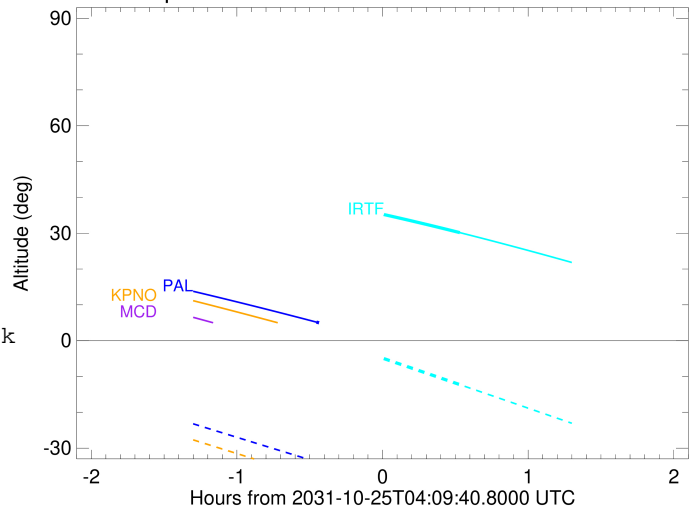


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target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2031-10-25T04:12:16.200
Event type            : Pgt
: Jupiter occs: geocentric, topocentric
: Not a ringed target
Observer code         : PAL
Location              : Palomar Mt (200")
Latitude (deg)        : 33.35622
E. Longitude (deg)    : 243.13601
Altitude (km)         : 1.706
Gaia source ID        : 4116537243382539136
2Mass ID (if available) : 17402131-2314170
ICRS Star Coord at Epoch: 17h 40m 21.30826s -23:14:17.23755s
RUWE (>1.4 is poor) : 0.92
K magnitude           : 7.679
G magnitude           : 14.564
RP magnitude          : 12.965
BP magnitude          : 18.357
DUPflag              : 0
Distance (au)         : 5.751
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 30.55
Sun-Target sep (deg) : 54.38
Sun-Moon sep (deg)   : 59.80
B (ring opening deg) : -2.23
PA of pole (deg)     : 1.28
Pole direction: RA (deg): 268.05681
Dec (deg): 64.49652
C/A sky separation (" ) : 11.120
C/A sky separation (km) : 46379.4
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
    
```



Jupiter 2031-10-25T04:09:40 K7.68 G14.56

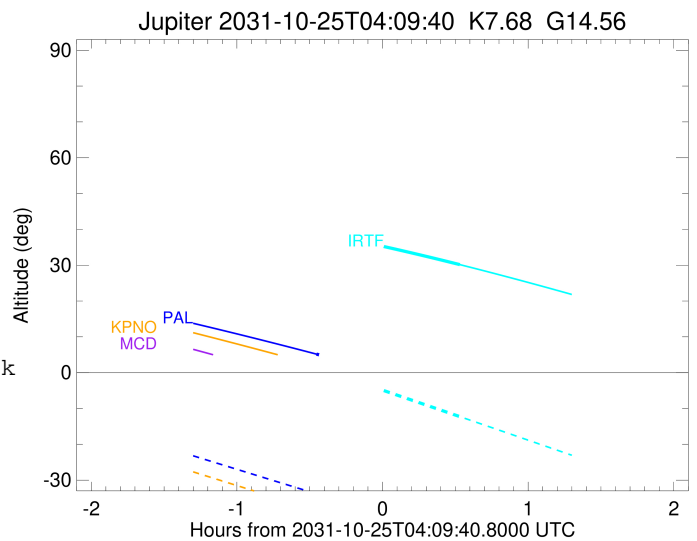
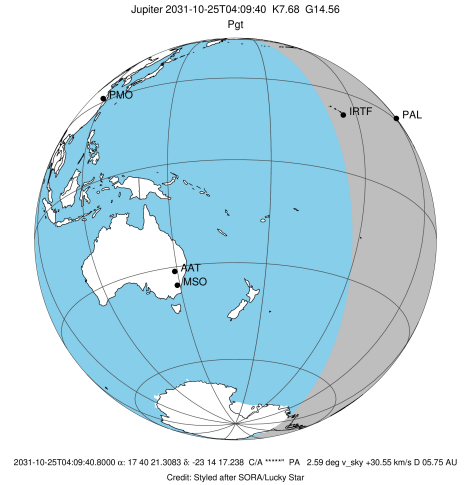


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2031-10-25T03:42:27.236	5.18	-33.80	71489.0	-41.46	-45.18
Jupiter	E	2031-10-25T04:42:01.870	-5.84x	-45.94	71489.2	-39.38	-43.08

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target                : Jupiter
target radius (km)    : 71492.00
C/A epoch              : 2031-10-25T04:11:24.360
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        : 4116537243382539136
2Mass ID (if available) : 17402131-2314170
ICRS Star Coord at Epoch: 17h 40m 21.30826s -23:14:17.23755s
RUWE (>1.4 is poor)  : 0.92
K magnitude            : 7.679
G magnitude            : 14.564
RP magnitude           : 12.965
BP magnitude           : 18.357
DUPflag                : 0
Distance (au)         : 5.751
f0 (km)                : 0.00
g0 (km)                : 0.00
skyplane vel. (km/s)  : 30.55
Sun-Target sep (deg)  : 54.38
Sun-Moon sep (deg)    : 60.42
B (ring opening deg)  : -2.23
PA of pole (deg)      : 1.28
Pole direction: RA (deg): 268.05681
Dec (deg): 64.49652
C/A sky separation (") : 11.106
C/A sky separation (km) : 46319.6
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	2031-10-25T03:41:19.772	39.29	1.65x	71489.0	-41.52	-45.23
Jupiter	E	2031-10-25T04:41:26.543	30.17	-12.24	71489.3	-39.22	-42.92