

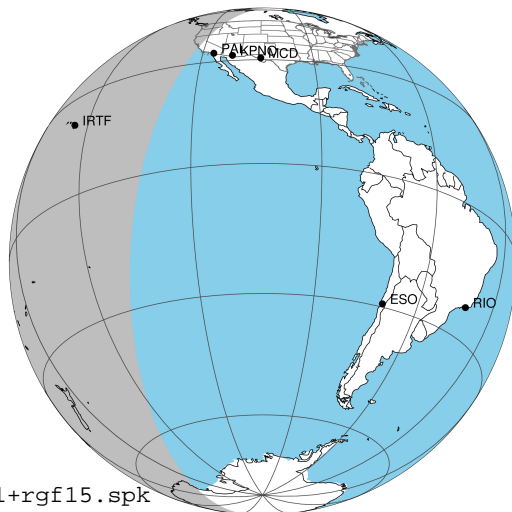
target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2031-02-10T15:02:41.720
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 4111692318448380416
 2Mass ID (if available) : 17284214-2242121

Jupiter 2031-02-10T15:02:41 K9.93 G14.48 Pgt

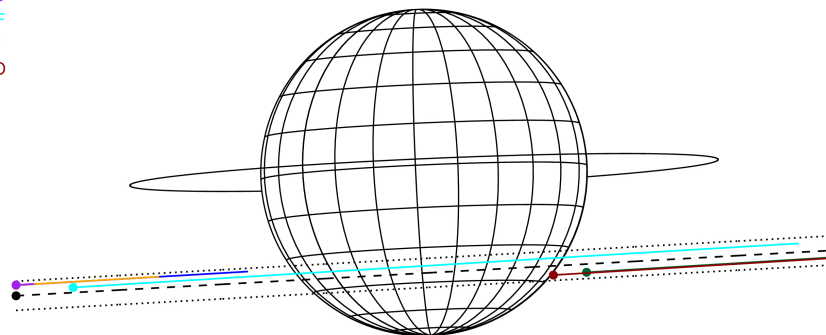
ICRS Star Coord at Epoch: 17h 28m 42.14859s -22:42:12.27017s

RUWE (>1.4 is poor) : 1.06
 K magnitude : 9.929
 G magnitude : 14.479
 RP magnitude : 13.306
 BP magnitude : 15.937
 DUPflag : 0
 Distance (au) : 5.771
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : 28.74
 Sun-Target sep (deg) : 58.45
 Sun-Moon sep (deg) : 85.36
 B (ring opening deg) : -2.68
 PA of pole (deg) : 2.53
 Pole direction: RA (deg): 268.05703
 Dec (deg): 64.49651
 C/A sky separation (") : 10.512
 C/A sky separation (km) : 43996.6
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk

Jupiter 2031-02-10T15:02:41 K9.93 G14.48
 Pgt



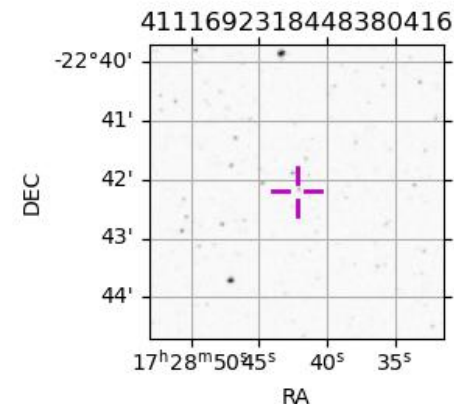
Earth
 PAL
 KPNO
 MCD
 IRTF
 AAT
 MSO



2031-02-10T15:02:41.7200 az: 17 28 42.1486 δ: -22 42 12.270 C/A ***** PA 3.18 deg v_sky +28.74 km/s D 05.77 AU
 Credit: Styled after SORA/Lucky Star

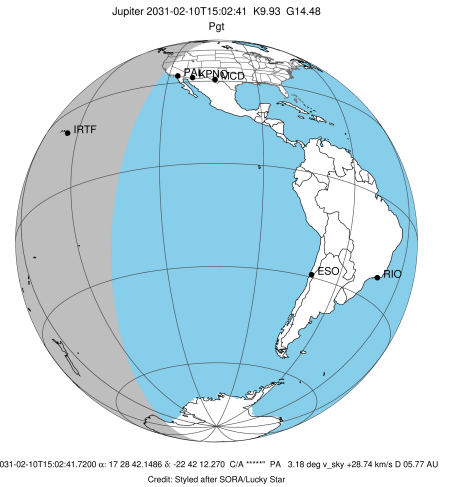
Observable events with sun below -5 deg and altitude above 5 deg

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			Pnn
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 10 14:25 - FEB 10 15:34	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

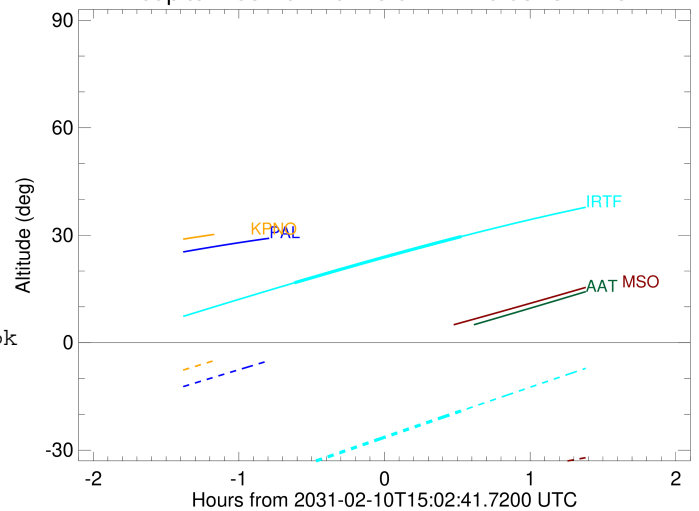


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target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2031-02-10T14:59:57.060
Event type          : Pgt
                    : Jupiter occs: geocentric, topocentric
                    : Not a ringed target
Observer code       : IRTF
Location            : Mauna Kea/IRTF
Latitude (deg)      : 19.82622
E. Longitude (deg)  : 204.52800
Altitude (km)       : 4.168
Gaia source ID      : 41116923184448380416
2Mass ID (if available) : 17284214-2242121
ICRS Star Coord at Epoch: 17h 28m 42.14859s -22:42:12.27017s
RUWE (>1.4 is poor) : 1.06
K magnitude          : 9.929
G magnitude          : 14.479
RP magnitude         : 13.306
BP magnitude         : 15.937
DUPflag             : 0
Distance (au)       : 5.771
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 28.74
Sun-Target sep (deg) : 58.45
Sun-Moon sep (deg)  : 85.69
B (ring opening deg) : -2.68
PA of pole (deg)    : 2.53
Pole direction: RA (deg): 268.05703
Dec (deg): 64.49651
C/A sky separation (") : 9.762
C/A sky separation (km) : 40858.8
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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Jupiter 2031-02-10T15:02:41 K9.93 G14.48



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	2031-02-10T14:25:39.862	16.73	-35.08	71488.6	-35.77	-39.40
Jupiter	E	2031-02-10T15:34:18.810	29.62	-19.03	71488.9	-33.88	-37.44