

target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2031-10-21T21:58:08.710
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 4116714612712081536
 2Mass ID (if available) : 17375428-2312197

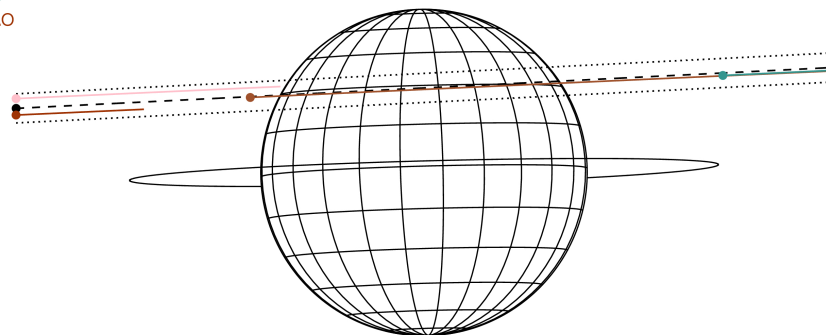
Jupiter 2031-10-21T21:58:08 K8.84 G13.17 Pgt

ICRS Star Coord at Epoch: 17h 37m 54.29252s -23:12:19.64806s
 RUWE (>1.4 is poor) : 0.82
 K magnitude : 8.840
 G magnitude : 13.170
 RP magnitude : 11.923
 BP magnitude : 14.287
 DUPflag : 0
 Distance (au) : 5.710
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : 29.39
 Sun-Target sep (deg) : 57.06
 Sun-Moon sep (deg) : 14.96
 B (ring opening deg) : -2.25
 PA of pole (deg) : 1.54
 Pole direction: RA (deg): 268.05681
 Dec (deg): 64.49652
 C/A sky separation (") : 8.933
 C/A sky separation (km) : 36992.4
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk
 URKALLv1.spk
 naif0012.tls
 nep097.bsp
 nep101.bsp
 sat4401.bsp



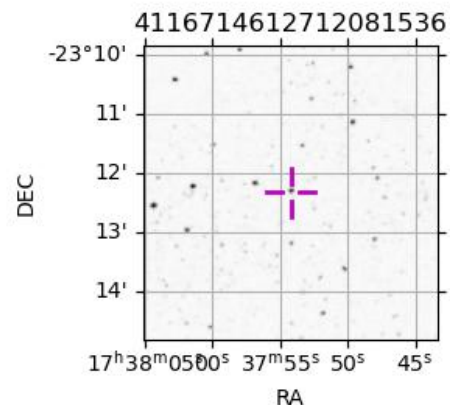
2031-10-21T21:58:08.7100 ex: 17 37 54.2925 s: -23 12 19.648 C/A 8.925" PA 182.87 deg v_sky +29.39 km/s D 05.71 AU
 Credit: Styled after SORA/Lucky Star

Earth
 TEN
 RIO
 ESO
 SAAO



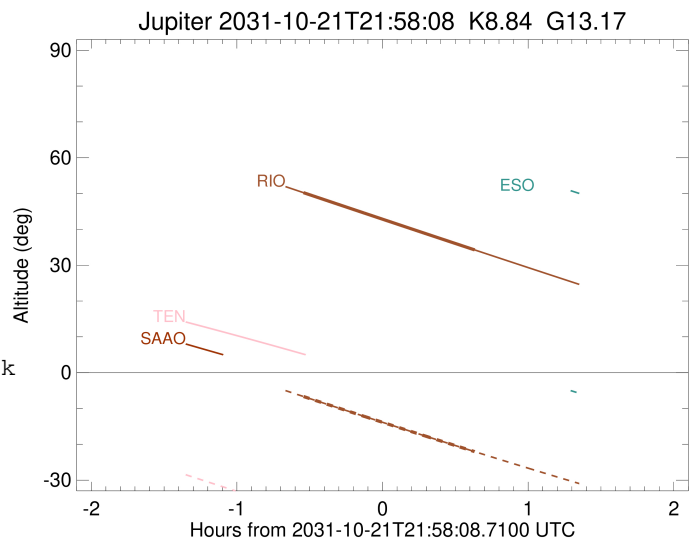
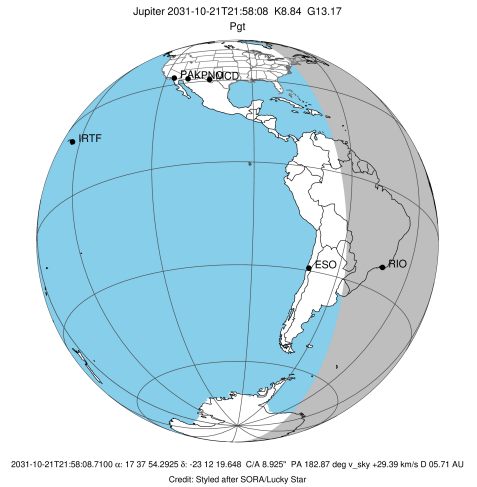
Observable events with sun below -5 deg and altitude above 5 deg

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			Pnn
KAV	Kavalur Observatory	12.6	78.8			Pnn
RIO	Rio de Janeiro	-22.9	316.8	+ +	OCT 21 21:25 - OCT 21 22:36	Pie
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             : 2031-10-21T22:00:53.080
Event type            : Pgt
: Jupiter occs: geocentric, topocentric
: Not a ringed target
Observer code         : RIO
Location              : Rio de Janeiro
Latitude (deg)        : -22.89506
E. Longitude (deg)    : 316.77708
Altitude (km)         : 0.033
Gaia source ID        : 4116714612712081536
2Mass ID (if available) : 17375428-2312197
ICRS Star Coord at Epoch: 17h 37m 54.29252s -23:12:19.64806s
RUWE (>1.4 is poor) : 0.82
K magnitude           : 8.840
G magnitude           : 13.170
RP magnitude          : 11.923
BP magnitude          : 14.287
DUPflag              : 0
Distance (au)         : 5.710
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 29.39
Sun-Target sep (deg) : 57.06
Sun-Moon sep (deg)   : 14.49
B (ring opening deg) : -2.25
PA of pole (deg)     : 1.54
Pole direction: RA (deg): 268.05681
Dec (deg): 64.49652
C/A sky separation ("): 8.781
C/A sky separation (km): 36364.7
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	2031-10-21T21:25:36.690	50.24	-6.66	71490.3	29.44	32.78
Jupiter	E	2031-10-21T22:36:04.931	34.28	-22.03	71490.1	31.62	35.07