

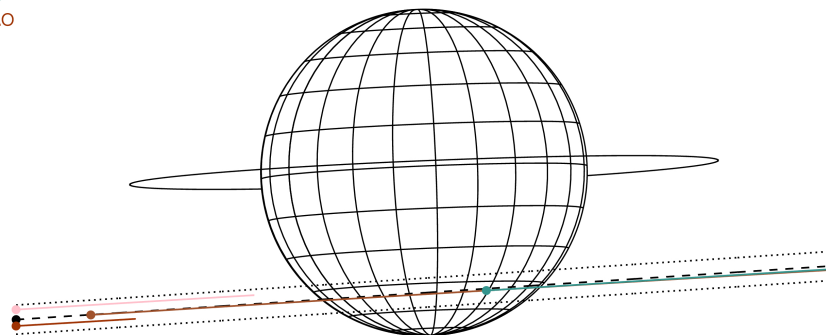
target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2031-10-10T22:50:32.150
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 4111433520912809472
 2Mass ID (if available) : 17301642-2306362

Jupiter 2031-10-10T22:50:32 K8.69 G14.63 Pgt

ICRS Star Coord at Epoch: 17h 30m 16.41540s -23:06:36.61324s
 RUWE (>1.4 is poor) : 1.01
 K magnitude : 8.686
 G magnitude : 14.627
 RP magnitude : 13.174
 BP magnitude : 17.474
 DUPflag : 0
 Distance (au) : 5.563
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : 25.14
 Sun-Target sep (deg) : 66.18
 Sun-Moon sep (deg) : 128.73
 B (ring opening deg) : -2.29
 PA of pole (deg) : 2.36
 Pole direction: RA (deg): 268.05682
 Dec (deg): 64.49652
 C/A sky separation (") : 13.031
 C/A sky separation (km) : 52572.7
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk



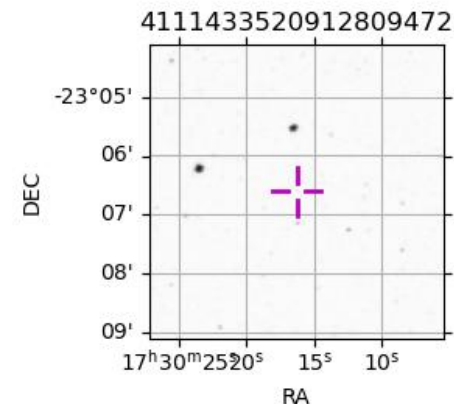
Earth
 TEN
 RIO
 ESO
 SAAO



2031-10-10T22:50:32.1500 α: 17 30 16.4154 δ: -23 06 36.613 C/A ***** PA 3.76 deg v_sky +25.14 km/s D 05.56 AU
 Credit: Styled after SORA/Lucky Star

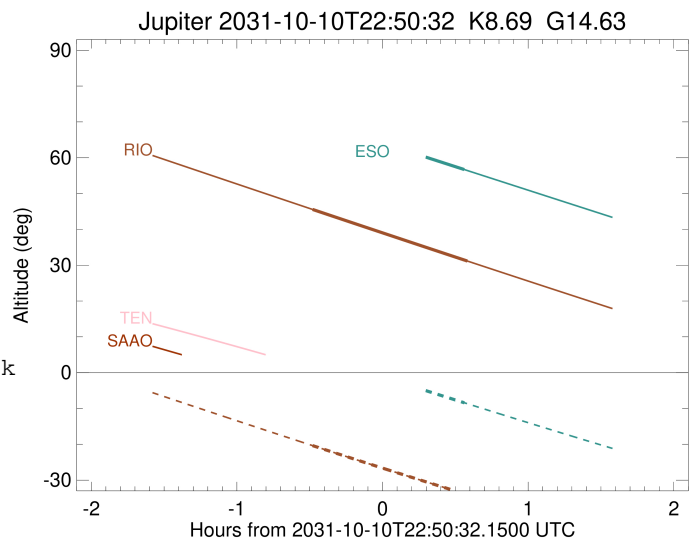
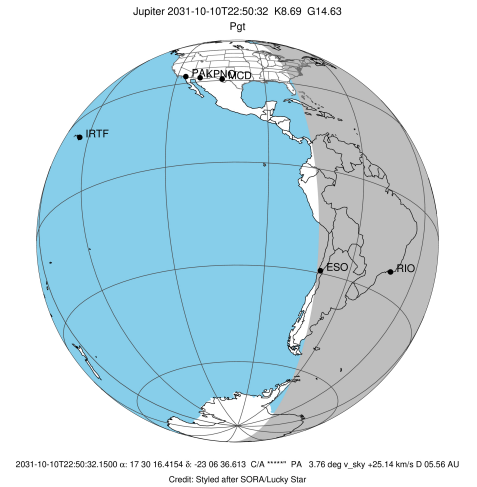
Observable events with sun below -5 deg and altitude above 5 deg

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			Pnn
KAV	Kavalur Observatory	12.6	78.8			Pnn
RIO	Rio de Janeiro	-22.9	316.8	+ +	OCT 10 22:21 - OCT 10 23:25	Pie
ESO	European Southern Obs. (3.6m)	-29.3	289.3	+	OCT 10 23:24 - OCT 10 23:24	Pne
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             : 2031-10-10T22:53:38.490
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        : 4111433520912809472
2Mass ID (if available) : 17301642-2306362
ICRS Star Coord at Epoch: 17h 30m 16.41540s -23:06:36.61324s
RUWE (>1.4 is poor)  : 1.01
K magnitude           : 8.686
G magnitude           : 14.627
RP magnitude          : 13.174
BP magnitude          : 17.474
DUPflag              : 0
Distance (au)         : 5.563
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 25.14
Sun-Target sep (deg)  : 66.18
Sun-Moon sep (deg)    : 128.75
B (ring opening deg)  : -2.29
PA of pole (deg)      : 2.36
Pole direction: RA (deg): 268.05682
Dec (deg): 64.49652
C/A sky separation (") : 13.201
C/A sky separation (km) : 53259.0
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
    
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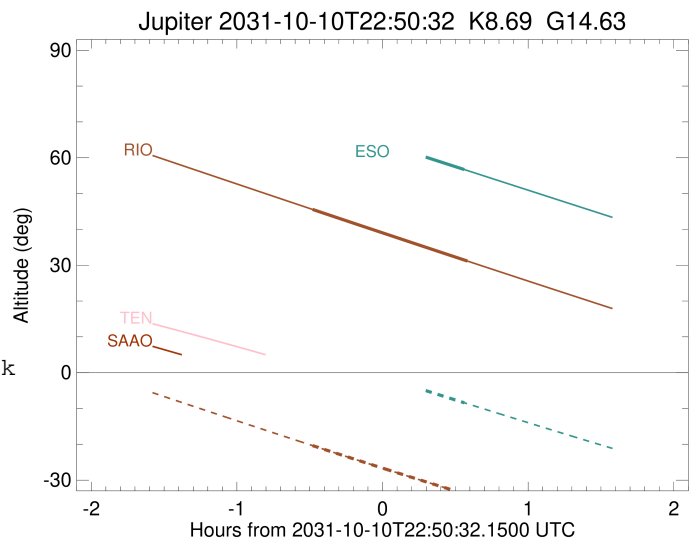
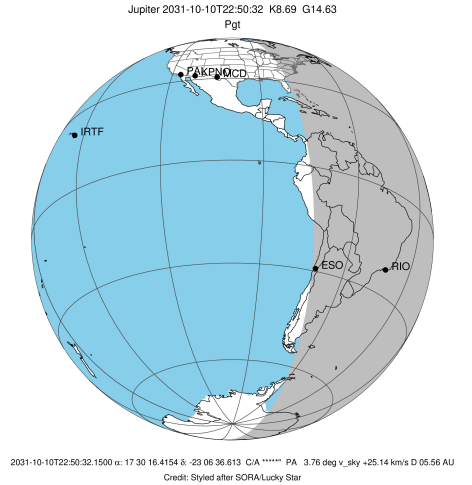


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2031-10-10T22:21:41.926	45.56	-20.35	71487.9	-49.24	-52.85
Jupiter	E	2031-10-10T23:25:30.574	31.16	-34.04	71488.2	-47.02	-50.68

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target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2031-10-10T22:52:15.780
Event type          : Pgt
                    : Jupiter occs: geocentric, topocentric
                    : Not a ringed target
Observer code       : ESO
Location            : European Southern Obs. (3.6m)
Latitude (deg)      : -29.26097
E. Longitude (deg)  : 289.26831
Altitude (km)       : 2.400
Gaia source ID      : 4111433520912809472
2Mass ID (if available) : 17301642-2306362
ICRS Star Coord at Epoch: 17h 30m 16.41540s -23:06:36.61324s
RUWE (>1.4 is poor) : 1.01
K magnitude          : 8.686
G magnitude          : 14.627
RP magnitude         : 13.174
BP magnitude         : 17.474
DUPflag             : 0
Distance (au)        : 5.563
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 25.14
Sun-Target sep (deg) : 66.18
Sun-Moon sep (deg)   : 129.13
B (ring opening deg) : -2.29
PA of pole (deg)     : 2.36
Pole direction: RA (deg): 268.05682
Dec (deg): 64.49652
C/A sky separation ("): 13.220
C/A sky separation (km): 53335.1
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	2031-10-10T22:20:14.790	70.59	5.40x	71487.8	-49.50	-53.10
Jupiter	E	2031-10-10T23:24:13.998	56.69	-8.40	71488.2	-46.95	-50.62