

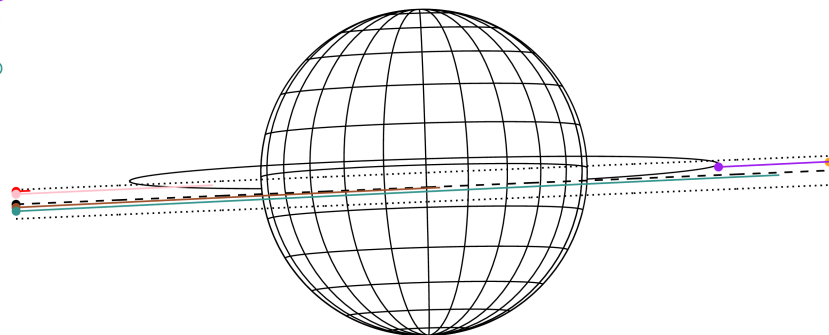
target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2031-02-22T08:24:07.380
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 4116786699458796288
 2Mass ID (if available) : 17363103-2247179

Jupiter 2031-02-22T08:24:07 K8.56 G14.42 Pgt

ICRS Star Coord at Epoch: 17h 36m 31.02563s -22:47:18.28894s
 RUWE (>1.4 is poor) : 0.95
 K magnitude : 8.561
 G magnitude : 14.419
 RP magnitude : 12.947
 BP magnitude : 17.355
 DUPflag : 0
 Distance (au) : 5.600
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : 24.07
 Sun-Target sep (deg) : 68.49
 Sun-Moon sep (deg) : 77.65
 B (ring opening deg) : -2.66
 PA of pole (deg) : 1.69
 Pole direction: RA (deg): 268.05702
 Dec (deg): 64.49651
 C/A sky separation (") : 1.596
 C/A sky separation (km) : 6483.6
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk



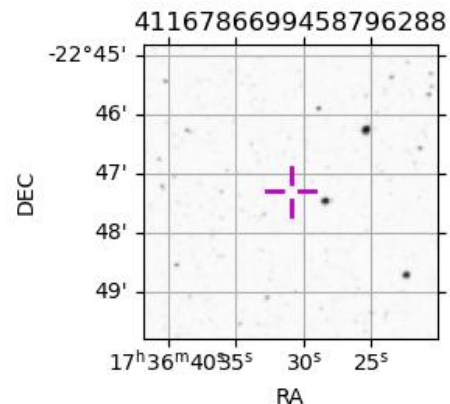
Earth
 PIC
 KPNO
 MCD
 TEN
 RIO
 ESO



2031-02-22T08:24:07.3800 a: 17 36 31.0256 s: -22 47 18.2889 C/A 1.606" PA 2.38 deg v_sky +24.07 km/s D 05.60 AU
 Credit: Styled after SORA/Lucky Star

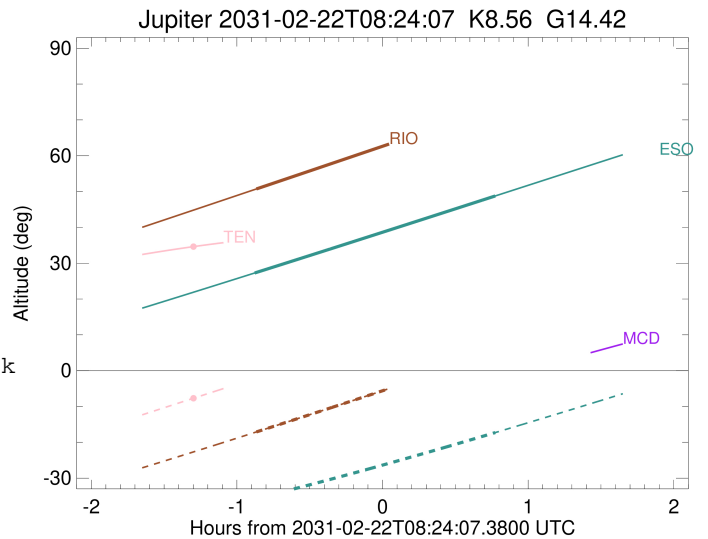
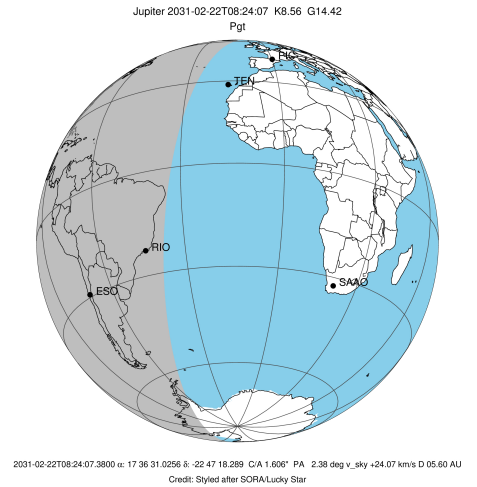
Observable events with sun below -5 deg and altitude above 5 deg

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	+	FEB 22 07:32 - FEB 22 07:32	Pin
ESO	European Southern Obs. (3.6m)	-29.3	289.3	+	FEB 22 07:31 - FEB 22 09:10	Pie
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            : 2031-02-22T08:22:06.090
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       : 4116786699458796288
2Mass ID (if available) : 17363103-2247179
ICRS Star Coord at Epoch: 17h 36m 31.02563s -22:47:18.28894s
RUWE (>1.4 is poor) : 0.95
K magnitude          : 8.561
G magnitude          : 14.419
RP magnitude         : 12.947
BP magnitude         : 17.355
DUPflag             : 0
Distance (au)        : 5.600
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 24.07
Sun-Target sep (deg) : 68.49
Sun-Moon sep (deg)   : 78.59
B (ring opening deg) : -2.66
PA of pole (deg)     : 1.69
Pole direction: RA (deg): 268.05702
Dec (deg): 64.49651
C/A sky separation (") : 1.699
C/A sky separation (km) : 6901.7
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
    
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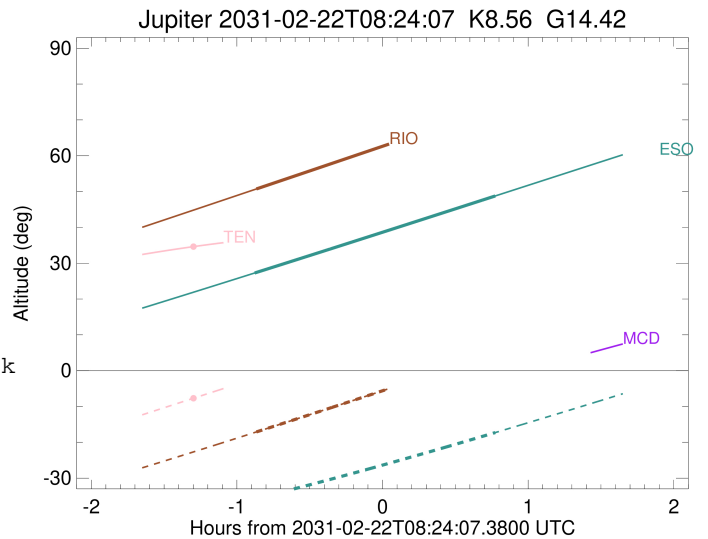
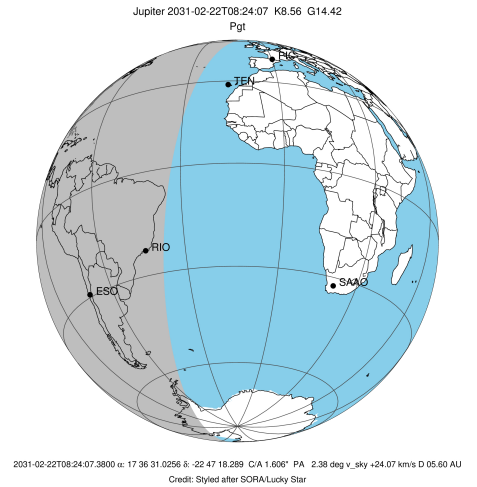


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2031-02-22T07:32:08.238	50.72	-17.10	71491.9	-6.49	-7.42
Jupiter	E	2031-02-22T09:12:12.213	73.70	5.25x	71491.9	-4.65	-5.31

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target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2031-02-22T08:20:55.910
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      : 4116786699458796288
2Mass ID (if available) : 17363103-2247179
ICRS Star Coord at Epoch: 17h 36m 31.02563s -22:47:18.28894s
RUWE (>1.4 is poor) : 0.95
K magnitude          : 8.561
G magnitude          : 14.419
RP magnitude         : 12.947
BP magnitude         : 17.355
DUPflag             : 0
Distance (au)       : 5.600
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 24.07
Sun-Target sep (deg) : 68.49
Sun-Moon sep (deg)  : 78.40
B (ring opening deg) : -2.66
PA of pole (deg)    : 1.69
Pole direction: RA (deg): 268.05702
Dec (deg): 64.49651
C/A sky separation (") : 2.063
C/A sky separation (km) : 8378.7
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	2031-02-22T07:31:25.911	27.26	-35.75	71491.8	-7.77	-8.87
Jupiter	E	2031-02-22T09:10:37.361	48.77	-17.27	71491.9	-5.71	-6.53