

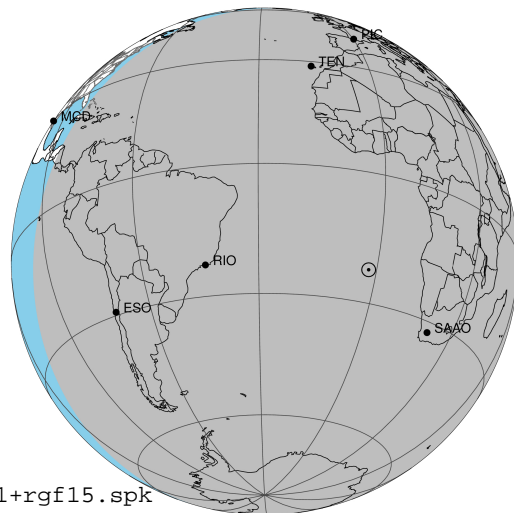
target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2031-07-08T00:13:36.240
 Event type : Pt
 : Jupiter occs: topocentric, not geocentric
 : Not a ringed target
 Gaia source ID : 4114635878537062528
 2Mass ID (if available) : 17203992-2243331

Jupiter 2031-07-08T00:13:36 K9.93 G14.26 Pt

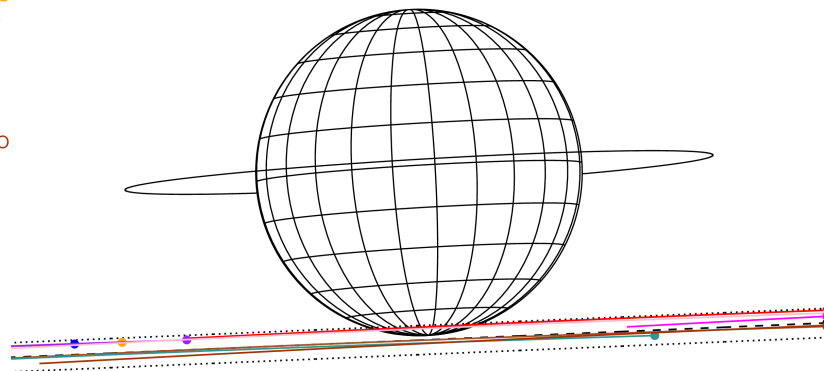
ICRS Star Coord at Epoch: 17h 20m 39.94284s -22:43:33.14737s

RUWE (>1.4 is poor) : 1.04
 K magnitude : 9.933
 G magnitude : 14.264
 RP magnitude : 13.162
 BP magnitude : 15.472
 DUPflag : 0
 Distance (au) : 4.330
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : -13.90
 Sun-Target sep (deg) : 155.68
 Sun-Moon sep (deg) : 69.74
 B (ring opening deg) : -2.56
 PA of pole (deg) : 3.39
 Pole direction: RA (deg): 268.05690
 Dec (deg): 64.49651
 C/A sky separation (") : 23.364
 C/A sky separation (km) : 73365.8
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk

Jupiter 2031-07-08T00:13:36 K9.93 G14.26 Pt



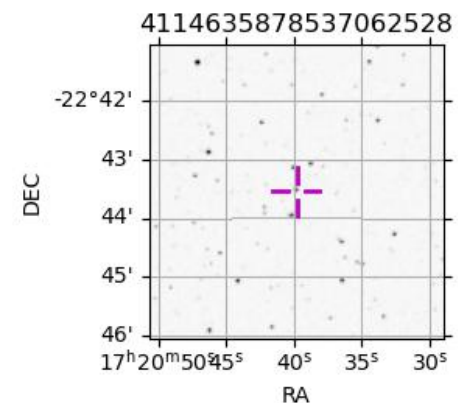
Earth
 PIC
 PAL
 KPNO
 MCD
 TEN
 KAV
 RIO
 ESO
 SAAO



2031-07-08T00:13:36.2400 α: 17 20 39.9428 δ: -22 43 33.147 C/A ***** PA 2.41 deg v_sky -13.90 km/s D 04.33 AU
 Credit: Styled after SORA/Lucky Star

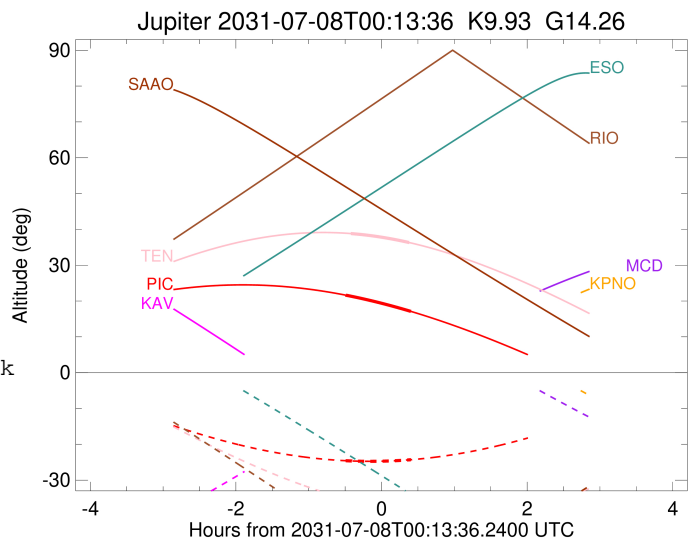
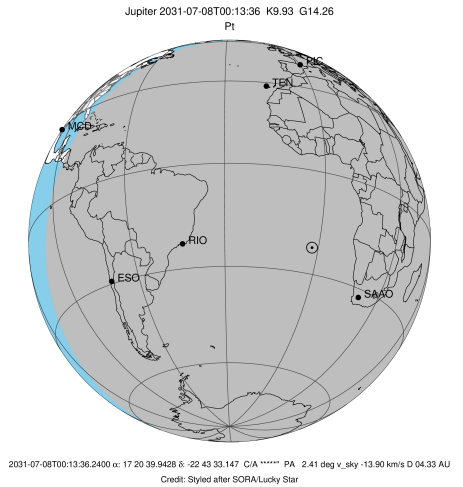
Observable events with sun below -5 deg and altitude above 5 deg

Obs	Location	lat	Elon	Target	Observed Events Interval	OCode
PIC	Pic du Midi	42.9	0.1	+ +	JUL 07 23:44 - JUL 08 00:37	Pie
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	+ +	JUL 07 23:48 - JUL 08 00:36	Pie
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			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            : 2031-07-08T00:10:56.670
Event type          : Pt
                    : Jupiter occs: topocentric, not geocentric
                    : Not a ringed target
Observer code       : PIC
Location           : Pic du Midi
Latitude (deg)     : 42.93656
E. Longitude (deg) : 0.14231
Altitude (km)     : 2.890
Gaia source ID     : 4114635878537062528
2Mass ID (if available) : 17203992-2243331
ICRS Star Coord at Epoch: 17h 20m 39.94284s -22:43:33.14737s
RUWE (>1.4 is poor) : 1.04
K magnitude        : 9.933
G magnitude        : 14.264
RP magnitude       : 13.162
BP magnitude       : 15.472
DUPflag           : 0
Distance (au)     : 4.330
f0 (km)           : 0.00
g0 (km)           : 0.00
skyplane vel. (km/s) : -13.90
Sun-Target sep (deg) : 155.68
Sun-Moon sep (deg) : 69.92
B (ring opening deg) : -2.56
PA of pole (deg)  : 3.39
Pole direction: RA (deg): 268.05690
Dec (deg): 64.49651
C/A sky separation (") : 21.559
C/A sky separation (km) : 67699.6
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
    
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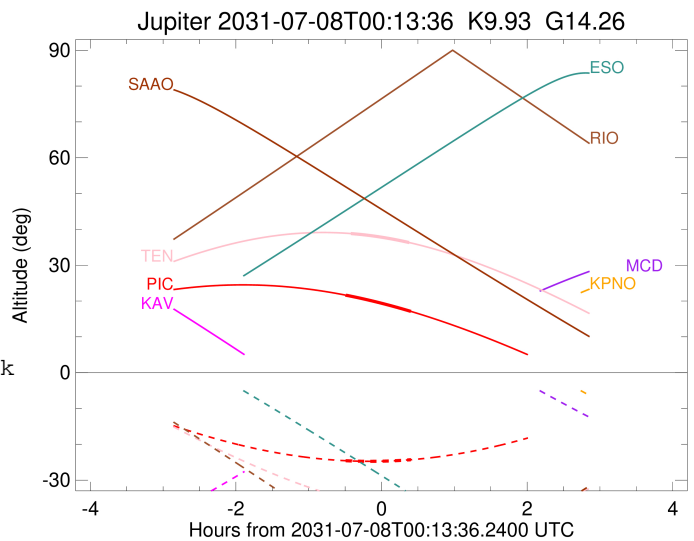
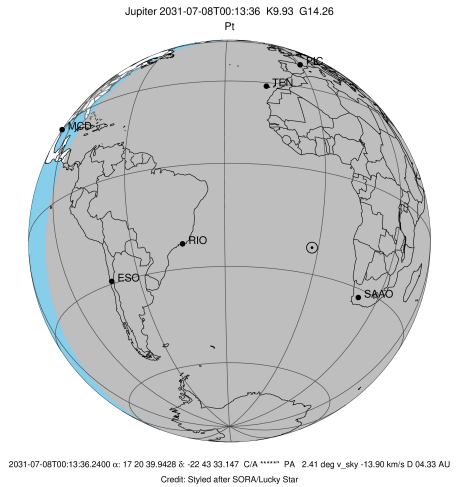


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2031-07-07T23:44:04.430	21.64	-24.58	71483.8	-71.90	-73.94
Jupiter	E	2031-07-08T00:37:51.502	17.10	-24.30	71484.0	-70.36	-72.55

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target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2031-07-08T00:12:22.090
Event type            : Pt
: Jupiter occs: topocentric, not geocentric
: Not a ringed target
Observer code         : TEN
Location              : Teide Obs./Tenerife
Latitude (deg)        : 28.30050
E. Longitude (deg)    : 343.48909
Altitude (km)         : 2.395
Gaia source ID        : 4114635878537062528
2Mass ID (if available) : 17203992-2243331
ICRS Star Coord at Epoch: 17h 20m 39.94284s -22:43:33.14737s
RUWE (>1.4 is poor) : 1.04
K magnitude           : 9.933
G magnitude           : 14.264
RP magnitude          : 13.162
BP magnitude          : 15.472
DUPflag              : 0
Distance (au)         : 4.330
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : -13.90
Sun-Target sep (deg) : 155.68
Sun-Moon sep (deg)   : 70.25
B (ring opening deg) : -2.56
PA of pole (deg)     : 3.39
Pole direction: RA (deg): 268.05690
Dec (deg): 64.49651
C/A sky separation ("): 21.790
C/A sky separation (km): 68423.7
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	2031-07-07T23:48:18.635	38.83	-35.57	71483.7	-73.92	-75.75
Jupiter	E	2031-07-08T00:36:26.754	36.31	-38.68	71483.8	-72.12	-74.13