

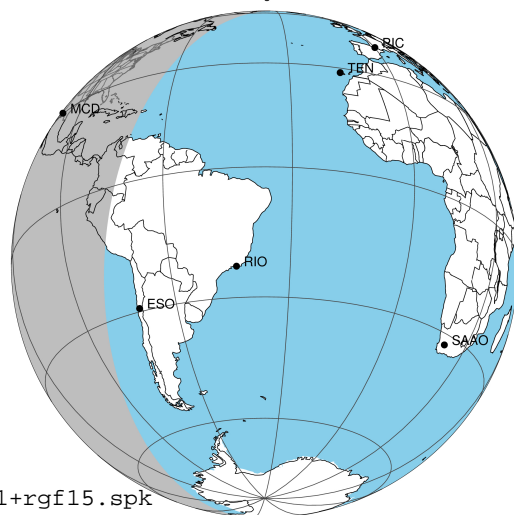
target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2031-02-01T11:03:03.540
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 4114663984800553856
 2Mass ID (if available) : 17215201-2236049

Jupiter 2031-02-01T11:03:03 K9.36 G13.45 Pgt

ICRS Star Coord at Epoch: 17h 21m 52.01468s -22:36:05.01663s

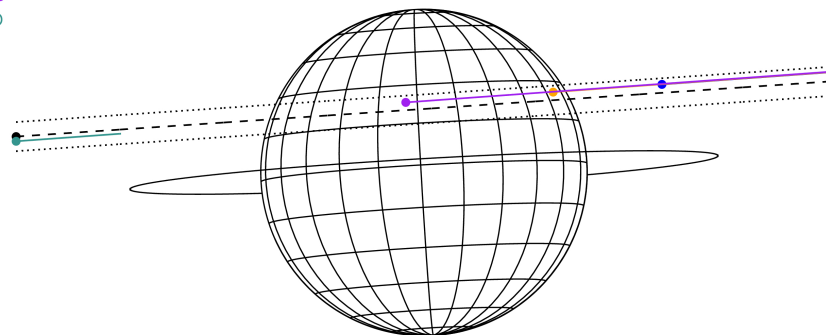
RUWE (>1.4 is poor) : 1.01
 K magnitude : 9.360
 G magnitude : 13.452
 RP magnitude : 12.356
 BP magnitude : 14.707
 DUPflag : 0
 Distance (au) : 5.893
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : 32.00
 Sun-Target sep (deg) : 50.75
 Sun-Moon sep (deg) : 164.15
 B (ring opening deg) : -2.70
 PA of pole (deg) : 3.26
 Pole direction: RA (deg): 268.05703
 Dec (deg): 64.49651
 C/A sky separation (") : 6.498
 C/A sky separation (km) : 27772.8
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk

Jupiter 2031-02-01T11:03:03 K9.36 G13.45
 Pgt



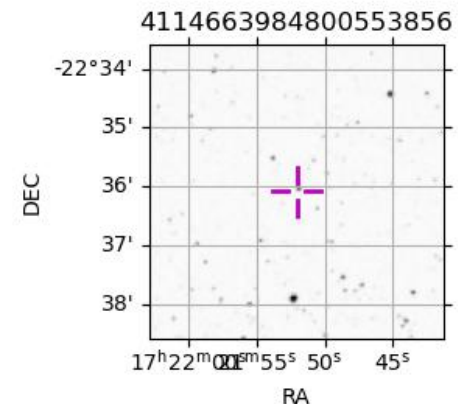
2031-02-01T11:03:03.5400 cr: 17 21 52.0147 s: -22 36 05.017 C/A 6.489" PA 183.88 deg v_sky +32.00 km/s D 05.89 AU
 Credit: Styled after SORA/Lucky Star

Earth
 PAL
 KPNO
 MCD
 ESO



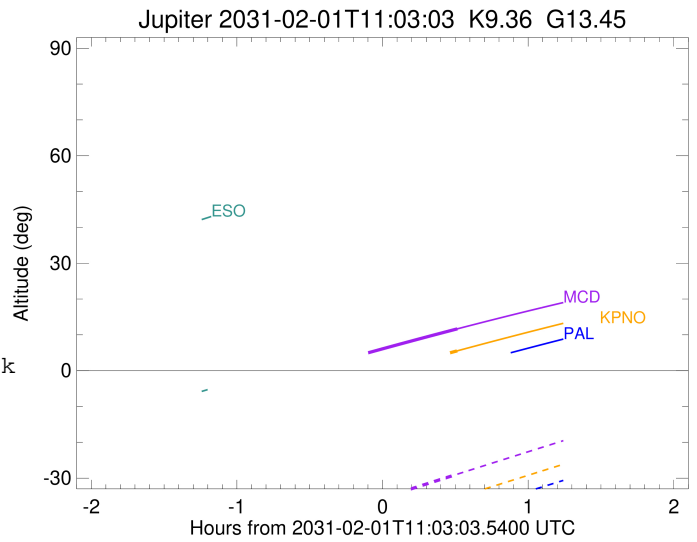
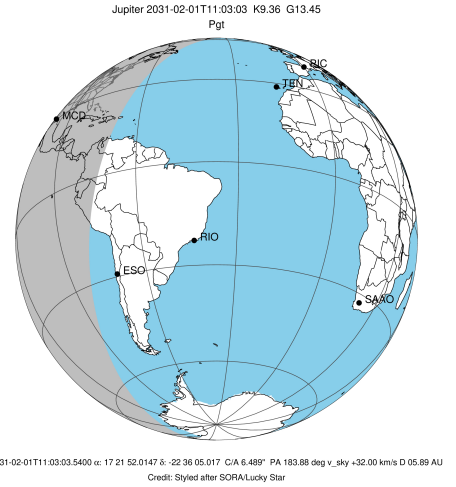
Observable events with sun below -5 deg and altitude above 5 deg

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	+	FEB 01 11:33 - FEB 01 11:33	Pne
MCD	McDonald Obs. 2.7m	30.7	256.0	+	FEB 01 11:33 - FEB 01 11:33	Pne
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			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             : 2031-02-01T11:00:07.640
Event type            : Pgt
: Jupiter occs: geocentric, topocentric
: Not a ringed target
Observer code         : KPNO
Location              : Kitt Peak Natl Obs
Latitude (deg)        : 31.96333
E. Longitude (deg)    : 248.40000
Altitude (km)         : 2.120
Gaia source ID        : 4114663984800553856
2Mass ID (if available) : 17215201-2236049
ICRS Star Coord at Epoch: 17h 21m 52.01468s -22:36:05.01663s
RUWE (>1.4 is poor)  : 1.01
K magnitude           : 9.360
G magnitude           : 13.452
RP magnitude          : 12.356
BP magnitude          : 14.707
DUPflag              : 0
Distance (au)         : 5.893
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 32.00
Sun-Target sep (deg)  : 50.75
Sun-Moon sep (deg)    : 163.42
B (ring opening deg) : -2.70
PA of pole (deg)      : 3.26
Pole direction: RA (deg): 268.05703
Dec (deg): 64.49651
C/A sky separation (") : 7.260
C/A sky separation (km) : 31029.8
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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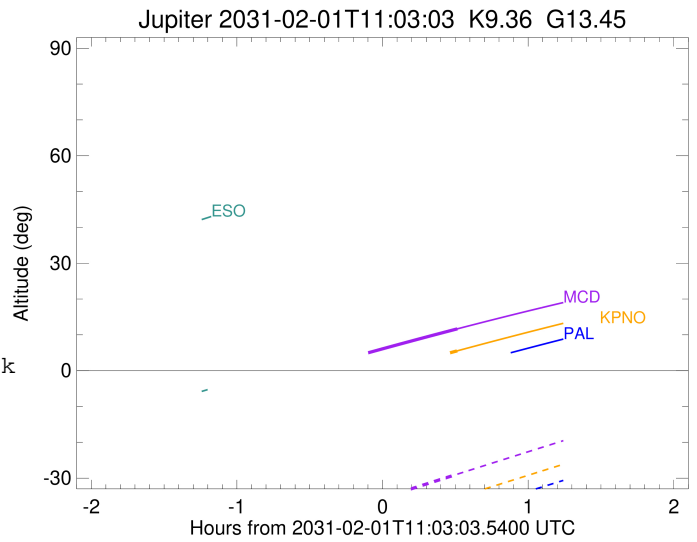
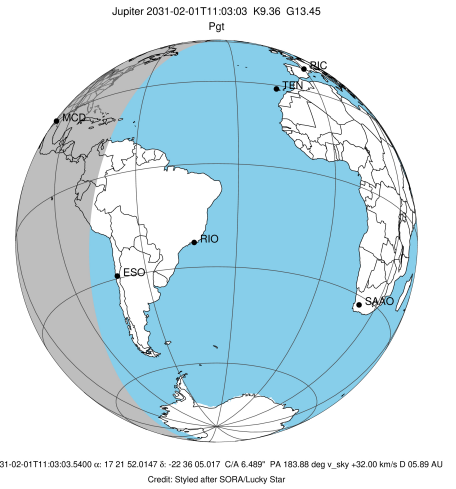


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2031-02-01T10:26:31.434	-7.29x	-49.63	71490.2	24.80	27.82
Jupiter	E	2031-02-01T11:33:48.045	5.52	-35.42	71490.0	26.58	29.73

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target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2031-02-01T11:00:11.970
Event type          : Pgt
                    : Jupiter occs: geocentric, topocentric
                    : Not a ringed target
Observer code       : MCD
Location            : McDonald Obs. 2.7m
Latitude (deg)      : 30.67158
E. Longitude (deg)  : 255.97844
Altitude (km)       : 2.075
Gaia source ID      : 4114663984800553856
2Mass ID (if available) : 17215201-2236049
ICRS Star Coord at Epoch: 17h 21m 52.01468s -22:36:05.01663s
RUWE (>1.4 is poor) : 1.01
K magnitude          : 9.360
G magnitude          : 13.452
RP magnitude         : 12.356
BP magnitude         : 14.707
DUPflag             : 0
Distance (au)       : 5.893
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 32.00
Sun-Target sep (deg) : 50.75
Sun-Moon sep (deg)  : 163.47
B (ring opening deg) : -2.70
PA of pole (deg)    : 3.26
Pole direction: RA (deg): 268.05703
Dec (deg): 64.49651
C/A sky separation (") : 7.300
C/A sky separation (km) : 31199.7
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	2031-02-01T10:26:34.981	-0.84x	-43.38	71490.2	24.95	27.98
Jupiter	E	2031-02-01T11:33:53.097	11.67	-28.89	71490.0	26.73	29.88