

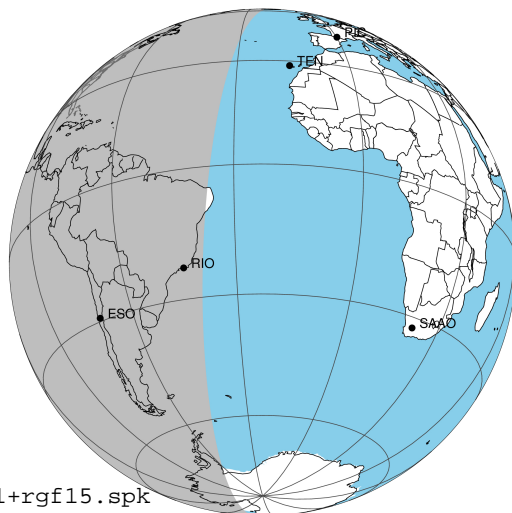
target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2031-03-03T08:33:38.280
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 4116928502118336256
 2Mass ID (if available) : 17414120-2249419

Jupiter 2031-03-03T08:33:38 K9.78 G14.95 Pgt

ICRS Star Coord at Epoch: 17h 41m 41.20067s -22:49:42.21667s

RUWE (>1.4 is poor) : 1.03
 K magnitude : 9.777
 G magnitude : 14.948
 RP magnitude : 13.626
 BP magnitude : 16.979
 DUPflag : 0
 Distance (au) : 5.461
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : 20.15
 Sun-Target sep (deg) : 76.35
 Sun-Moon sep (deg) : 169.74
 B (ring opening deg) : -2.65
 PA of pole (deg) : 1.14
 Pole direction: RA (deg): 268.05701
 Dec (deg): 64.49651
 C/A sky separation (") : 13.301
 C/A sky separation (km) : 52676.7
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk

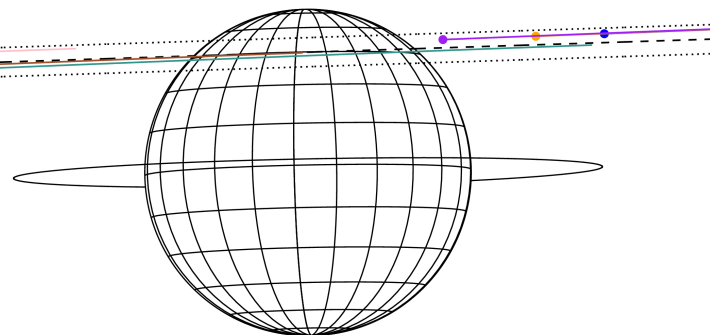
Jupiter 2031-03-03T08:33:38 K9.78 G14.95
 Pgt



2031-03-03T08:33:38.2800 a: 17 41 41.2007 s: -22 49 42.217 C/A ***** PA 181.85 deg v_sky +20.15 km/s D 05.46 AU
 Credit: Styled after SORA/Lucky Star

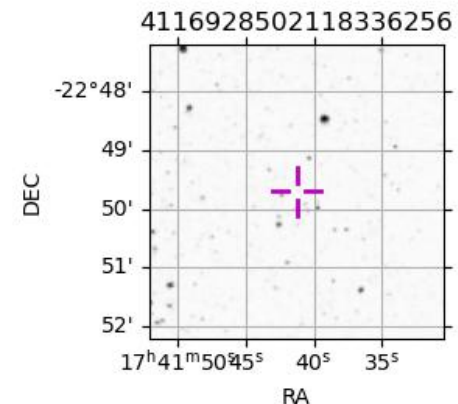
Earth

- PIC
- PAL
- KPNO
- MCD
- TEN
- RIO
- ESO



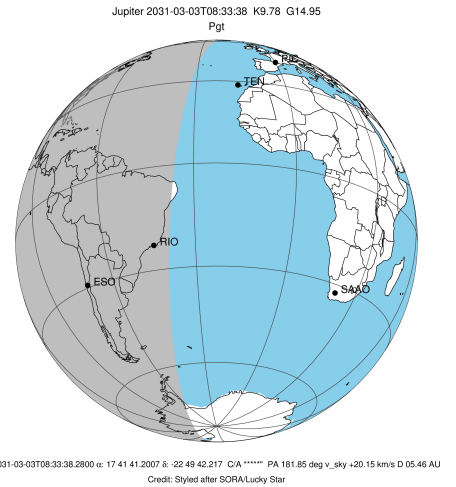
Observable events with sun below -5 deg and altitude above 5 deg

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			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	+	MAR 03 07:50 - MAR 03 07:50	Pin
ESO	European Southern Obs. (3.6m)	-29.3	289.3	+	MAR 03 07:48 - MAR 03 09:11	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

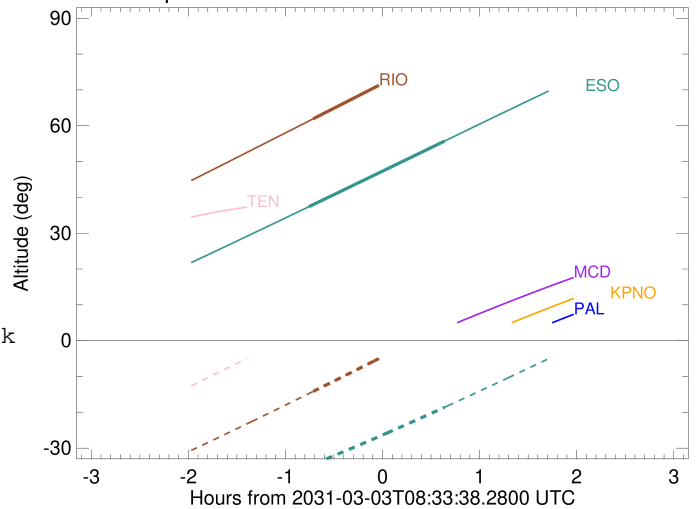


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target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2031-03-03T08:31:48.510
Event type           : Pgt
: Jupiter occs: geocentric, topocentric
: Not a ringed target
Observer code        : RIO
Location             : Rio de Janeiro
Latitude (deg)       : -22.89506
E. Longitude (deg)   : 316.77708
Altitude (km)        : 0.033
Gaia source ID       : 4116928502118336256
2Mass ID (if available) : 17414120-2249419
ICRS Star Coord at Epoch: 17h 41m 41.20067s -22:49:42.21667s
RUWE (>1.4 is poor) : 1.03
K magnitude          : 9.777
G magnitude          : 14.948
RP magnitude         : 13.626
BP magnitude         : 16.979
DUPflag             : 0
Distance (au)        : 5.461
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 20.15
Sun-Target sep (deg) : 76.35
Sun-Moon sep (deg)   : 170.16
B (ring opening deg) : -2.65
PA of pole (deg)     : 1.14
Pole direction: RA (deg): 268.05701
Dec (deg): 64.49651
C/A sky separation (" ) : 13.253
C/A sky separation (km) : 52486.5
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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Jupiter 2031-03-03T08:33:38 K9.78 G14.95

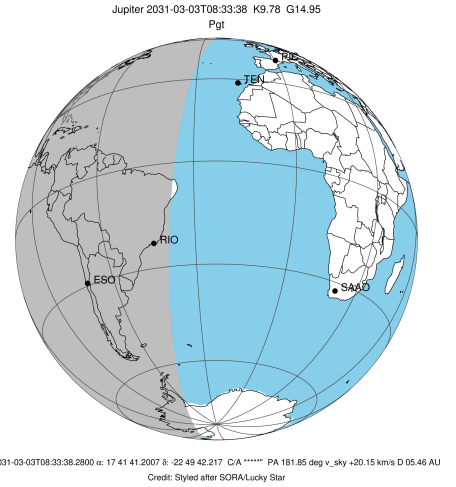


x: target alt < 5.0 deg or sun > -5.0 deg

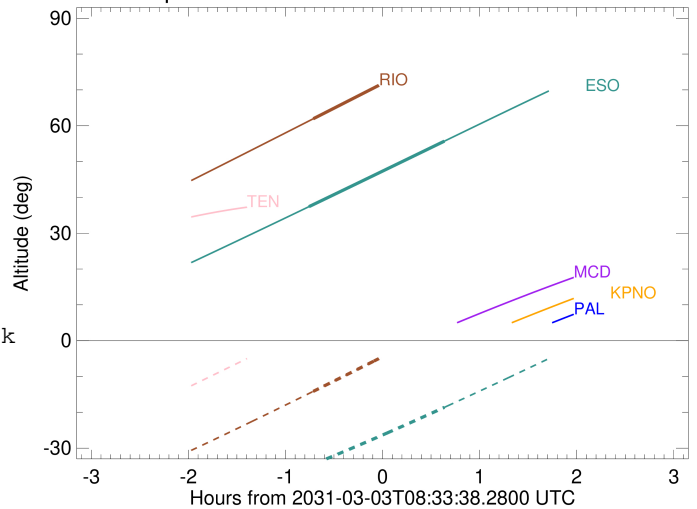
Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2031-03-03T07:50:52.686	61.94	-14.14	71487.0	46.22	49.90
Jupiter	E	2031-03-03T09:12:49.610	80.83	4.46x	71486.7	48.05	51.69

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2031-03-03T08:29:58.350
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     : 4116928502118336256
2Mass ID (if available) : 17414120-2249419
ICRS Star Coord at Epoch: 17h 41m 41.20067s -22:49:42.21667s
RUWE (>1.4 is poor) : 1.03
K magnitude         : 9.777
G magnitude         : 14.948
RP magnitude        : 13.626
BP magnitude        : 16.979
DUPflag            : 0
Distance (au)      : 5.461
f0 (km)            : 0.00
g0 (km)            : 0.00
skyplane vel. (km/s) : 20.15
Sun-Target sep (deg) : 76.35
Sun-Moon sep (deg) : 170.45
B (ring opening deg) : -2.65
PA of pole (deg)   : 1.14
Pole direction: RA (deg): 268.05701
Dec (deg): 64.49651
C/A sky separation (") : 12.913
C/A sky separation (km) : 51141.8
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
    
```



Jupiter 2031-03-03T08:33:38 K9.78 G14.95



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	2031-03-03T07:48:10.444	37.40	-34.97	71487.3	44.51	48.22
Jupiter	E	2031-03-03T09:11:55.336	55.69	-18.60	71486.9	46.66	50.34