

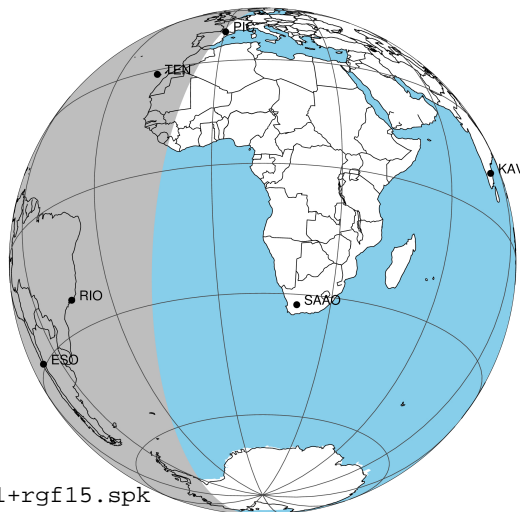
target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2031-02-17T07:00:18.520
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 4117458260533972224
 2Mass ID (if available) : 17331708-2245329

Jupiter 2031-02-17T07:00:18 K9.25 G14.64 Pgt

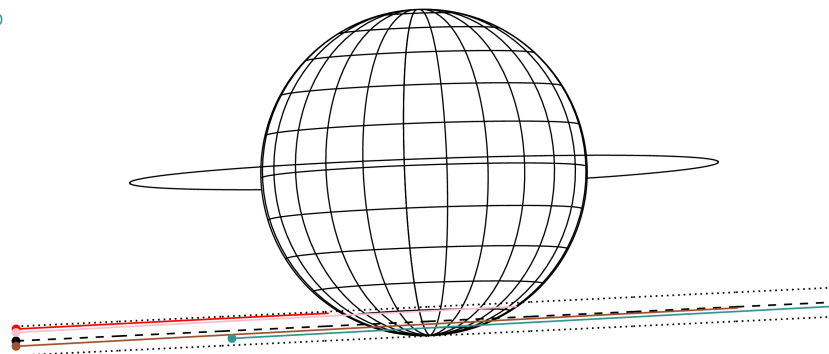
ICRS Star Coord at Epoch: 17h 33m 17.08395s -22:45:33.27510s

RUWE (>1.4 is poor) : 2.45
 K magnitude : 9.250
 G magnitude : 14.638
 RP magnitude : 13.224
 BP magnitude : 16.617
 DUPflag : 0
 Distance (au) : 5.676
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : 26.15
 Sun-Target sep (deg) : 64.13
 Sun-Moon sep (deg) : 5.19
 B (ring opening deg) : -2.67
 PA of pole (deg) : 2.04
 Pole direction: RA (deg): 268.05702
 Dec (deg): 64.49651
 C/A sky separation (") : 15.850
 C/A sky separation (km) : 65241.0
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk

Jupiter 2031-02-17T07:00:18 K9.25 G14.64
 Pgt



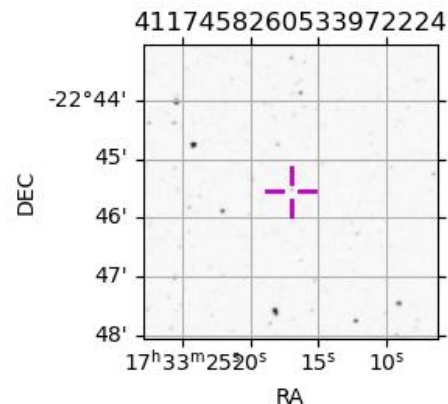
Earth
 PIC
 TEN
 RIO
 ESO



2031-02-17T07:00:18.5200 α: 17 33 17.0840 δ: -22 45 33.275 C/A ***** PA 2.72 deg v_sky +26.15 km/s D 05.68 AU
 Credit: Styled after SORA/Lucky Star

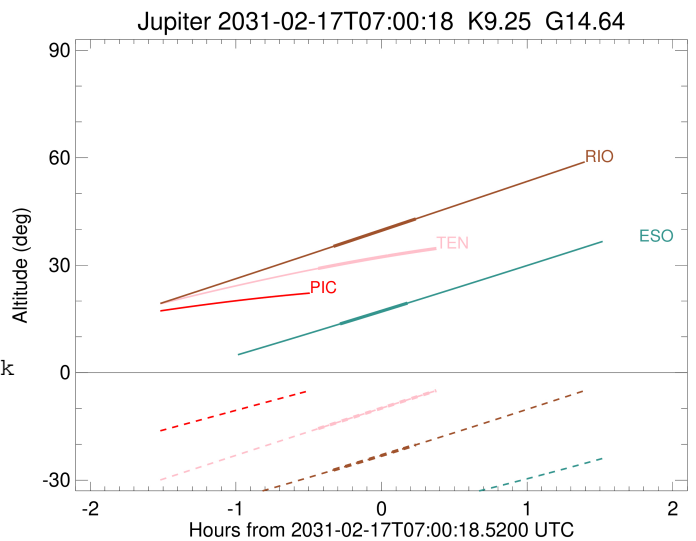
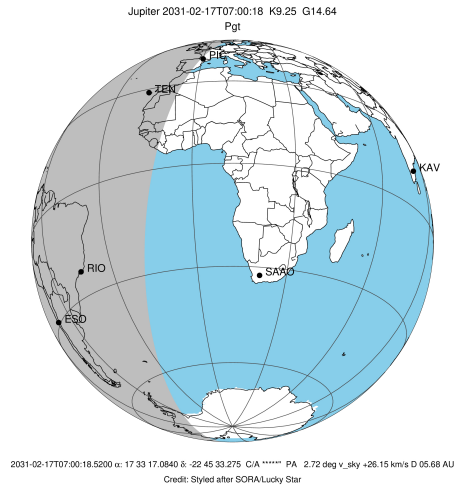
Observable events with sun below -5 deg and altitude above 5 deg

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	+	FEB 17 06:34 - FEB 17 06:34	Pin
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 17 06:40 - FEB 17 07:14	Pie
ESO	European Southern Obs. (3.6m)	-29.3	289.3	+	FEB 17 06:43 - FEB 17 07:11	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             : 2031-02-17T06:58:36.150
Event type            : Pgt
: Jupiter occs: geocentric, topocentric
: 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        : 4117458260533972224
2Mass ID (if available) : 17331708-2245329
ICRS Star Coord at Epoch: 17h 33m 17.08395s -22:45:33.27510s
RUWE (>1.4 is poor) : 2.45
K magnitude           : 9.250
G magnitude           : 14.638
RP magnitude          : 13.224
BP magnitude          : 16.617
DUPflag              : 0
Distance (au)         : 5.676
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 26.15
Sun-Target sep (deg)  : 64.13
Sun-Moon sep (deg)    : 5.49
B (ring opening deg) : -2.67
PA of pole (deg)      : 2.04
Pole direction: RA (deg): 268.05702
Dec (deg): 64.49651
C/A sky separation (") : 14.742
C/A sky separation (km) : 60681.0
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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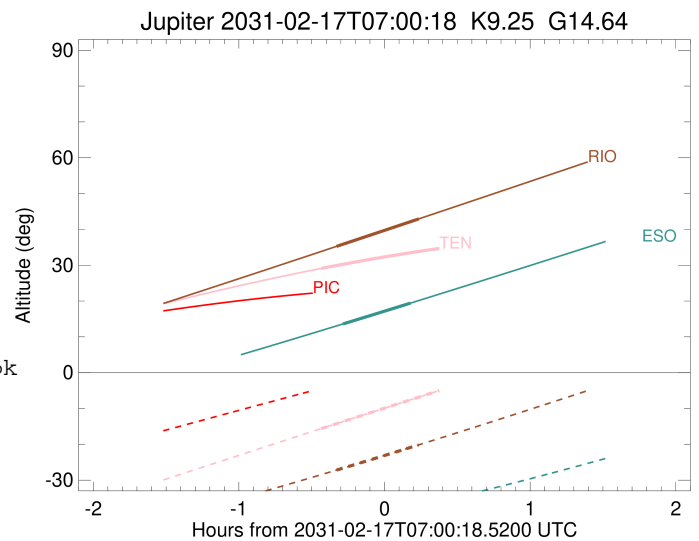
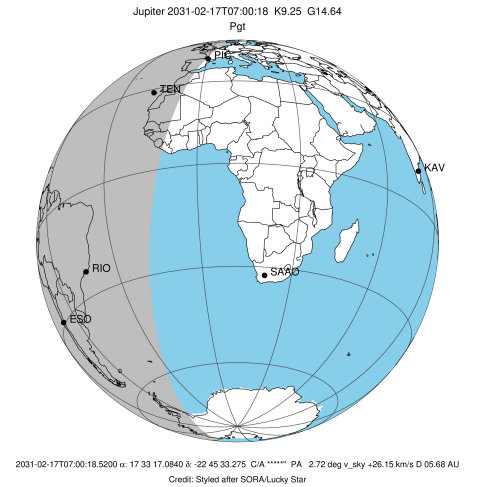


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2031-02-17T06:34:12.792	29.09	-15.63	71484.8	-58.88	-62.02
Jupiter	E	2031-02-17T07:23:01.180	34.68	-4.97x	71485.1	-57.13	-60.38

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2031-02-17T06:57:29.390
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        : 4117458260533972224
2Mass ID (if available) : 17331708-2245329
ICRS Star Coord at Epoch: 17h 33m 17.08395s -22:45:33.27510s
RUWE (>1.4 is poor) : 2.45
K magnitude           : 9.250
G magnitude           : 14.638
RP magnitude          : 13.224
BP magnitude          : 16.617
DUPflag              : 0
Distance (au)         : 5.676
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 26.15
Sun-Target sep (deg) : 64.13
Sun-Moon sep (deg)   : 6.01
B (ring opening deg) : -2.67
PA of pole (deg)     : 2.04
Pole direction: RA (deg): 268.05702
Dec (deg): 64.49651
C/A sky separation (") : 16.141
C/A sky separation (km) : 66441.8
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
    
```

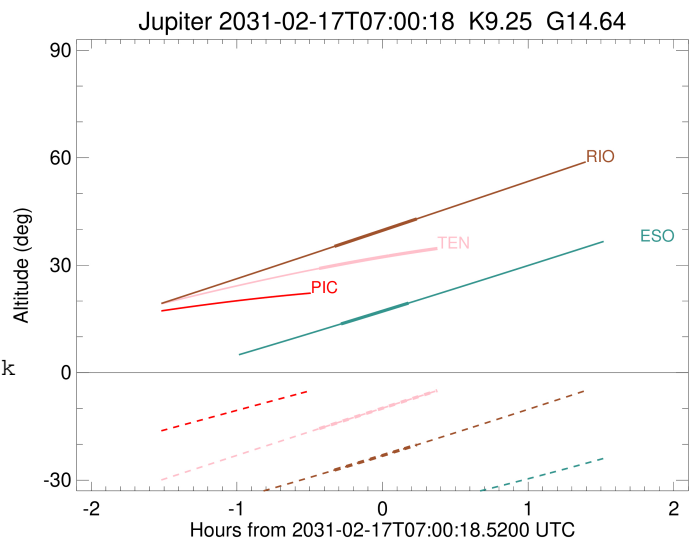
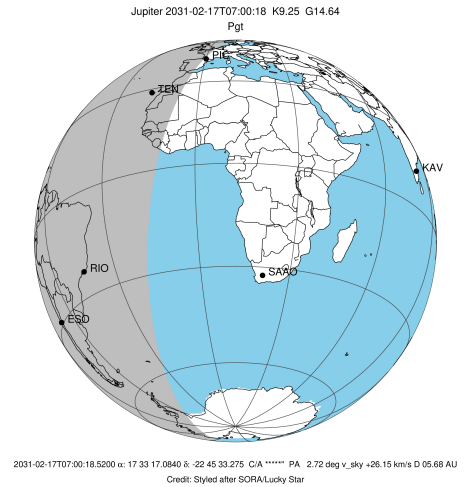


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2031-02-17T06:40:32.824	35.25	-27.19	71483.5	-69.20	-71.49
Jupiter	E	2031-02-17T07:14:27.209	42.93	-20.14	71483.7	-67.21	-69.69

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2031-02-17T06:57:07.360
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        : 4117458260533972224
2Mass ID (if available) : 17331708-2245329
ICRS Star Coord at Epoch: 17h 33m 17.08395s -22:45:33.27510s
RUWE (>1.4 is poor) : 2.45
K magnitude           : 9.250
G magnitude           : 14.638
RP magnitude          : 13.224
BP magnitude          : 16.617
DUPflag              : 0
Distance (au)         : 5.676
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 26.15
Sun-Target sep (deg) : 64.13
Sun-Moon sep (deg)   : 6.16
B (ring opening deg) : -2.67
PA of pole (deg)     : 2.04
Pole direction: RA (deg): 268.05702
Dec (deg): 64.49651
C/A sky separation (") : 16.541
C/A sky separation (km) : 68085.7
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	2031-02-17T06:43:13.899	13.61	-41.53	71483.1	-73.08	-75.00
Jupiter	E	2031-02-17T07:11:01.761	19.42	-37.67	71483.3	-71.06	-73.18