

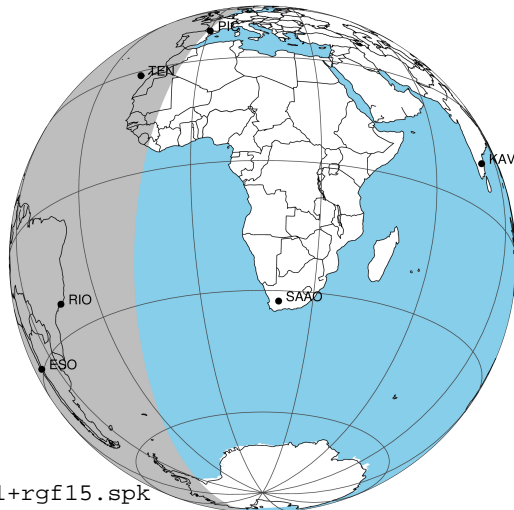
target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2043-02-16T07:00:22.090
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 4068888257899375488
 2Mass ID (if available) : 17483783-2257129

Jupiter 2043-02-16T07:00:22 K9.24 G14.24 Pgt

ICRS Star Coord at Epoch: 17h 48m 37.83369s -22:57:13.07660s

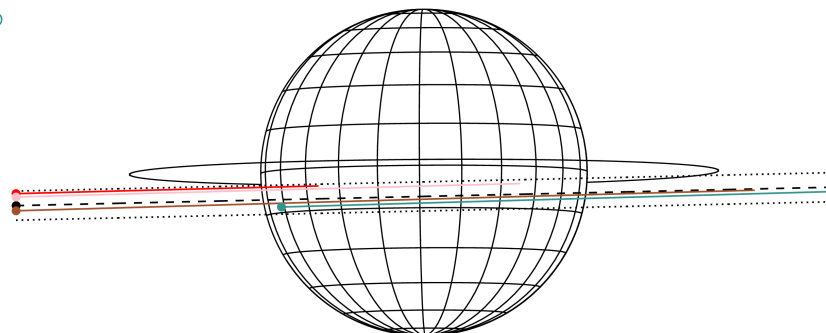
RUWE (>1.4 is poor) : 0.92
 K magnitude : 9.241
 G magnitude : 14.242
 RP magnitude : 12.983
 BP magnitude : 16.011
 DUPflag : 0
 Distance (au) : 5.740
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : 28.30
 Sun-Target sep (deg) : 59.51
 Sun-Moon sep (deg) : 143.85
 B (ring opening deg) : -2.55
 PA of pole (deg) : 0.39
 Pole direction: RA (deg): 268.05662
 Dec (deg): 64.49732
 C/A sky separation (") : 2.516
 C/A sky separation (km) : 10474.0
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk

Jupiter 2043-02-16T07:00:22 K9.24 G14.24
 Pgt



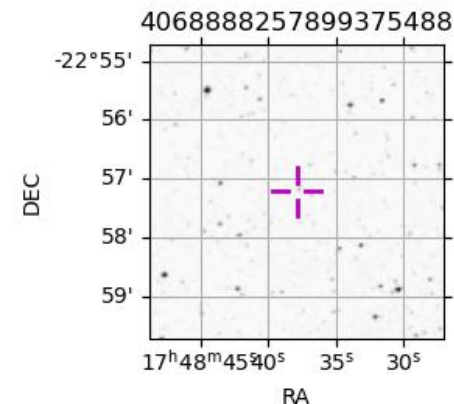
2043-02-16T07:00:22.0900 a: 17 48 37.8337 & -22 57 13.077 C/A 2.525" PA 1.29 deg v_sky +28.30 km/s D 05.74 AU
 Credit: Styled after SORA/Lucky Star

Earth
 PIC
 TEN
 RIO
 ESO



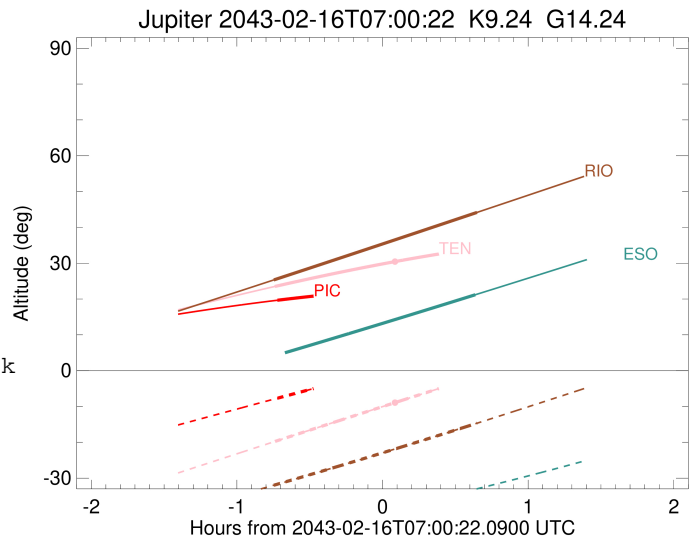
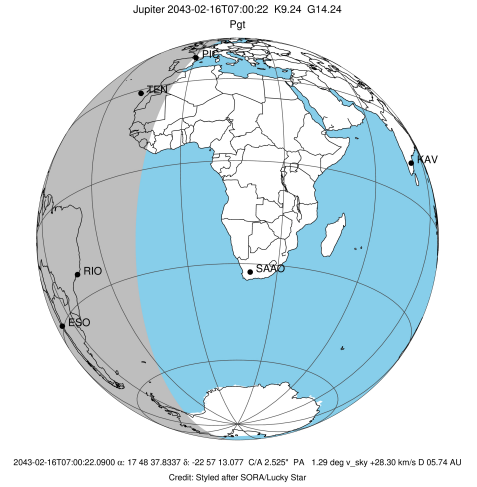
Observable events with sun below -5 deg and altitude above 5 deg

Obs	Location	lat	Elon	Target	Observed Events Interval	OCode
PIC	Pic du Midi	42.9	0.1	+	FEB 16 06:17 - FEB 16 06:17	Pin
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 16 06:16 - FEB 16 06:16	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 16 06:15 - FEB 16 07:39	Pie
ESO	European Southern Obs. (3.6m)	-29.3	289.3	+	FEB 16 07:38 - FEB 16 07:38	Pne
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             : 2043-02-16T06:59:31.490
Event type            : Pgt
: Jupiter occs: geocentric, topocentric
: 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        : 4068888257899375488
2Mass ID (if available) : 17483783-2257129
ICRS Star Coord at Epoch: 17h 48m 37.83369s -22:57:13.07660s
RUWE (>1.4 is poor) : 0.92
K magnitude           : 9.241
G magnitude           : 14.242
RP magnitude          : 12.983
BP magnitude          : 16.011
DUPflag               : 0
Distance (au)         : 5.740
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 28.30
Sun-Target sep (deg)  : 59.51
Sun-Moon sep (deg)    : 143.97
B (ring opening deg) : -2.55
PA of pole (deg)      : 0.39
Pole direction: RA (deg): 268.05662
Dec (deg): 64.49732
C/A sky separation (") : 1.145
C/A sky separation (km) : 4767.9
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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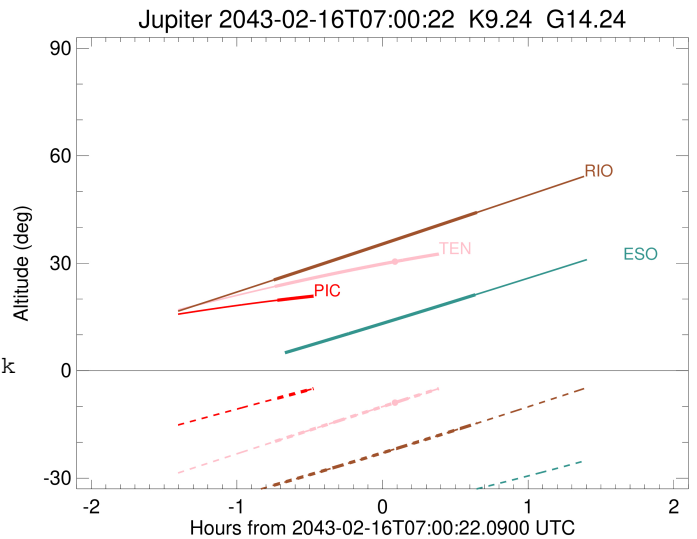
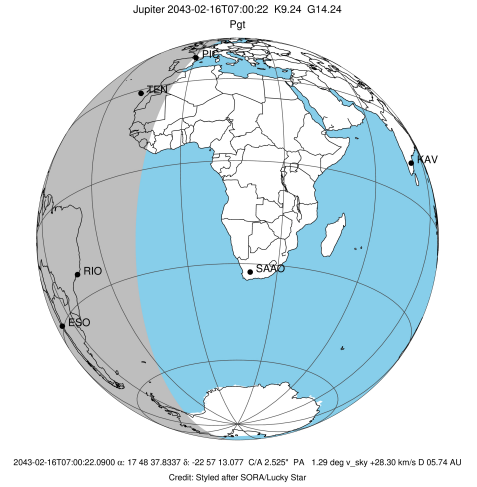


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-02-16T06:17:03.023	19.66	-7.69	71491.9	-4.84	-5.53
Jupiter	E	2043-02-16T07:42:02.863	24.06	7.22x	71492.0	-2.85	-3.26

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-02-16T06:58:30.250
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        : 4068888257899375488
2Mass ID (if available) : 17483783-2257129
ICRS Star Coord at Epoch: 17h 48m 37.83369s -22:57:13.07660s
RUWE (>1.4 is poor) : 0.92
K magnitude           : 9.241
G magnitude           : 14.242
RP magnitude          : 12.983
BP magnitude          : 16.011
DUPflag              : 0
Distance (au)         : 5.740
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 28.30
Sun-Target sep (deg)  : 59.51
Sun-Moon sep (deg)   : 143.81
B (ring opening deg) : -2.55
PA of pole (deg)     : 0.39
Pole direction: RA (deg): 268.05662
Dec (deg): 64.49732
C/A sky separation (") : 1.425
C/A sky separation (km) : 5933.2
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
    
```

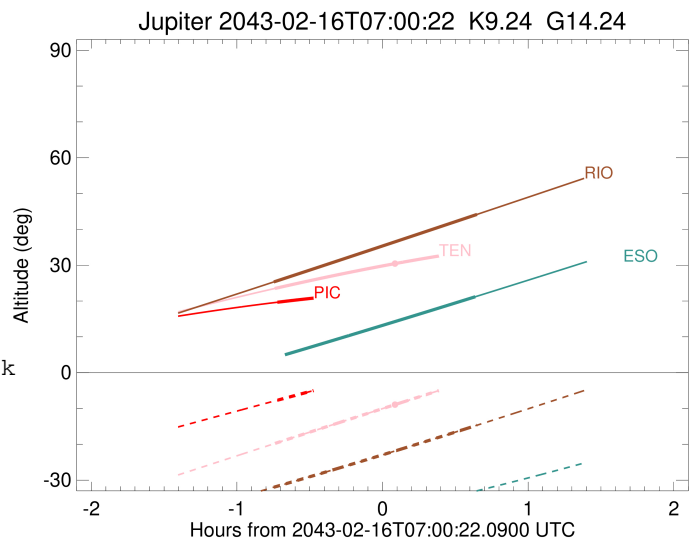
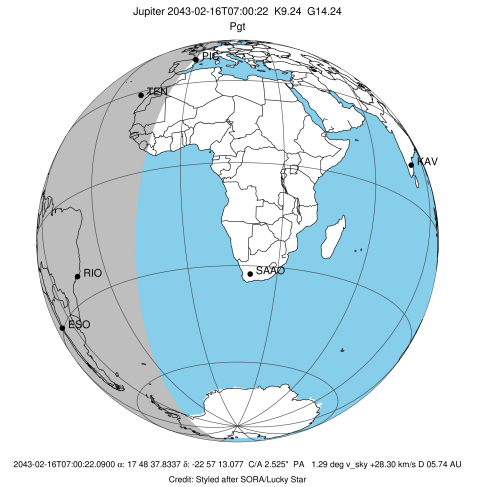


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-02-16T06:16:04.783	23.51	-19.75	71491.9	-5.88	-6.71
Jupiter	E	2043-02-16T07:41:00.799	34.36	-1.24x	71492.0	-3.68	-4.21

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-02-16T06:57:24.250
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        : 4068888257899375488
2Mass ID (if available) : 17483783-2257129
ICRS Star Coord at Epoch: 17h 48m 37.83369s -22:57:13.07660s
RUWE (>1.4 is poor) : 0.92
K magnitude            : 9.241
G magnitude           : 14.242
RP magnitude          : 12.983
BP magnitude          : 16.011
DUPflag               : 0
Distance (au)         : 5.740
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 28.30
Sun-Target sep (deg) : 59.51
Sun-Moon sep (deg)   : 143.55
B (ring opening deg) : -2.55
PA of pole (deg)     : 0.39
Pole direction: RA (deg): 268.05662
Dec (deg): 64.49732
C/A sky separation (") : 2.812
C/A sky separation (km) : 11706.9
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
    
```

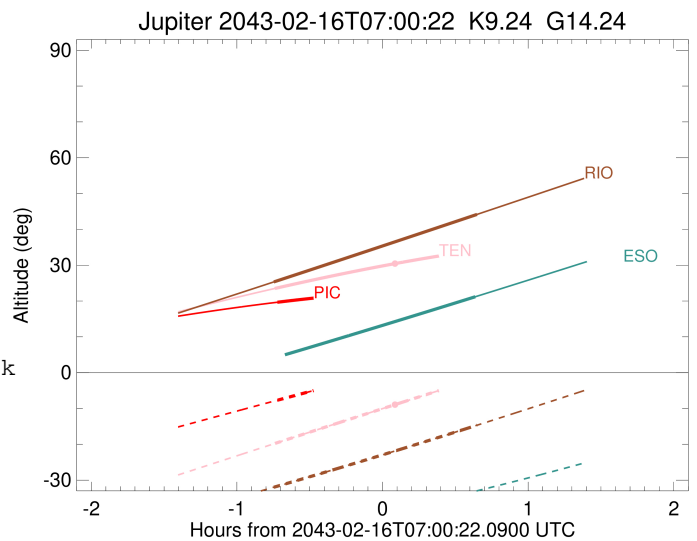
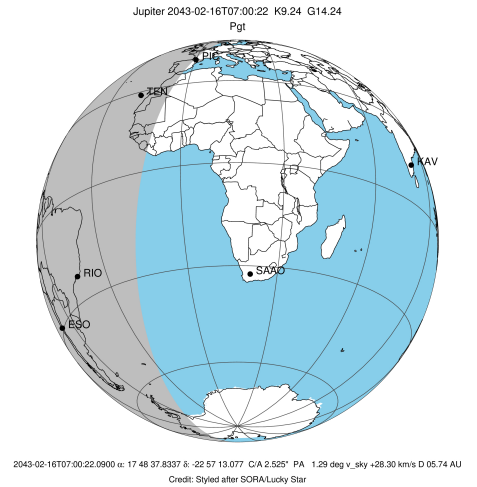


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-02-16T06:15:37.401	25.34	-31.97	71491.7	-10.64	-12.12
Jupiter	E	2043-02-16T07:39:18.372	44.17	-14.67	71491.8	-8.22	-9.38

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-02-16T06:57:09.790
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      : 4068888257899375488
2Mass ID (if available) : 17483783-2257129
ICRS Star Coord at Epoch: 17h 48m 37.83369s -22:57:13.07660s
RUWE (>1.4 is poor) : 0.92
K magnitude          : 9.241
G magnitude          : 14.242
RP magnitude         : 12.983
BP magnitude         : 16.011
DUPflag             : 0
Distance (au)       : 5.740
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 28.30
Sun-Target sep (deg) : 59.51
Sun-Moon sep (deg)  : 143.27
B (ring opening deg) : -2.55
PA of pole (deg)    : 0.39
Pole direction: RA (deg): 268.05662
Dec (deg): 64.49732
C/A sky separation (") : 3.208
C/A sky separation (km) : 13355.1
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	2043-02-16T06:15:50.800	4.13x	-44.38	71491.6	-11.98	-13.63
Jupiter	E	2043-02-16T07:38:36.331	21.19	-33.09	71491.8	-9.53	-10.87