

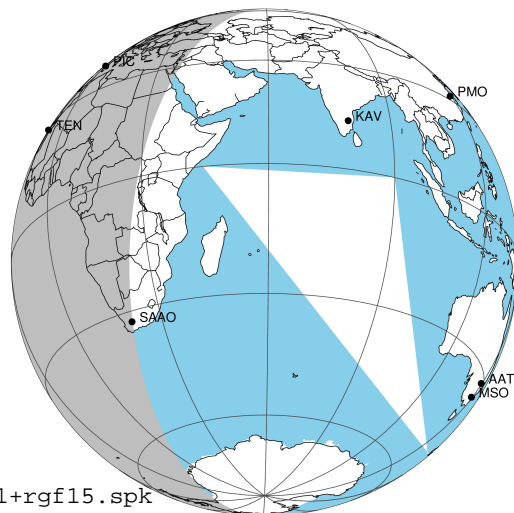
target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2043-02-14T04:16:57.420
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 4068839230774678784
 2Mass ID (if available) : 17470697-2256339

Jupiter 2043-02-14T04:16:57 K9.30 G13.26 Pgt

ICRS Star Coord at Epoch: 17h 47m 06.98175s -22:56:33.94873s

RUWE (>1.4 is poor) : 0.91
 K magnitude : 9.297
 G magnitude : 13.264
 RP magnitude : 12.187
 BP magnitude : 14.468
 DUPflag : 0
 Distance (au) : 5.770
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : 29.10
 Sun-Target sep (deg) : 57.72
 Sun-Moon sep (deg) : 114.34
 B (ring opening deg) : -2.55
 PA of pole (deg) : 0.55
 Pole direction: RA (deg): 268.05661
 Dec (deg): 64.49732
 C/A sky separation (") : 6.641
 C/A sky separation (km) : 27789.7
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk

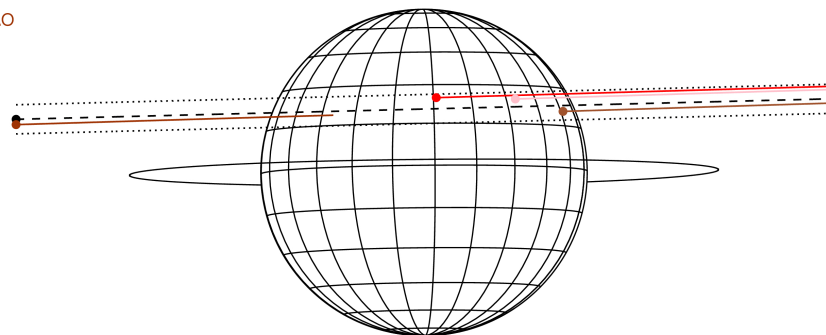
Jupiter 2043-02-14T04:16:57 K9.30 G13.26
 Pgt



2043-02-14T04:16:57.4200 cc: 17 47 06.98175 s: -22 56 33.949 C/A 6.6327 PA 181.44 deg v_sky +29.10 km/s D 05.77 AU

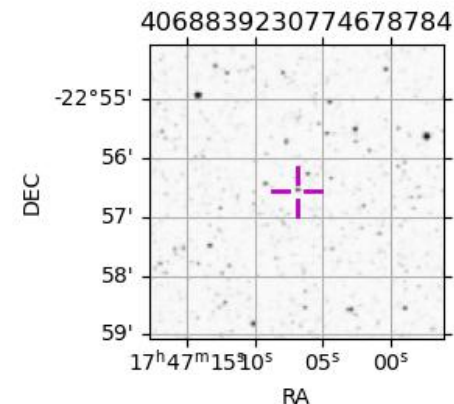
Credit: Styled after SORA/Lucky Star

Earth
 PIC
 TEN
 RIO
 SAAO



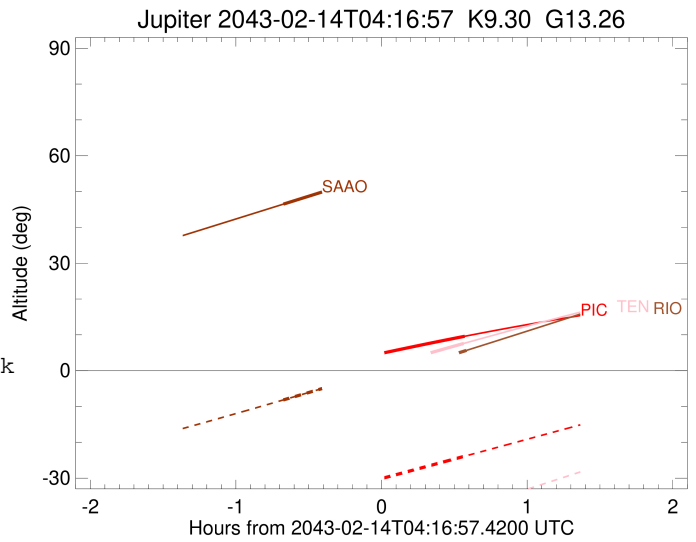
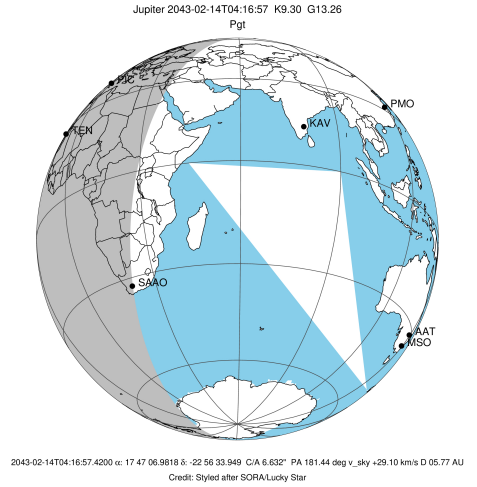
Observable events with sun below -5 deg and altitude above 5 deg

Obs	Location	lat	Elon	Target	Observed Events Interval	OCode
PIC	Pic du Midi	42.9	0.1	+	FEB 14 04:51 - FEB 14 04:51	Pne
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 14 04:50 - FEB 14 04:50	Pne
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 14 04:51 - FEB 14 04:51	Pne
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	+	FEB 14 03:36 - FEB 14 03:36	Pin
MSO	Mt. Stromlo Observatory	-35.3	149.0			Pnn



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target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-02-14T04:14:30.760
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     : 4068839230774678784
2Mass ID (if available) : 17470697-2256339
ICRS Star Coord at Epoch: 17h 47m 06.98175s -22:56:33.94873s
RUWE (>1.4 is poor) : 0.91
K magnitude         : 9.297
G magnitude         : 13.264
RP magnitude        : 12.187
BP magnitude        : 14.468
DUPflag            : 0
Distance (au)      : 5.770
f0 (km)            : 0.00
g0 (km)            : 0.00
skyplane vel. (km/s) : 29.10
Sun-Target sep (deg) : 57.72
Sun-Moon sep (deg)  : 114.16
B (ring opening deg) : -2.55
PA of pole (deg)   : 0.55
Pole direction: RA (deg): 268.05661
Dec (deg): 64.49732
C/A sky separation (") : 7.793
C/A sky separation (km) : 32612.4
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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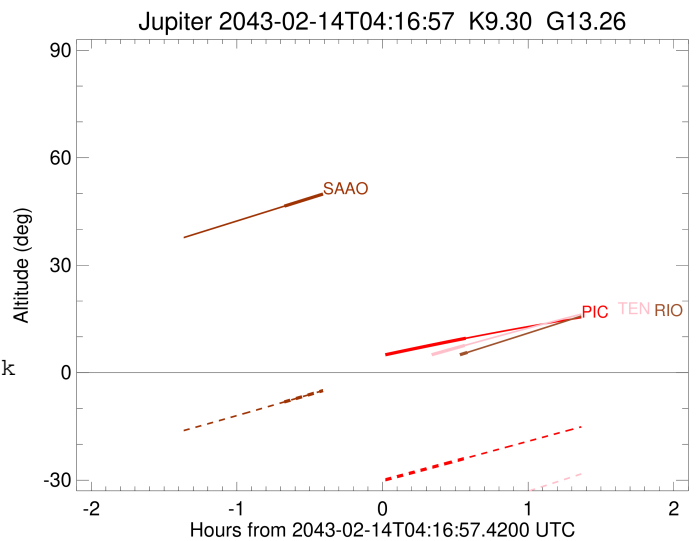
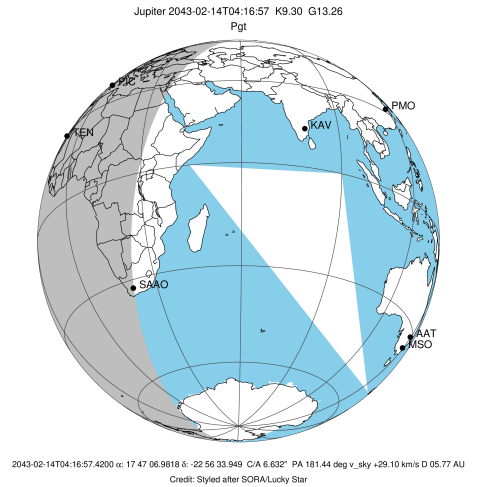


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-02-14T03:37:53.597	-1.11x	-37.07	71490.3	25.98	29.08
Jupiter	E	2043-02-14T04:51:12.427	9.59	-23.88	71490.0	28.22	31.49

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-02-14T04:13:41.550
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       : 4068839230774678784
2Mass ID (if available) : 17470697-2256339
ICRS Star Coord at Epoch: 17h 47m 06.98175s -22:56:33.94873s
RUWE (>1.4 is poor) : 0.91
K magnitude          : 9.297
G magnitude          : 13.264
RP magnitude         : 12.187
BP magnitude         : 14.468
DUPflag             : 0
Distance (au)        : 5.770
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 29.10
Sun-Target sep (deg) : 57.72
Sun-Moon sep (deg)  : 114.01
B (ring opening deg) : -2.55
PA of pole (deg)    : 0.55
Pole direction: RA (deg): 268.05661
Dec (deg): 64.49732
C/A sky separation (") : 7.399
C/A sky separation (km) : 30960.6
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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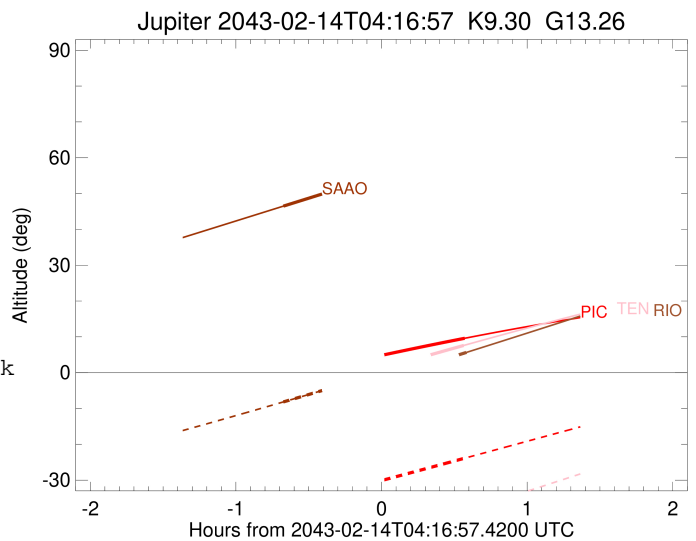
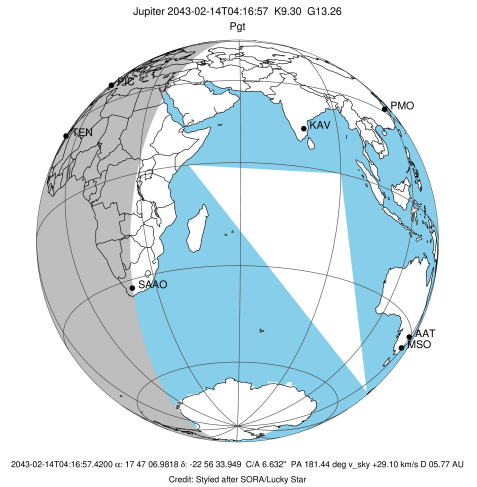


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-02-14T03:36:42.760	-7.04x	-54.83	71490.5	24.43	27.41
Jupiter	E	2043-02-14T04:50:46.199	7.58	-38.86	71490.2	26.83	30.00

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-02-14T04:13:37.990
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       : 4068839230774678784
2Mass ID (if available) : 17470697-2256339
ICRS Star Coord at Epoch: 17h 47m 06.98175s -22:56:33.94873s
RUWE (>1.4 is poor) : 0.91
K magnitude          : 9.297
G magnitude          : 13.264
RP magnitude         : 12.187
BP magnitude         : 14.468
DUPflag             : 0
Distance (au)        : 5.770
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 29.10
Sun-Target sep (deg) : 57.72
Sun-Moon sep (deg)   : 113.95
B (ring opening deg) : -2.55
PA of pole (deg)     : 0.55
Pole direction: RA (deg): 268.05661
Dec (deg): 64.49732
C/A sky separation (") : 5.946
C/A sky separation (km) : 24880.8
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
    
```

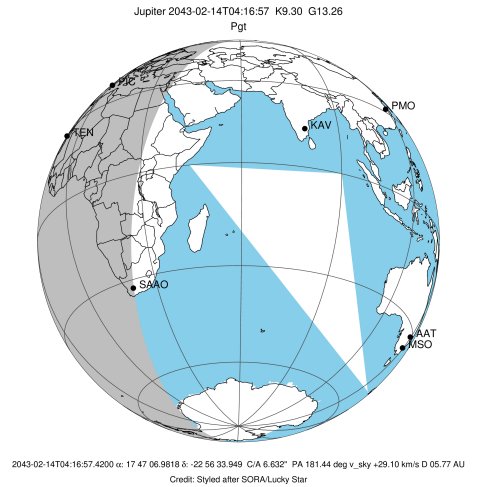


x: target alt < 5.0 deg or sun > -5.0 deg

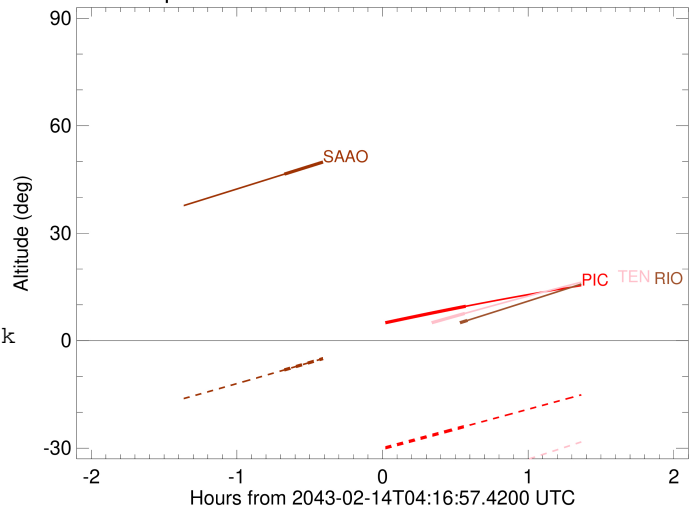
Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-02-14T03:35:25.908	-10.19x	-53.50	71491.0	19.15	21.64
Jupiter	E	2043-02-14T04:51:56.498	5.65	-45.92	71490.8	21.56	24.28

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-02-14T04:14:59.240
Event type          : Pgt
                    : Jupiter occs: geocentric, topocentric
                    : Not a ringed target
Observer code       : SAAO
Location            : So. Afr. Astro. Obs. (Sutherland)
Latitude (deg)      : -32.37953
E. Longitude (deg)  : 20.81070
Altitude (km)       : 1.768
Gaia source ID      : 4068839230774678784
2Mass ID (if available) : 17470697-2256339
ICRS Star Coord at Epoch: 17h 47m 06.98175s -22:56:33.94873s
RUWE (>1.4 is poor) : 0.91
K magnitude          : 9.297
G magnitude          : 13.264
RP magnitude         : 12.187
BP magnitude         : 14.468
DUPflag             : 0
Distance (au)       : 5.770
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 29.10
Sun-Target sep (deg) : 57.72
Sun-Moon sep (deg)  : 114.86
B (ring opening deg) : -2.55
PA of pole (deg)    : 0.55
Pole direction: RA (deg): 268.05661
Dec (deg): 64.49732
C/A sky separation (") : 6.269
C/A sky separation (km) : 26232.8
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 2043-02-14T04:16:57 K9.30 G13.26



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	2043-02-14T03:36:31.459	46.48	-8.16	71490.9	20.39	23.01
Jupiter	E	2043-02-14T04:53:31.359	62.70	7.47x	71490.7	22.58	25.40