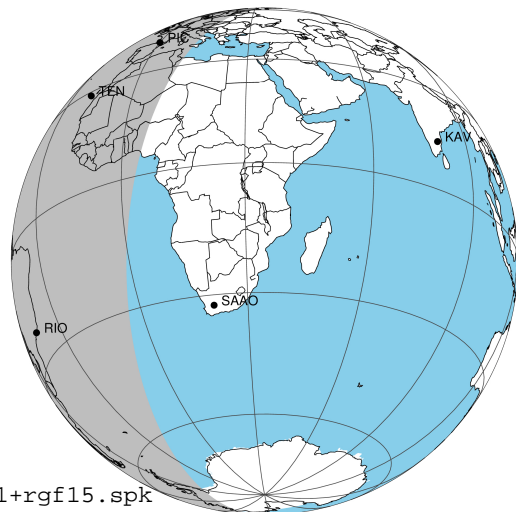


target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2043-02-13T05:58:24.750
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 4068842902893328384
 2Mass ID (if available) : 17462640-2256110

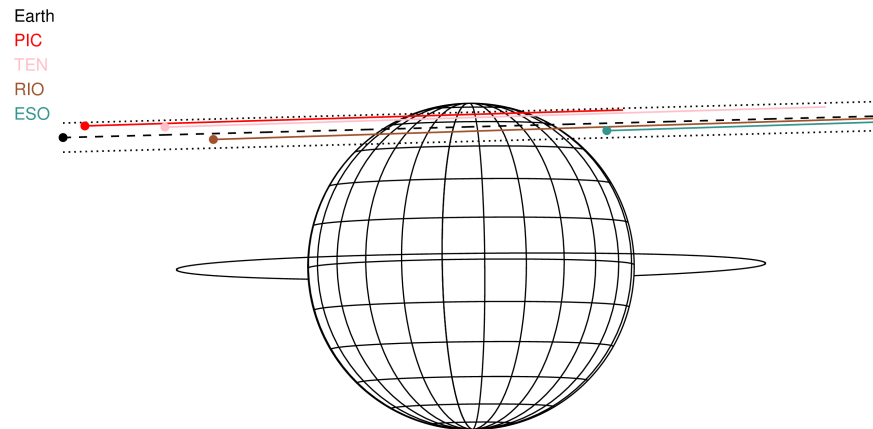
Jupiter 2043-02-13T05:58:24 K8.74 G13.77 Pgt

ICRS Star Coord at Epoch: 17h 46m 26.38789s -22:56:11.54015s
 RUWE (>1.4 is poor) : 0.94
 K magnitude : 8.744
 G magnitude : 13.766
 RP magnitude : 12.470
 BP magnitude : 15.650
 DUPflag : 0
 Distance (au) : 5.783
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : 29.44
 Sun-Target sep (deg) : 56.94
 Sun-Moon sep (deg) : 101.22
 B (ring opening deg) : -2.56
 PA of pole (deg) : 0.62
 Pole direction: RA (deg): 268.05661
 Dec (deg): 64.49732
 C/A sky separation (") : 14.586
 C/A sky separation (km) : 61170.8
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk

Jupiter 2043-02-13T05:58:24 K8.74 G13.77
 Pgt

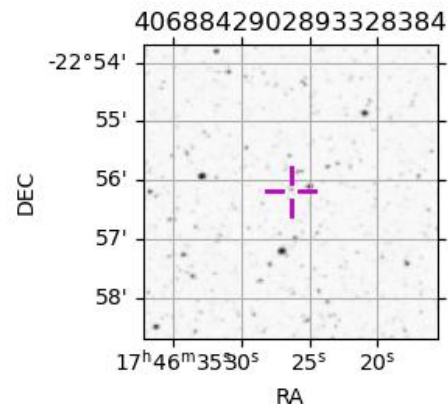


2043-02-13T05:58:24.7500 a: 17 46 26.3879 s: -22 56 11.540 C/A ***** PA 181.51 deg v_sky +29.44 km/s D 05.78 AU
 Credit: Styled after SORA/Lucky Star



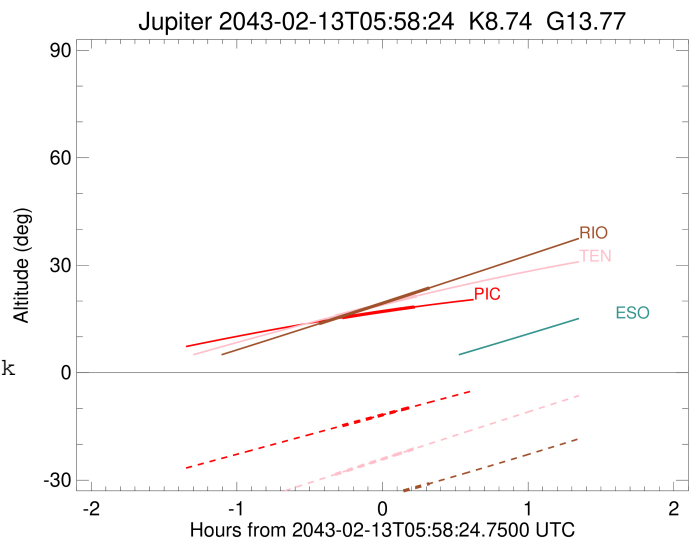
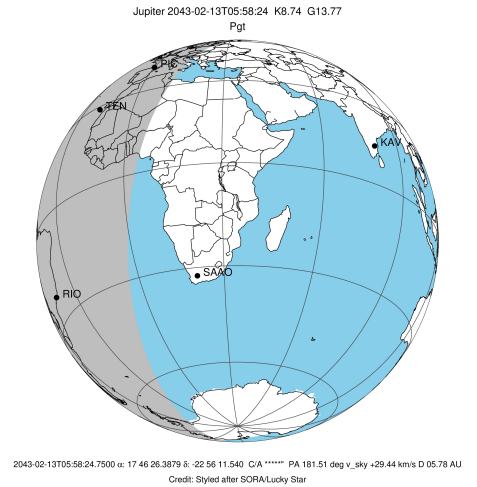
Observable events with sun below -5 deg and altitude above 5 deg

Obs	Location	lat	Elon	Target	Observed Events Interval	OEcode
PIC	Pic du Midi	42.9	0.1	+ +	FEB 13 05:41 - FEB 13 06:11	Pie
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 13 05:38 - FEB 13 06:12	Pie
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 13 05:32 - FEB 13 06:17	Pie
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



```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-02-13T05:56:43.800
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       : 4068842902893328384
2Mass ID (if available) : 17462640-2256110
ICRS Star Coord at Epoch: 17h 46m 26.38789s -22:56:11.54015s
RUWE (>1.4 is poor) : 0.94
K magnitude           : 8.744
G magnitude           : 13.766
RP magnitude         : 12.470
BP magnitude         : 15.650
DUPflag              : 0
Distance (au)        : 5.783
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 29.44
Sun-Target sep (deg) : 56.94
Sun-Moon sep (deg)   : 101.42
B (ring opening deg) : -2.56
PA of pole (deg)     : 0.62
Pole direction: RA (deg): 268.05661
Dec (deg): 64.49732
C/A sky separation (") : 15.878
C/A sky separation (km) : 66592.9
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
    
```

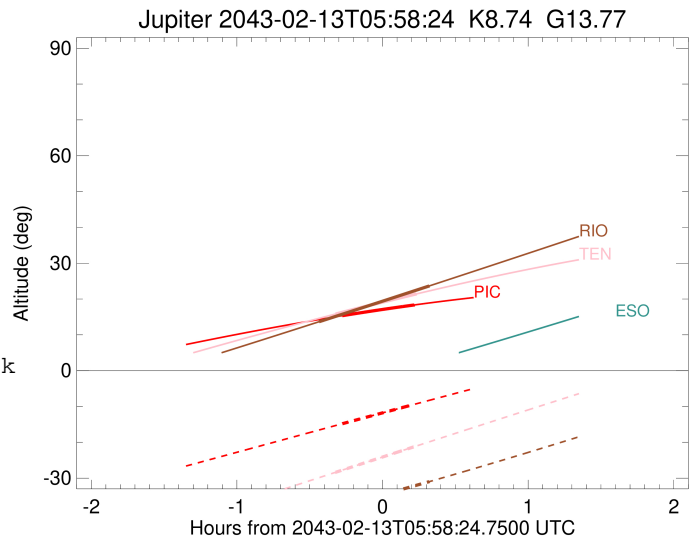
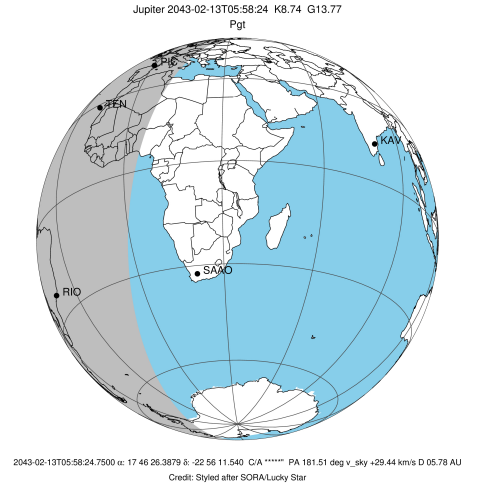


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-02-13T05:41:52.709	15.35	-14.80	71484.4	67.49	69.95
Jupiter	E	2043-02-13T06:11:35.404	18.35	-9.39	71484.2	69.57	71.83

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-02-13T05:55:42.060
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        : 4068842902893328384
2Mass ID (if available) : 17462640-2256110
ICRS Star Coord at Epoch: 17h 46m 26.38789s -22:56:11.54015s
RUWE (>1.4 is poor)  : 0.94
K magnitude           : 8.744
G magnitude           : 13.766
RP magnitude          : 12.470
BP magnitude          : 15.650
DUPflag              : 0
Distance (au)         : 5.783
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 29.44
Sun-Target sep (deg)  : 56.94
Sun-Moon sep (deg)    : 101.40
B (ring opening deg) : -2.56
PA of pole (deg)      : 0.62
Pole direction: RA (deg): 268.05661
Dec (deg): 64.49732
C/A sky separation (") : 15.547
C/A sky separation (km) : 65203.3
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
    
```

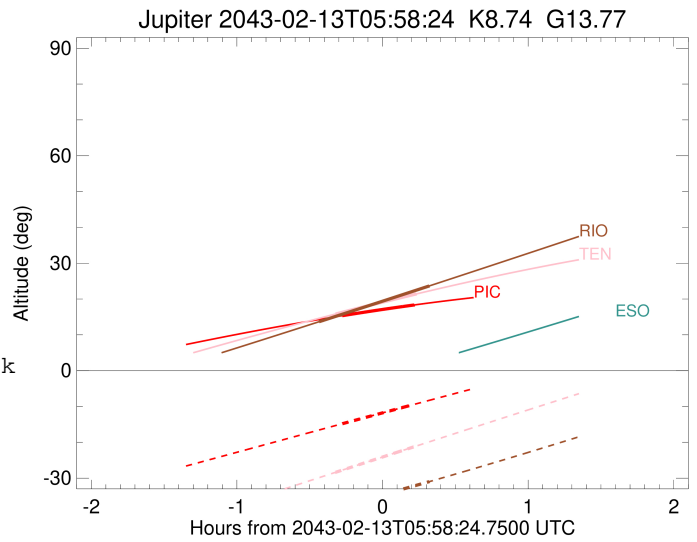
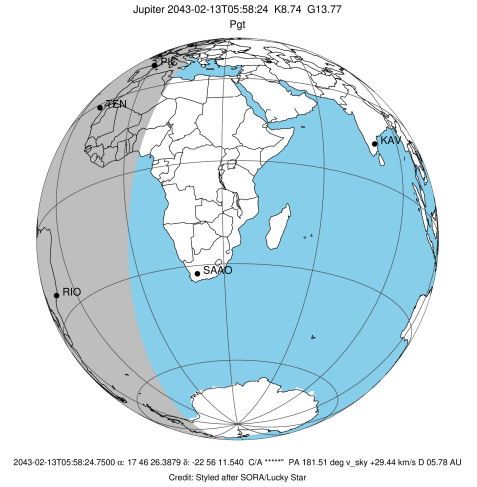


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-02-13T05:38:58.558	15.79	-28.39	71484.7	64.53	67.25
Jupiter	E	2043-02-13T06:12:26.548	21.42	-21.02	71484.5	66.80	69.32

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-02-13T05:54:59.100
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      : 4068842902893328384
2Mass ID (if available) : 17462640-2256110
ICRS Star Coord at Epoch: 17h 46m 26.38789s -22:56:11.54015s
RUWE (>1.4 is poor) : 0.94
K magnitude          : 8.744
G magnitude          : 13.766
RP magnitude         : 12.470
BP magnitude         : 15.650
DUPflag             : 0
Distance (au)        : 5.783
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 29.44
Sun-Target sep (deg) : 56.94
Sun-Moon sep (deg)  : 101.37
B (ring opening deg) : -2.56
PA of pole (deg)    : 0.62
Pole direction: RA (deg): 268.05661
Dec (deg): 64.49732
C/A sky separation (") : 14.123
C/A sky separation (km) : 59231.1
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	2043-02-13T05:32:17.083	13.66	-39.29	71486.1	54.66	58.05
Jupiter	E	2043-02-13T06:17:43.403	23.66	-30.96	71485.7	57.07	60.32