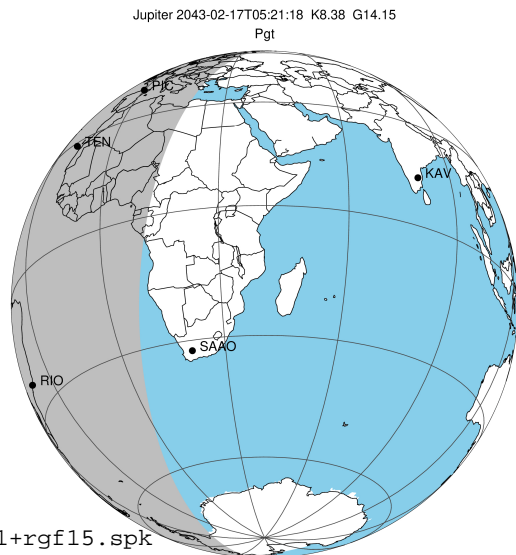


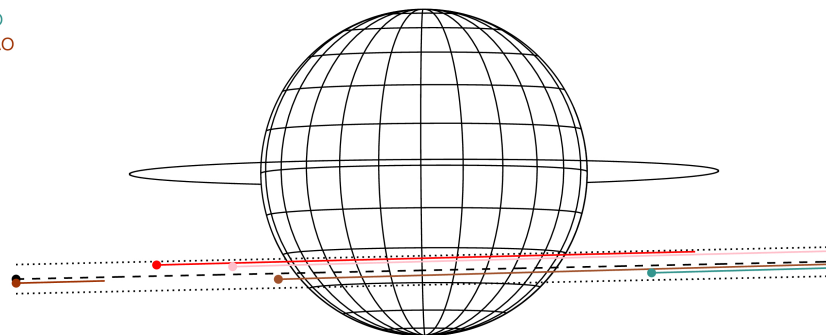
target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2043-02-17T05:21:18.480
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 4068875785134495232
 2Mass ID (if available) : 17491720-2257328

Jupiter 2043-02-17T05:21:18 K8.38 G14.15 Pgt

ICRS Star Coord at Epoch: 17h 49m 17.20037s -22:57:32.84012s
 RUWE (>1.4 is poor) : 0.90
 K magnitude : 8.376
 G magnitude : 14.151
 RP magnitude : 12.711
 BP magnitude : 16.865
 DUPflag : 0
 Distance (au) : 5.727
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : 27.94
 Sun-Target sep (deg) : 60.30
 Sun-Moon sep (deg) : 156.54
 B (ring opening deg) : -2.54
 PA of pole (deg) : 0.32
 Pole direction: RA (deg): 268.05662
 Dec (deg): 64.49732
 C/A sky separation (") : 10.317
 C/A sky separation (km) : 42856.4
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk



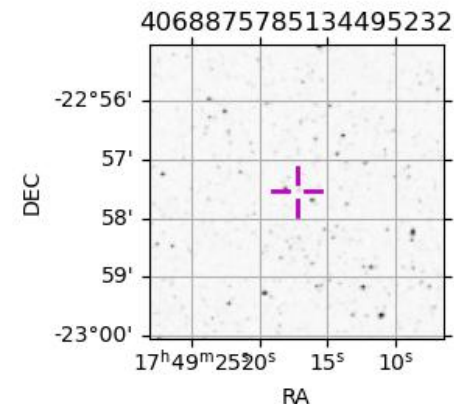
Earth
 PIC
 TEN
 RIO
 ESO
 SAAO



2043-02-17T05:21:18.4800 α: 17 49 17.2004 δ: -22 57 32.840 C/A ***** PA 1.23 deg v_sky +27.94 km/s D 05.73 AU
 Credit: Styled after SORA/Lucky Star

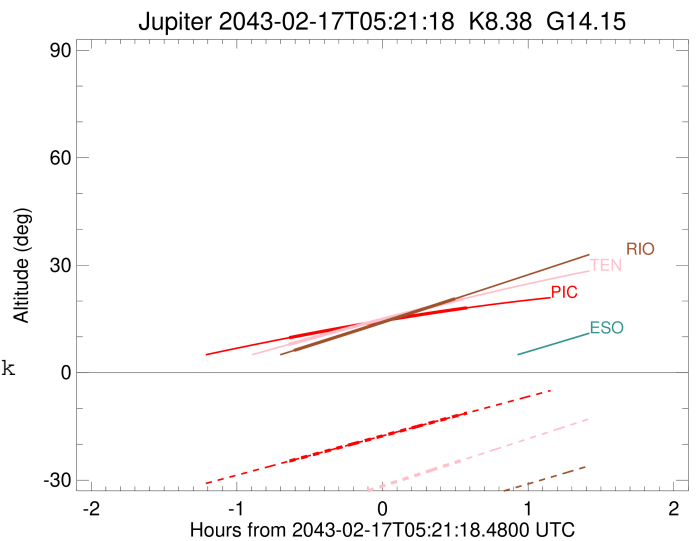
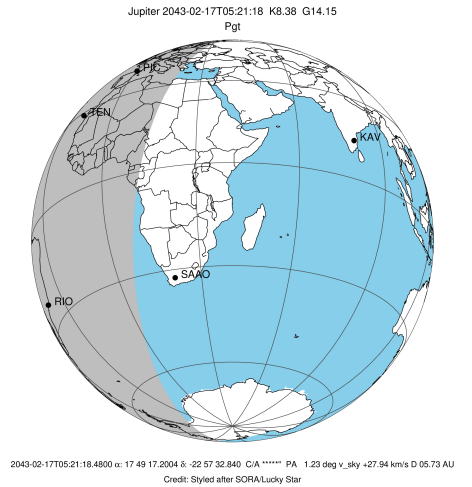
Observable events with sun below -5 deg and altitude above 5 deg

Obs	Location	lat	Elon	Target	Observed Events Interval	OCode
PIC	Pic du Midi	42.9	0.1	+ +	FEB 17 04:42 - FEB 17 05:56	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 17 04:42 - FEB 17 05:54	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 17 04:44 - FEB 17 05:51	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            : 2043-02-17T05:19:30.170
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      : 4068875785134495232
2Mass ID (if available) : 17491720-2257328
ICRS Star Coord at Epoch: 17h 49m 17.20037s -22:57:32.84012s
RUWE (>1.4 is poor) : 0.90
K magnitude          : 8.376
G magnitude          : 14.151
RP magnitude         : 12.711
BP magnitude         : 16.865
DUPflag             : 0
Distance (au)        : 5.727
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 27.94
Sun-Target sep (deg) : 60.30
Sun-Moon sep (deg)   : 156.35
B (ring opening deg) : -2.54
PA of pole (deg)     : 0.32
Pole direction: RA (deg): 268.05662
Dec (deg): 64.49732
C/A sky separation (") : 9.039
C/A sky separation (km) : 37546.4
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
    
```

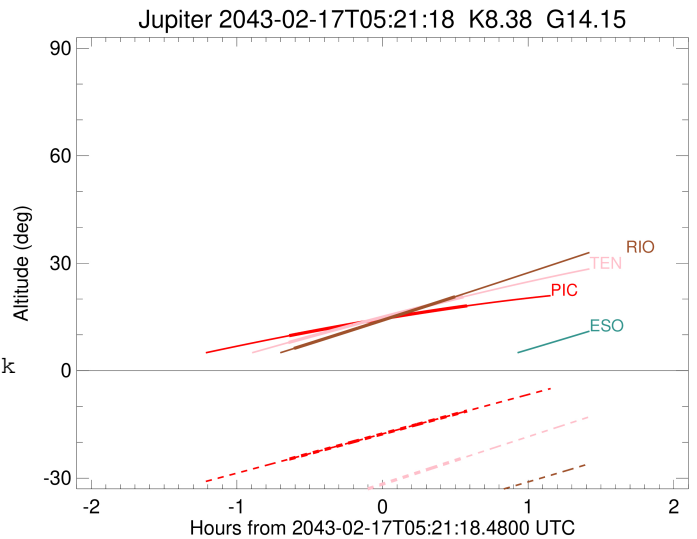
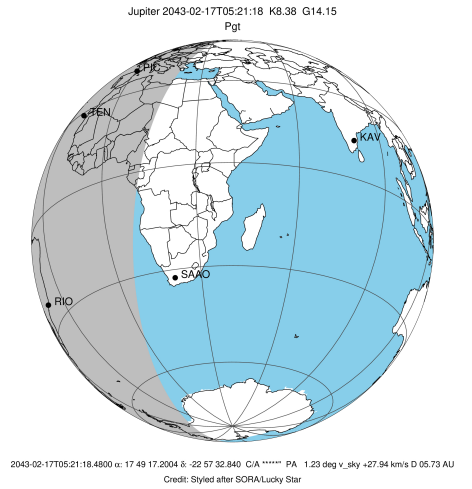


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-02-17T04:42:55.145	9.77	-24.68	71489.4	-32.76	-36.27
Jupiter	E	2043-02-17T05:56:08.948	18.10	-11.25	71489.7	-30.56	-33.97

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-02-17T05:18:32.990
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      : 4068875785134495232
2Mass ID (if available) : 17491720-2257328
ICRS Star Coord at Epoch: 17h 49m 17.20037s -22:57:32.84012s
RUWE (>1.4 is poor) : 0.90
K magnitude          : 8.376
G magnitude          : 14.151
RP magnitude         : 12.711
BP magnitude         : 16.865
DUPflag             : 0
Distance (au)       : 5.727
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 27.94
Sun-Target sep (deg) : 60.30
Sun-Moon sep (deg)  : 156.09
B (ring opening deg) : -2.54
PA of pole (deg)    : 0.32
Pole direction: RA (deg): 268.05662
Dec (deg): 64.49732
C/A sky separation (") : 9.389
C/A sky separation (km) : 38998.3
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
    
```

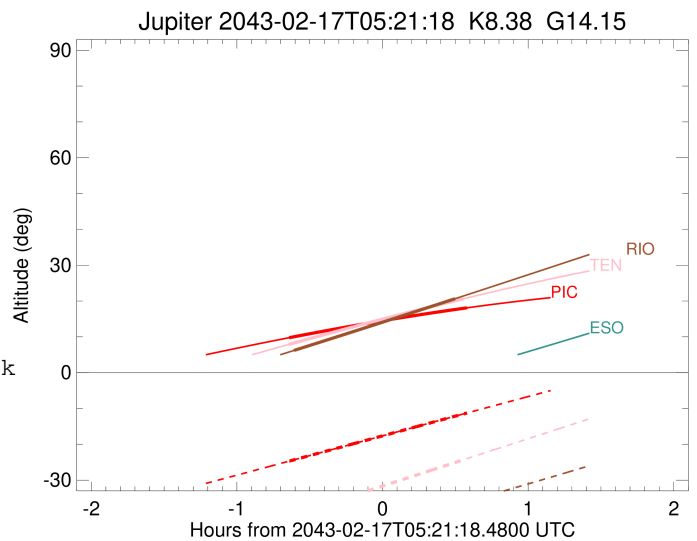
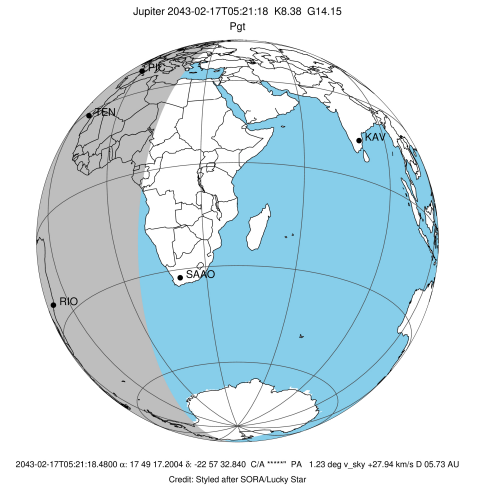


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-02-17T04:42:34.965	7.86	-40.16	71489.2	-34.23	-37.80
Jupiter	E	2043-02-17T05:54:36.119	20.61	-24.32	71489.5	-31.84	-35.31

```

target                : Jupiter
target radius (km)    : 71492.00
C/A epoch              : 2043-02-17T05:17:59.960
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        : 4068875785134495232
2Mass ID (if available) : 17491720-2257328
ICRS Star Coord at Epoch: 17h 49m 17.20037s -22:57:32.84012s
RUWE (>1.4 is poor)  : 0.90
K magnitude            : 8.376
G magnitude            : 14.151
RP magnitude          : 12.711
BP magnitude          : 16.865
DUPflag               : 0
Distance (au)         : 5.727
f0 (km)                : 0.00
g0 (km)                : 0.00
skyplane vel. (km/s)  : 27.94
Sun-Target sep (deg)  : 60.30
Sun-Moon sep (deg)    : 155.78
B (ring opening deg)  : -2.54
PA of pole (deg)      : 0.32
Pole direction: RA (deg): 268.05662
Dec (deg): 64.49732
C/A sky separation (") : 10.836
C/A sky separation (km) : 45010.0
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
    
```



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	2043-02-17T04:44:52.271	6.21	-47.73	71488.3	-40.23	-43.94
Jupiter	E	2043-02-17T05:51:12.758	20.64	-36.81	71488.7	-37.72	-41.40