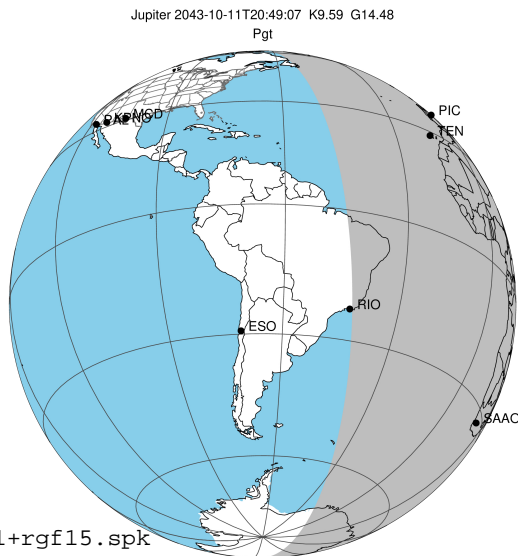


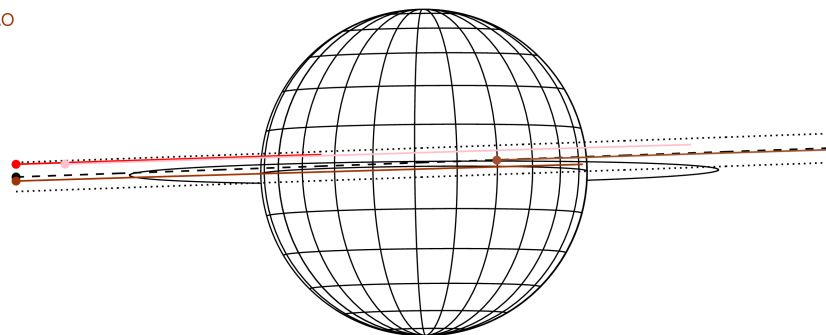
target : Jupiter  
 target radius (km) : 71492.00  
 C/A epoch : 2043-10-11T20:49:07.730  
 Event type : Pgt  
 : Jupiter occs: geocentric, topocentric  
 : Not a ringed target  
 Gaia source ID : 4068764704474798464  
 2Mass ID (if available) : 17472028-2320144

Jupiter 2043-10-11T20:49:07 K9.59 G14.48 Pgt

ICRS Star Coord at Epoch: 17h 47m 20.28031s -23°20'14.44881s  
 RUWE (>1.4 is poor) : 1.97  
 K magnitude : 9.588  
 G magnitude : 14.476  
 RP magnitude : 13.186  
 BP magnitude : 16.083  
 DUPflag : 0  
 Distance (au) : 5.496  
 f0 (km) : 0.00  
 g0 (km) : 0.00  
 skyplane vel. (km/s) : 23.70  
 Sun-Target sep (deg) : 69.27  
 Sun-Moon sep (deg) : 27.57  
 B (ring opening deg) : -2.16  
 PA of pole (deg) : 0.53  
 Pole direction: RA (deg): 268.05675  
 Dec (deg): 64.49731  
 C/A sky separation (") : 1.100  
 C/A sky separation (km) : 4384.7  
 NAIF SPICE kernels : RAJobs\_U111+rgf15.spk



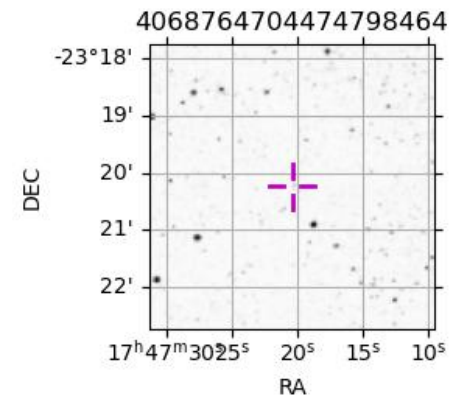
Earth  
 PIC  
 TEN  
 RIO  
 SAAO



2043-10-11T20:49:07.7300 cc: 17 47 20.2803 s: -23 20 14.449 C/A 1.092° PA 182.04 deg v\_sky +23.70 km/s D 05.50 AU  
 Credit: Styled after SORA/Lucky Star

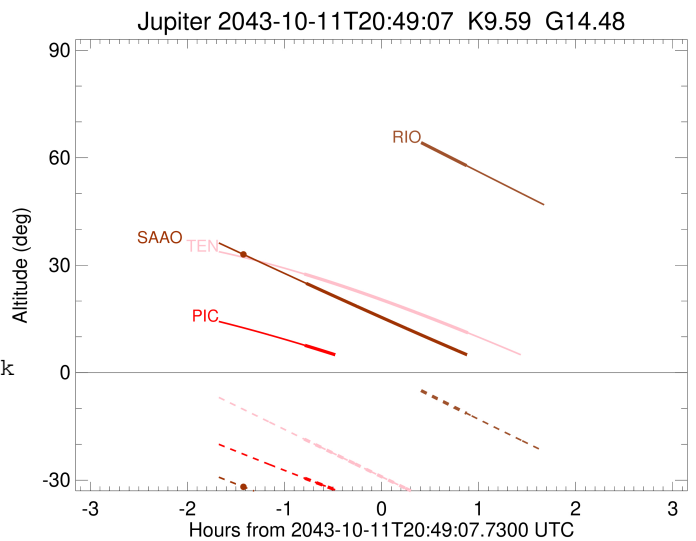
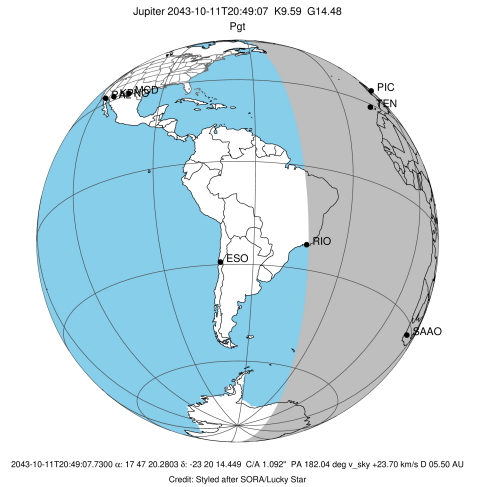
Observable events with sun below -5 deg and altitude above 5 deg

Obs	Location	lat	Elon	Target	Observed Events Interval	OEncode
PIC	Pic du Midi	42.9	0.1	+	OCT 11 20:01 - OCT 11 20:01	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	+ +	OCT 11 20:01 - OCT 11 21:42	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	+	OCT 11 21:41 - OCT 11 21:41	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	+	OCT 11 20:02 - OCT 11 20:02	Pin
MSO	Mt. Stromlo Observatory	-35.3	149.0			Pnn



```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-10-11T20:52:03.810
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        : 4068764704474798464
2Mass ID (if available) : 17472028-2320144
ICRS Star Coord at Epoch: 17h 47m 20.28031s -23:20:14.44881s
RUWE (>1.4 is poor) : 1.97
K magnitude           : 9.588
G magnitude           : 14.476
RP magnitude          : 13.186
BP magnitude          : 16.083
DUPflag              : 0
Distance (au)         : 5.496
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 23.70
Sun-Target sep (deg) : 69.27
Sun-Moon sep (deg)   : 27.17
B (ring opening deg) : -2.16
PA of pole (deg)     : 0.53
Pole direction: RA (deg): 268.05675
Dec (deg): 64.49731
C/A sky separation (") : 2.318
C/A sky separation (km) : 9238.7
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
    
```

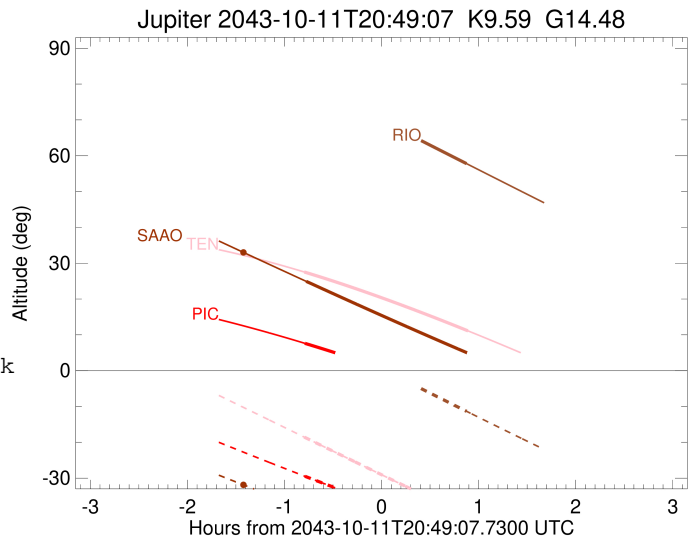
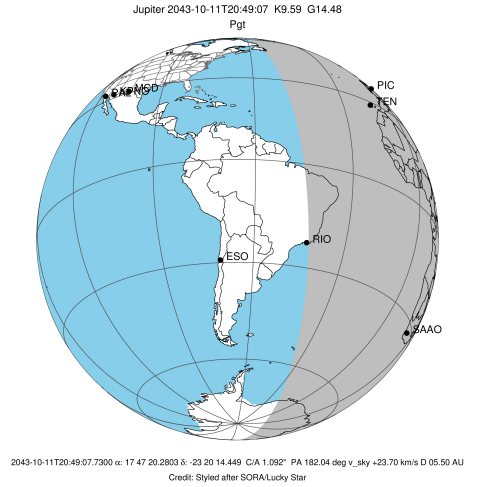


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-10-11T20:01:49.565	7.62	-29.48	71491.9	6.18	7.06
Jupiter	E	2043-10-11T21:42:07.233	-7.78x	-45.25	71491.9	8.63	9.84

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-10-11T20:52:04.010
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        : 4068764704474798464
2Mass ID (if available) : 17472028-2320144
ICRS Star Coord at Epoch: 17h 47m 20.28031s -23:20:14.44881s
RUWE (>1.4 is poor) : 1.97
K magnitude           : 9.588
G magnitude           : 14.476
RP magnitude          : 13.186
BP magnitude          : 16.083
DUPflag              : 0
Distance (au)         : 5.496
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 23.70
Sun-Target sep (deg) : 69.27
Sun-Moon sep (deg)   : 27.31
B (ring opening deg) : -2.16
PA of pole (deg)     : 0.53
Pole direction: RA (deg): 268.05675
Dec (deg): 64.49731
C/A sky separation (" ) : 2.189
C/A sky separation (km) : 8725.7
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
    
```

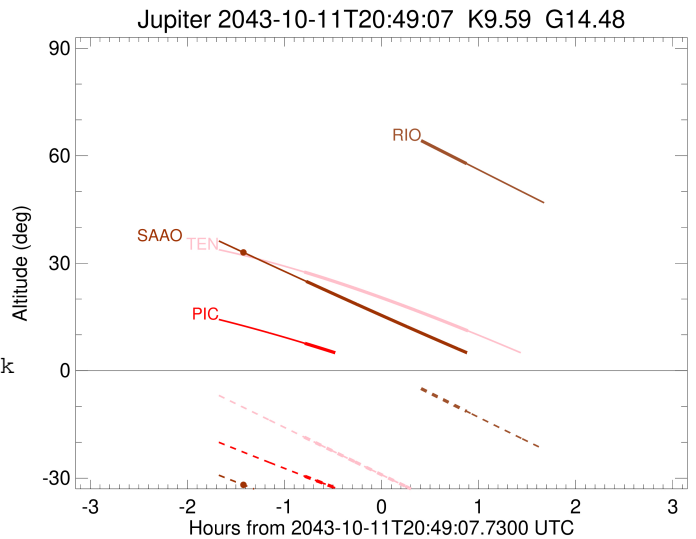
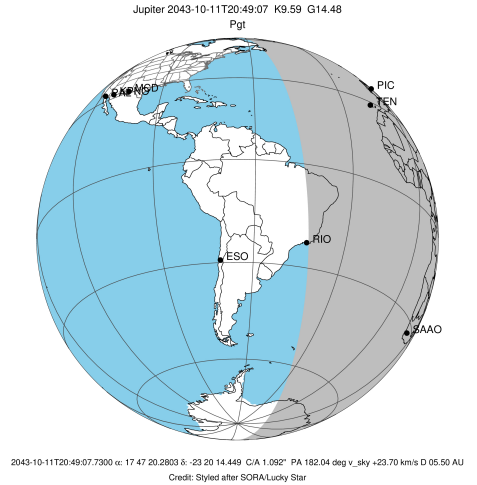


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-10-11T20:01:30.518	27.52	-18.57	71491.9	5.74	6.56
Jupiter	E	2043-10-11T21:42:26.548	11.13	-40.55	71491.9	8.21	9.36

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-10-11T20:50:42.410
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       : 4068764704474798464
2Mass ID (if available) : 17472028-2320144
ICRS Star Coord at Epoch: 17h 47m 20.28031s -23:20:14.44881s
RUWE (>1.4 is poor) : 1.97
K magnitude          : 9.588
G magnitude          : 14.476
RP magnitude         : 13.186
BP magnitude         : 16.083
DUPflag             : 0
Distance (au)        : 5.496
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 23.70
Sun-Target sep (deg) : 69.27
Sun-Moon sep (deg)   : 27.70
B (ring opening deg) : -2.16
PA of pole (deg)     : 0.53
Pole direction: RA (deg): 268.05675
Dec (deg): 64.49731
C/A sky separation ("): 1.090
C/A sky separation (km): 4345.5
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
    
```

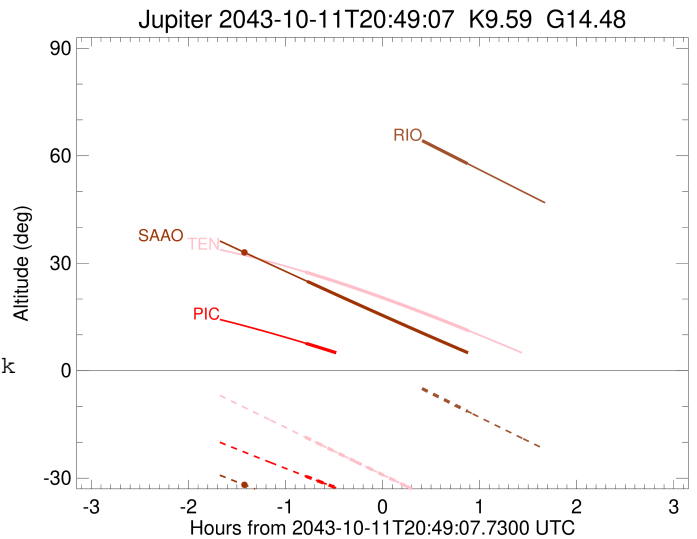
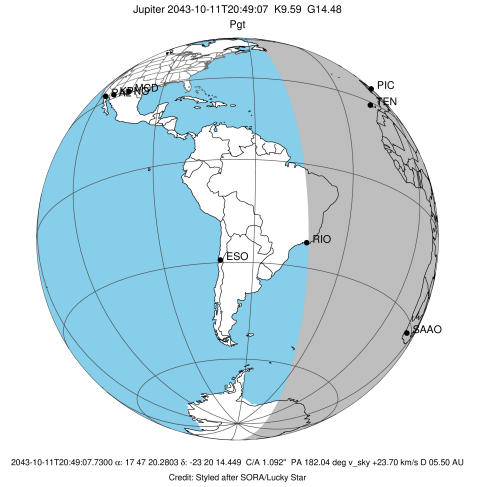


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-10-11T19:59:37.233	81.23	11.94x	71492.0	2.05	2.35
Jupiter	E	2043-10-11T21:41:40.729	57.79	-11.34	71492.0	4.82	5.51

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-10-11T20:52:59.170
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      : 4068764704474798464
2Mass ID (if available) : 17472028-2320144
ICRS Star Coord at Epoch: 17h 47m 20.28031s -23:20:14.44881s
RUWE (>1.4 is poor) : 1.97
K magnitude          : 9.588
G magnitude          : 14.476
RP magnitude         : 13.186
BP magnitude         : 16.083
DUPflag             : 0
Distance (au)       : 5.496
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 23.70
Sun-Target sep (deg) : 69.27
Sun-Moon sep (deg)  : 26.93
B (ring opening deg) : -2.16
PA of pole (deg)    : 0.53
Pole direction: RA (deg): 268.05675
Dec (deg): 64.49731
C/A sky separation (" ) : 0.389
C/A sky separation (km) : 1549.1
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	2043-10-11T20:02:34.025	24.94	-38.25	71492.0	0.10	0.11
Jupiter	E	2043-10-11T21:43:11.208	4.76x	-49.41	71492.0	2.37	2.71