

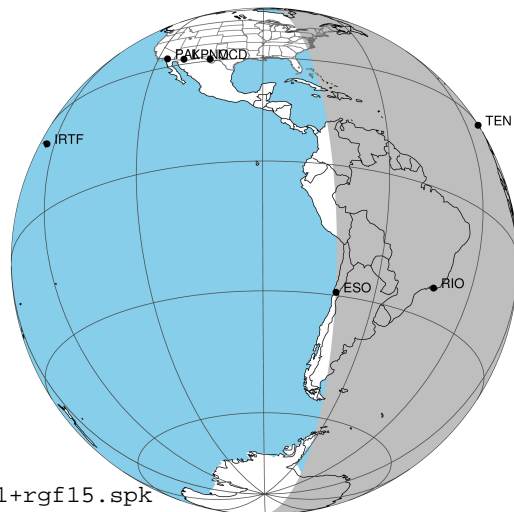
target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2043-10-06T22:43:16.170
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 4068811708553342464
 2Mass ID (if available) : 17442375-2318444

Jupiter 2043-10-06T22:43:16 K7.45 G13.90 Pgt

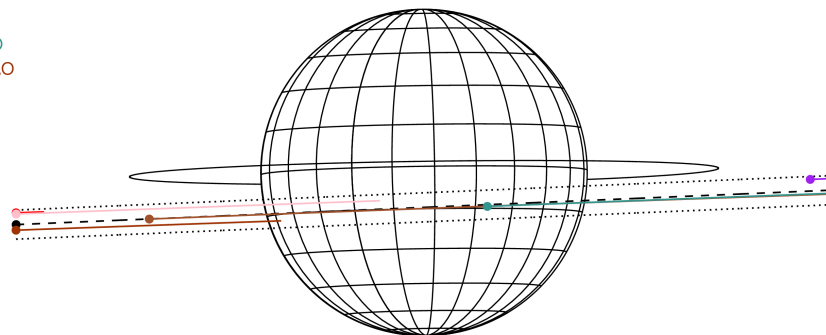
ICRS Star Coord at Epoch: 17h 44m 23.73132s -23:18:44.82151s

RUWE (>1.4 is poor) : 1.00
 K magnitude : 7.454
 G magnitude : 13.897
 RP magnitude : 12.354
 BP magnitude : 17.263
 DUPflag : 0
 Distance (au) : 5.424
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : 21.62
 Sun-Target sep (deg) : 73.45
 Sun-Moon sep (deg) : 31.33
 B (ring opening deg) : -2.18
 PA of pole (deg) : 0.84
 Pole direction: RA (deg): 268.05674
 Dec (deg): 64.49731
 C/A sky separation (") : 3.878
 C/A sky separation (km) : 15256.0
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk

Jupiter 2043-10-06T22:43:16 K7.45 G13.90
 Pgt



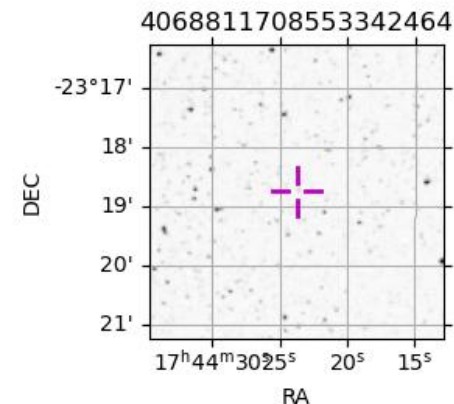
Earth
 PIC
 MCD
 TEN
 RIO
 ESO
 SAAO



2043-10-06T22:43:16.1700 @: 17 44 23.7313 s -23 18 44.822 C/A 3.886" PA 2.42 deg v_sky +21.62 km/s D 05.42 AU
 Credit: Styled after SORA/Lucky Star

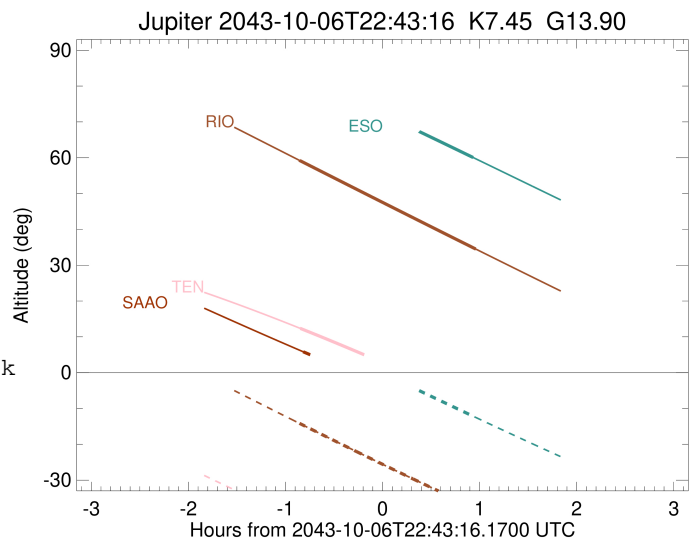
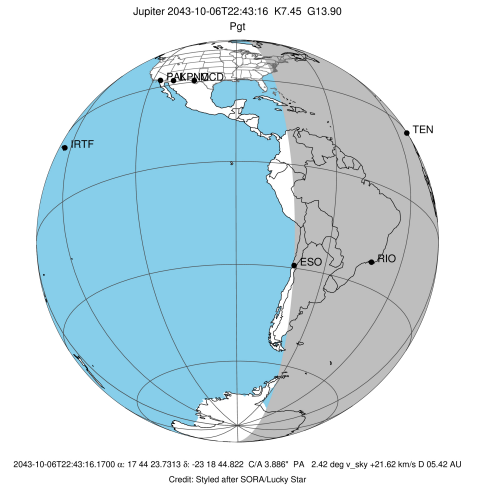
Observable events with sun below -5 deg and altitude above 5 deg

Obs	Location	lat	Elon	Target	Observed Events Interval	OCode
PIC	Pic du Midi	42.9	0.1			Pnn
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 06 21:52 - OCT 06 21:52	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	+	OCT 06 21:51 - OCT 06 23:40	Pie
ESO	European Southern Obs. (3.6m)	-29.3	289.3	+	OCT 06 23:39 - OCT 06 23:39	Pne
AAT	Siding Spring (AAT)	-31.3	149.1			Pnn
SAAO	So. Afr. Astro. Obs. (Sutherland)	-32.4	20.8	+	OCT 06 21:54 - OCT 06 21:54	Pin
MSO	Mt. Stromlo Observatory	-35.3	149.0			Pnn



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target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-10-06T22:47:16.370
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        : 4068811708553342464
2Mass ID (if available) : 17442375-2318444
ICRS Star Coord at Epoch: 17h 44m 23.73132s -23:18:44.82151s
RUWE (>1.4 is poor) : 1.00
K magnitude           : 7.454
G magnitude           : 13.897
RP magnitude          : 12.354
BP magnitude          : 17.263
DUPflag              : 0
Distance (au)         : 5.424
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 21.62
Sun-Target sep (deg) : 73.45
Sun-Moon sep (deg)   : 32.05
B (ring opening deg) : -2.18
PA of pole (deg)     : 0.84
Pole direction: RA (deg): 268.05674
Dec (deg): 64.49731
C/A sky separation ("): 2.970
C/A sky separation (km): 11683.9
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
    
```

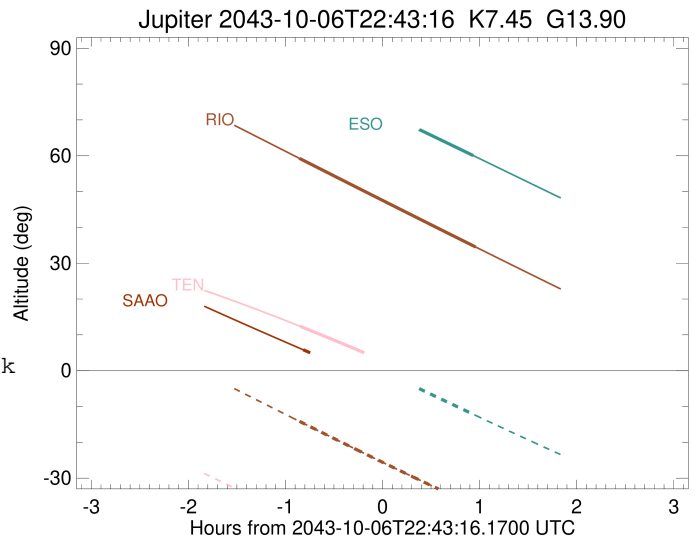
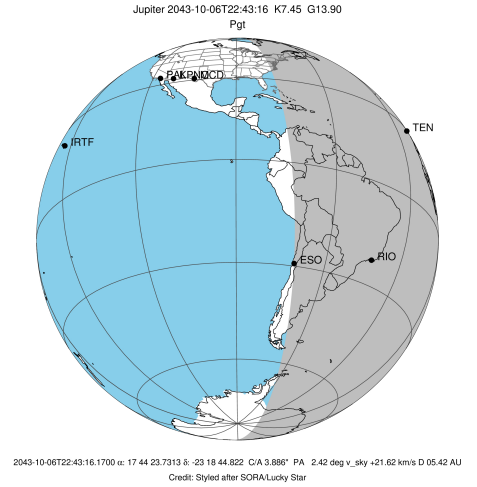


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-10-06T21:52:28.447	12.36	-41.37	71491.8	-10.59	-12.07
Jupiter	E	2043-10-06T23:41:47.289	-8.90x	-61.53	71491.9	-8.24	-9.40

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target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-10-06T22:46:32.700
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      : 4068811708553342464
2Mass ID (if available) : 17442375-2318444
ICRS Star Coord at Epoch: 17h 44m 23.73132s -23:18:44.82151s
RUWE (>1.4 is poor) : 1.00
K magnitude          : 7.454
G magnitude          : 13.897
RP magnitude         : 12.354
BP magnitude         : 17.263
DUPflag             : 0
Distance (au)       : 5.424
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 21.62
Sun-Target sep (deg) : 73.45
Sun-Moon sep (deg)  : 32.18
B (ring opening deg) : -2.18
PA of pole (deg)    : 0.84
Pole direction: RA (deg): 268.05674
Dec (deg): 64.49731
C/A sky separation (" ) : 4.010
C/A sky separation (km) : 15775.1
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
    
```

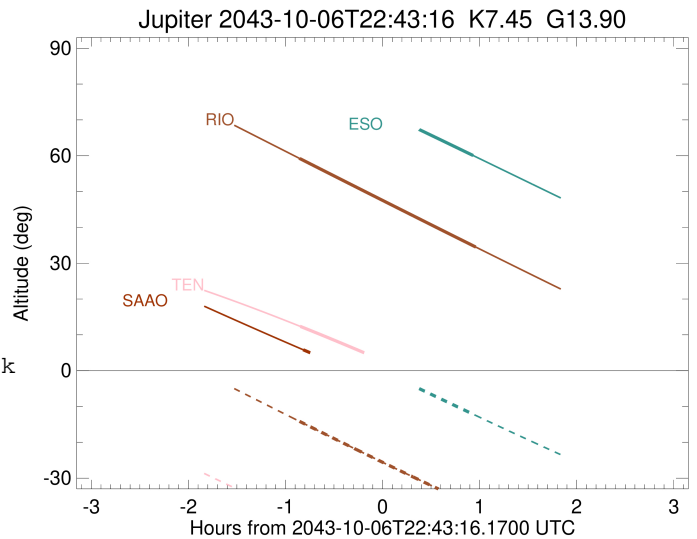
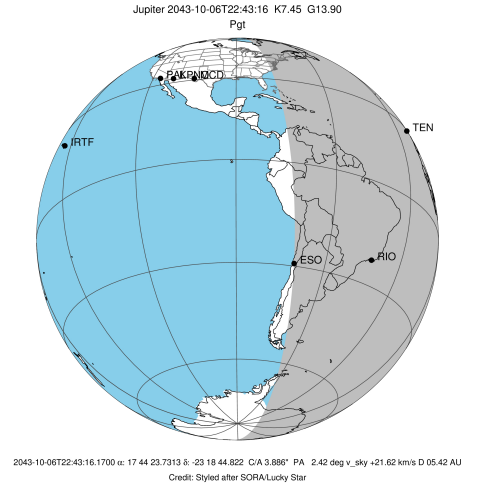


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-10-06T21:51:57.057	59.25	-14.15	71491.6	-14.05	-15.97
Jupiter	E	2043-10-06T23:40:54.309	34.50	-37.83	71491.7	-11.51	-13.10

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-10-06T22:44:40.770
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        : 4068811708553342464
2Mass ID (if available) : 17442375-2318444
ICRS Star Coord at Epoch: 17h 44m 23.73132s -23:18:44.82151s
RUWE (>1.4 is poor) : 1.00
K magnitude           : 7.454
G magnitude           : 13.897
RP magnitude          : 12.354
BP magnitude          : 17.263
DUPflag              : 0
Distance (au)         : 5.424
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 21.62
Sun-Target sep (deg)  : 73.45
Sun-Moon sep (deg)    : 31.99
B (ring opening deg) : -2.18
PA of pole (deg)      : 0.84
Pole direction: RA (deg): 268.05674
Dec (deg): 64.49731
C/A sky separation (") : 4.054
C/A sky separation (km) : 15949.8
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
    
```

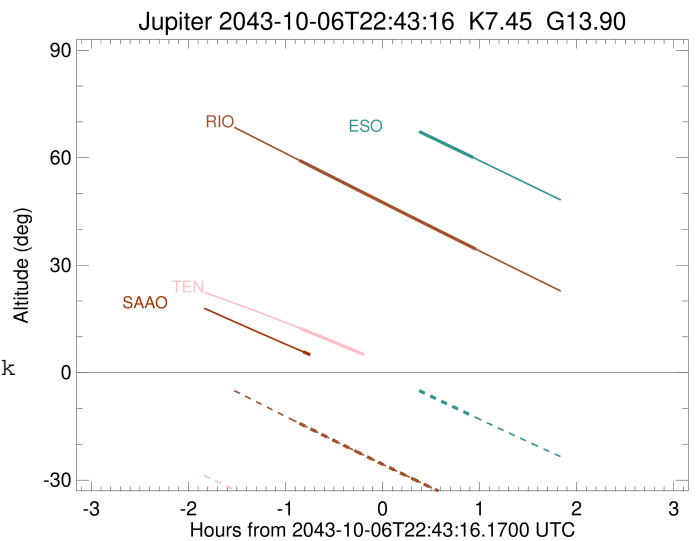
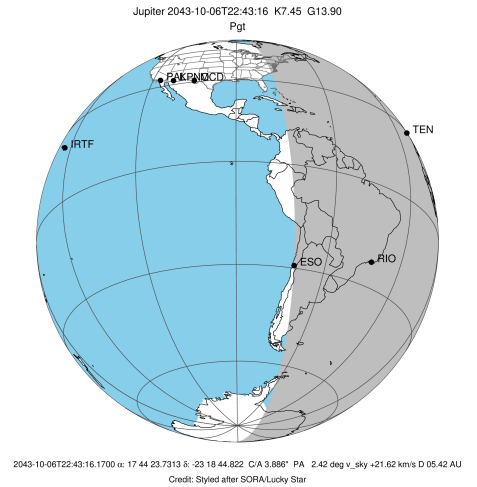


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-10-06T21:49:56.649	82.43	11.52x	71491.6	-14.41	-16.36
Jupiter	E	2043-10-06T23:39:17.364	60.05	-12.15	71491.7	-11.46	-13.05

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-10-06T22:47:09.040
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        : 4068811708553342464
2Mass ID (if available) : 17442375-2318444
ICRS Star Coord at Epoch: 17h 44m 23.73132s -23:18:44.82151s
RUWE (>1.4 is poor) : 1.00
K magnitude           : 7.454
G magnitude           : 13.897
RP magnitude          : 12.354
BP magnitude          : 17.263
DUPflag              : 0
Distance (au)         : 5.424
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 21.62
Sun-Target sep (deg) : 73.45
Sun-Moon sep (deg)   : 31.85
B (ring opening deg) : -2.18
PA of pole (deg)     : 0.84
Pole direction: RA (deg): 268.05674
Dec (deg): 64.49731
C/A sky separation ("): 4.820
C/A sky separation (km): 18961.6
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
    
```



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	2043-10-06T21:54:13.562	5.84	-51.76	71491.5	-16.54	-18.74
Jupiter	E	2043-10-06T23:39:49.696	-13.27x	-48.39	71491.6	-14.17	-16.10