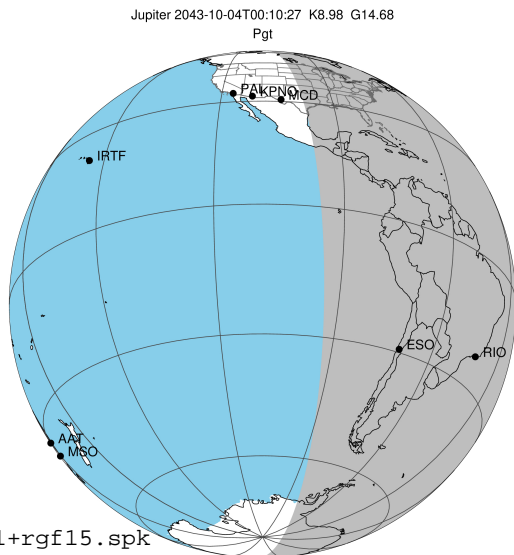


target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2043-10-04T00:10:27.150
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 4116478694384528896
 2Mass ID (if available) : 17424509-2317486

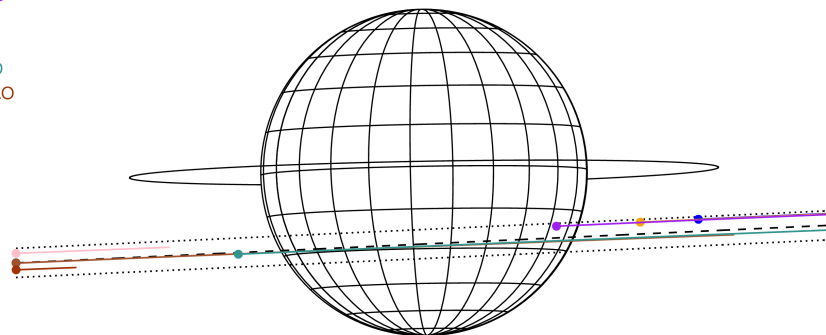
Jupiter 2043-10-04T00:10:27 K8.98 G14.68 Pgt

ICRS Star Coord at Epoch: 17h 42m 45.09331s -23:17:48.81801s
 RUWE (>1.4 is poor) : 0.94
 K magnitude : 8.976
 G magnitude : 14.677
 RP magnitude : 13.254
 BP magnitude : 17.295
 DUPflag : 0
 Distance (au) : 5.381
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : 20.34
 Sun-Target sep (deg) : 75.97
 Sun-Moon sep (deg) : 66.07
 B (ring opening deg) : -2.19
 PA of pole (deg) : 1.02
 Pole direction: RA (deg): 268.05674
 Dec (deg): 64.49731
 C/A sky separation (") : 8.020
 C/A sky separation (km) : 31301.1
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk



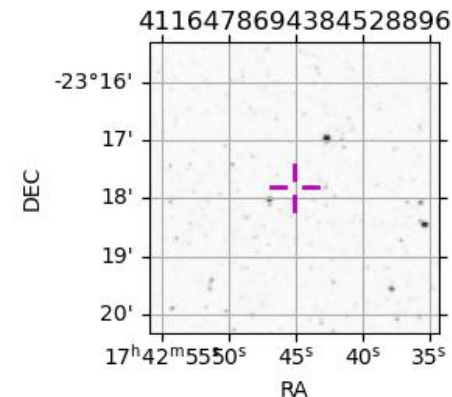
2043-10-04T00:10:27.1500 α: 17 42 45.0933 δ: -23 17 48.818 C/A 8.029" PA 2.65 deg v_sky +20.34 km/s D 05.38 AU
 Credit: Styled after SORA/Lucky Star

Earth
 PAL
 KPNO
 MCD
 TEN
 RIO
 ESO
 SAAO



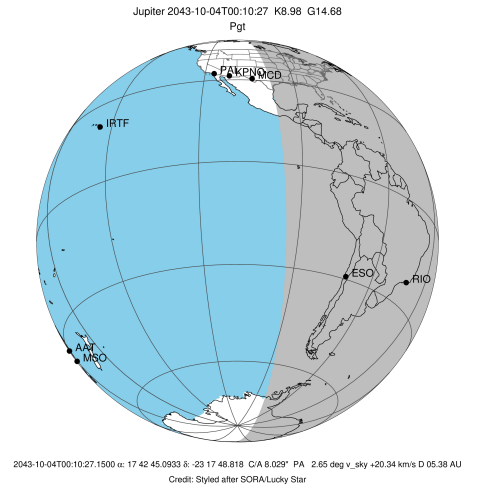
Observable events with sun below -5 deg and altitude above 5 deg

Obs	Location	lat	Elon	Target	Observed Events Interval	OCode
PIC	Pic du Midi	42.9	0.1			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	+	OCT 04 01:06 - OCT 04 01:06	Pne
TEN	Teide Obs./Tenerife	28.3	343.5			Pnn
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 03 23:21 - OCT 04 01:07	Pie
ESO	European Southern Obs. (3.6m)	-29.3	289.3	+ +	OCT 03 23:20 - OCT 04 01:06	Pie
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

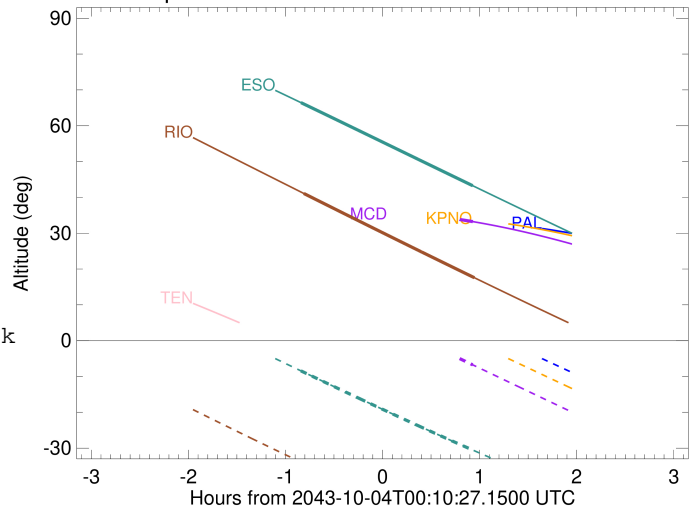


```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-10-04T00:10:39.910
Event type          : Pgt
                    : Jupiter occs: geocentric, topocentric
                    : Not a ringed target
Observer code       : MCD
Location            : McDonald Obs. 2.7m
Latitude (deg)      : 30.67158
E. Longitude (deg)  : 255.97844
Altitude (km)       : 2.075
Gaia source ID      : 4116478694384528896
2Mass ID (if available) : 17424509-2317486
ICRS Star Coord at Epoch: 17h 42m 45.09331s -23:17:48.81801s
RUWE (>1.4 is poor) : 0.94
K magnitude          : 8.976
G magnitude          : 14.677
RP magnitude         : 13.254
BP magnitude         : 17.295
DUPflag             : 0
Distance (au)       : 5.381
f0 (km)             : 0.00
g0 (km)             : 0.00
skyplane vel. (km/s) : 20.34
Sun-Target sep (deg) : 75.97
Sun-Moon sep (deg)  : 66.60
B (ring opening deg) : -2.19
PA of pole (deg)    : 1.02
Pole direction: RA (deg): 268.05674
Dec (deg): 64.49731
C/A sky separation (") : 6.700
C/A sky separation (km) : 26148.6
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
    
```



Jupiter 2043-10-04T00:10:27 K8.98 G14.68

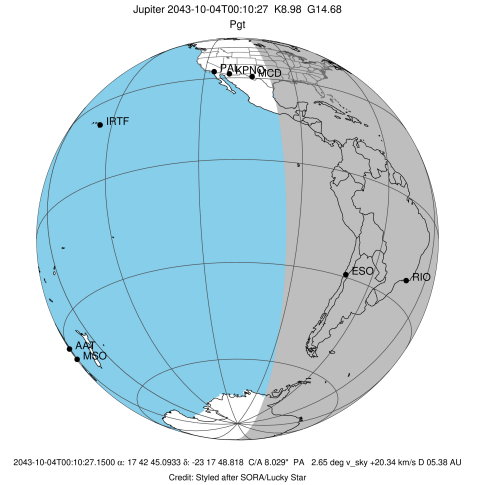


x: target alt < 5.0 deg or sun > -5.0 deg

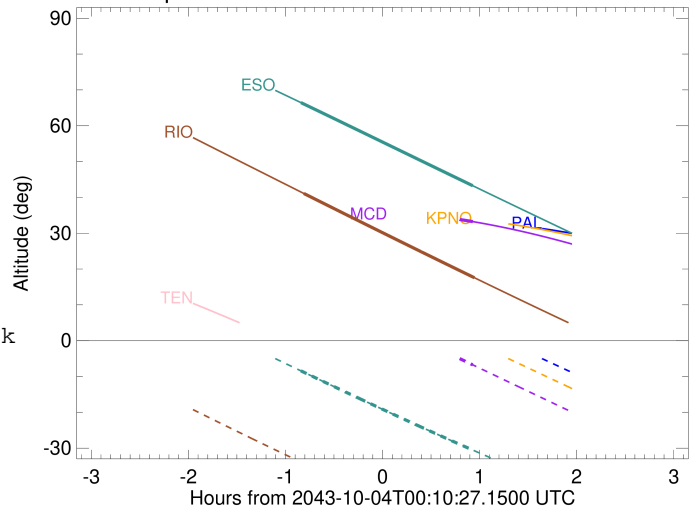
Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-10-03T23:15:03.492	35.49	16.92x	71491.0	-23.13	-26.00
Jupiter	E	2043-10-04T01:06:12.060	33.23	-6.74	71491.2	-19.86	-22.42

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-10-04T00:14:43.350
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        : 4116478694384528896
2Mass ID (if available) : 17424509-2317486
ICRS Star Coord at Epoch: 17h 42m 45.09331s -23:17:48.81801s
RUWE (>1.4 is poor) : 0.94
K magnitude           : 8.976
G magnitude           : 14.677
RP magnitude          : 13.254
BP magnitude          : 17.295
DUPflag              : 0
Distance (au)         : 5.381
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 20.34
Sun-Target sep (deg) : 75.97
Sun-Moon sep (deg)   : 66.80
B (ring opening deg) : -2.19
PA of pole (deg)     : 1.02
Pole direction: RA (deg): 268.05674
Dec (deg): 64.49731
C/A sky separation (") : 8.307
C/A sky separation (km) : 32421.5
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
    
```



Jupiter 2043-10-04T00:10:27 K8.98 G14.68

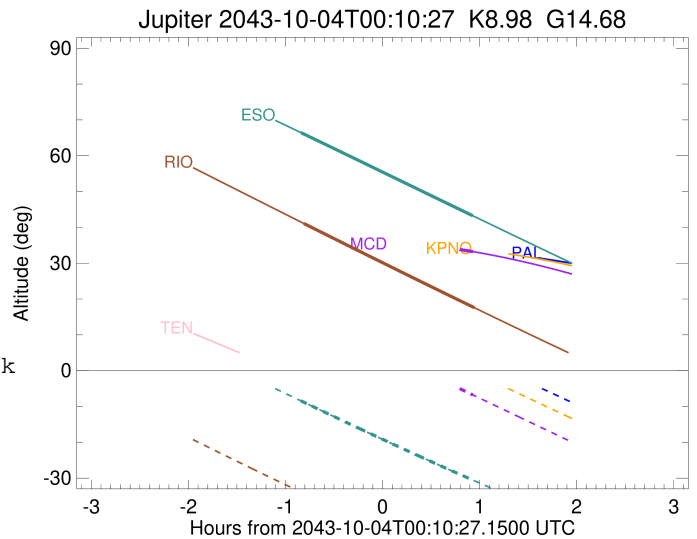
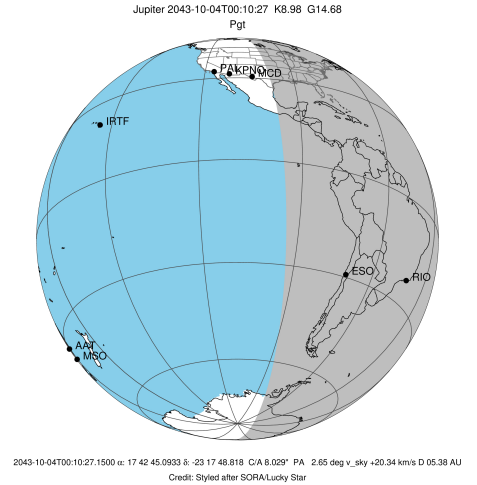


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-10-03T23:21:56.937	41.06	-34.30	71490.5	-28.18	-31.44
Jupiter	E	2043-10-04T01:07:13.144	17.57	-54.49	71490.8	-25.77	-28.86

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-10-04T00:13:14.090
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        : 4116478694384528896
2Mass ID (if available) : 17424509-2317486
ICRS Star Coord at Epoch: 17h 42m 45.09331s -23:17:48.81801s
RUWE (>1.4 is poor)  : 0.94
K magnitude           : 8.976
G magnitude           : 14.677
RP magnitude          : 13.254
BP magnitude          : 17.295
DUPflag              : 0
Distance (au)         : 5.381
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 20.34
Sun-Target sep (deg)  : 75.97
Sun-Moon sep (deg)    : 66.96
B (ring opening deg) : -2.19
PA of pole (deg)      : 1.02
Pole direction: RA (deg): 268.05674
Dec (deg): 64.49731
C/A sky separation (") : 8.272
C/A sky separation (km) : 32284.9
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	2043-10-03T23:20:04.382	66.44	-8.44	71490.5	-28.25	-31.51
Jupiter	E	2043-10-04T01:06:11.895	43.26	-30.53	71490.8	-25.49	-28.56