

target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2043-11-09T18:16:33.950
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 4066502661085664768
 2Mass ID (if available) : 18084240-2324236

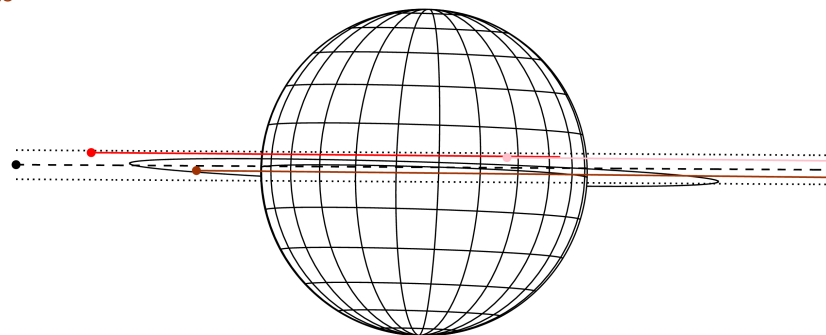
Jupiter 2043-11-09T18:16:33 K7.62 G13.63 Pgt

ICRS Star Coord at Epoch: 18h 08m 42.40163s -23:24:23.74214s
 RUWE (>1.4 is poor) : 1.04
 K magnitude : 7.622
 G magnitude : 13.629
 RP magnitude : 12.274
 BP magnitude : 15.815
 DUPflag : 0
 Distance (au) : 5.864
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : 34.23
 Sun-Target sep (deg) : 45.37
 Sun-Moon sep (deg) : 41.89
 B (ring opening deg) : -2.04
 PA of pole (deg) : -1.77
 Pole direction: RA (deg): 268.05676
 Dec (deg): 64.49731
 C/A sky separation (") : 0.540
 C/A sky separation (km) : 2295.8
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk



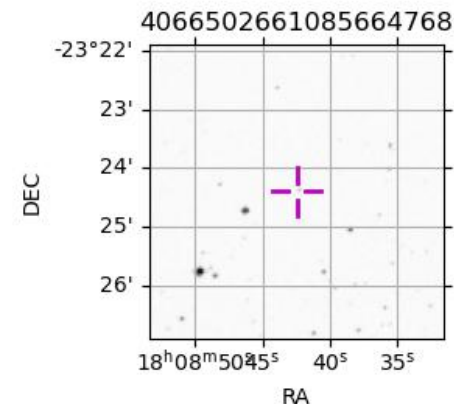
2043-11-09T18:16:33.9500 ex: 18 08 42.4016 s: -23 24 23.742 C/A 0.532" PA 179.62 deg v_sky +34.23 km/s D 05.86 AU
 Credit: Styled after SORA/Lucky Star

Earth
 PIC
 TEN
 SAAO



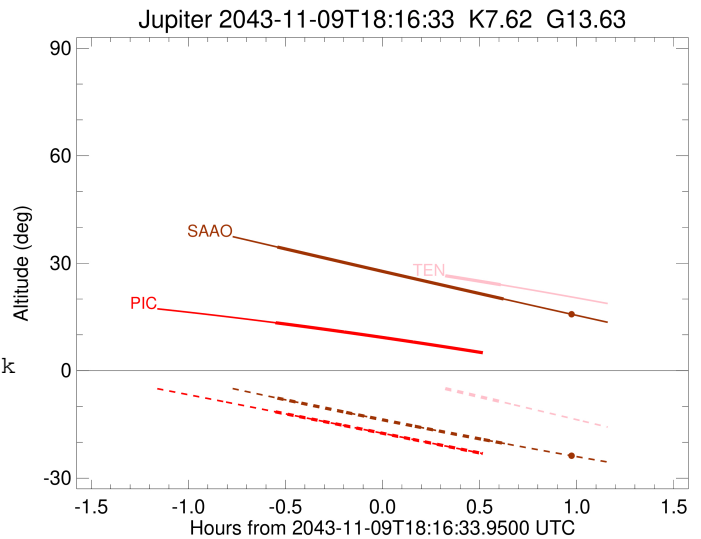
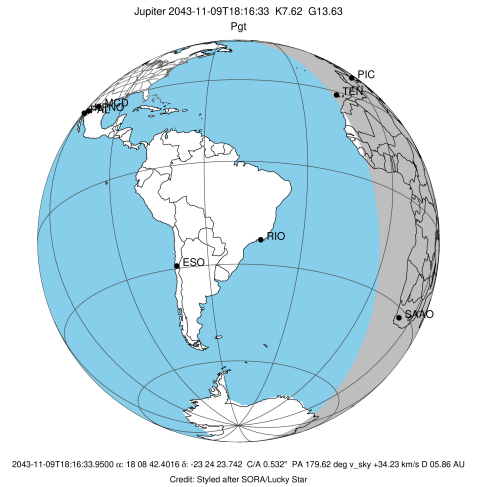
Observable events with sun below -5 deg and altitude above 5 deg

Obs	Location	lat	Elon	Target	Observed Events Interval	OCode
PIC	Pic du Midi	42.9	0.1	+	NOV 09 17:43 - NOV 09 17:43	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	+	NOV 09 18:53 - NOV 09 18:53	Pne
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			Pnn
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	+ +	NOV 09 17:44 - NOV 09 18:53	Pie
MSO	Mt. Stromlo Observatory	-35.3	149.0			Pnn



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target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-11-09T18:18:22.090
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        : 4066502661085664768
2Mass ID (if available) : 18084240-2324236
ICRS Star Coord at Epoch: 18h 08m 42.40163s -23:24:23.74214s
RUWE (>1.4 is poor) : 1.04
K magnitude           : 7.622
G magnitude           : 13.629
RP magnitude          : 12.274
BP magnitude          : 15.815
DUPflag              : 0
Distance (au)         : 5.864
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 34.23
Sun-Target sep (deg)  : 45.37
Sun-Moon sep (deg)   : 41.64
B (ring opening deg) : -2.04
PA of pole (deg)     : -1.77
Pole direction: RA (deg): 268.05676
Dec (deg): 64.49731
C/A sky separation (") : 1.740
C/A sky separation (km) : 7400.4
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
    
```

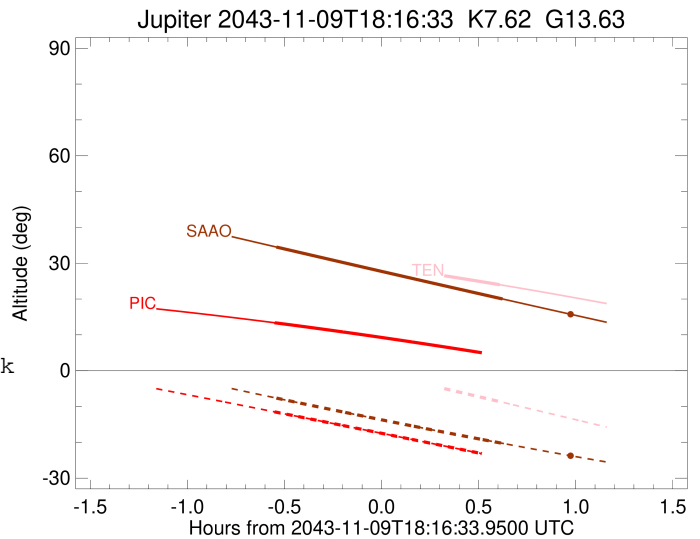
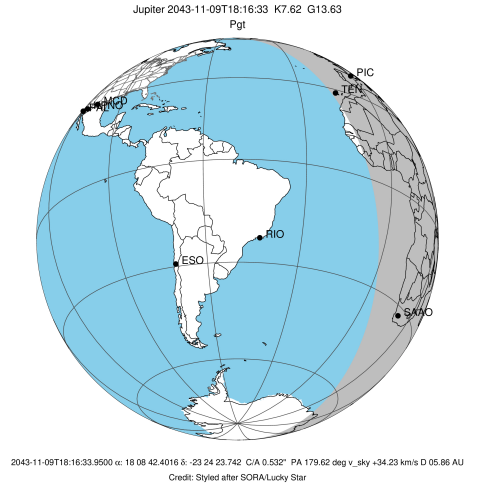


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-11-09T17:43:30.393	13.38	-11.49	71492.0	4.70	5.37
Jupiter	E	2043-11-09T18:53:10.757	4.19x	-24.18	71491.9	7.15	8.17

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-11-09T18:18:07.910
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      : 4066502661085664768
2Mass ID (if available) : 18084240-2324236
ICRS Star Coord at Epoch: 18h 08m 42.40163s -23:24:23.74214s
RUWE (>1.4 is poor) : 1.04
K magnitude         : 7.622
G magnitude         : 13.629
RP magnitude        : 12.274
BP magnitude        : 15.815
DUPflag            : 0
Distance (au)       : 5.864
f0 (km)             : 0.00
g0 (km)             : 0.00
skyplane vel. (km/s) : 34.23
Sun-Target sep (deg) : 45.37
Sun-Moon sep (deg)  : 41.89
B (ring opening deg) : -2.04
PA of pole (deg)    : -1.77
Pole direction: RA (deg): 268.05676
Dec (deg): 64.49731
C/A sky separation (" ) : 1.615
C/A sky separation (km) : 6870.2
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
    
```

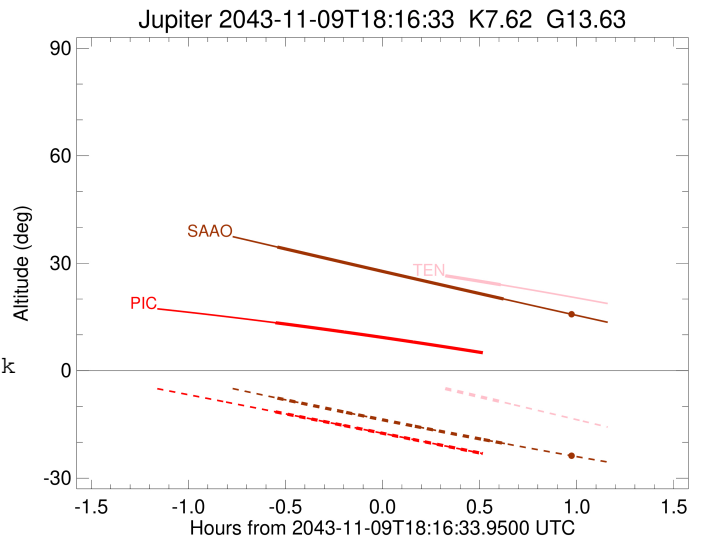
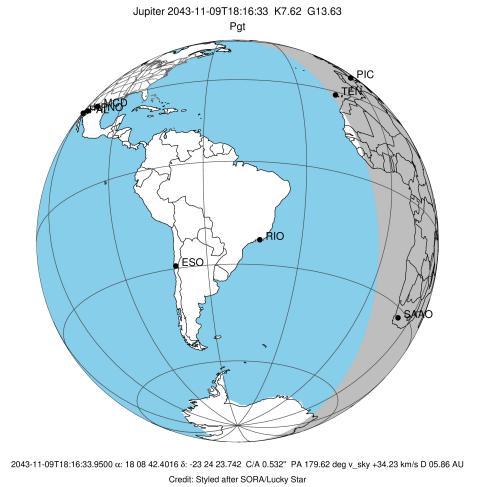


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-11-09T17:43:07.146	33.00	5.97x	71492.0	4.24	4.85
Jupiter	E	2043-11-09T18:53:05.926	23.99	-8.64	71491.9	6.74	7.70

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target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-11-09T18:19:02.580
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       : 4066502661085664768
2Mass ID (if available) : 18084240-2324236
ICRS Star Coord at Epoch: 18h 08m 42.40163s -23:24:23.74214s
RUWE (>1.4 is poor) : 1.04
K magnitude           : 7.622
G magnitude           : 13.629
RP magnitude         : 12.274
BP magnitude         : 15.815
DUPflag              : 0
Distance (au)        : 5.864
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 34.23
Sun-Target sep (deg) : 45.37
Sun-Moon sep (deg)   : 41.60
B (ring opening deg) : -2.04
PA of pole (deg)     : -1.77
Pole direction: RA (deg): 268.05676
Dec (deg): 64.49731
C/A sky separation ("): 0.048
C/A sky separation (km): 202.5
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	2043-11-09T17:44:04.809	34.50	-7.65	71492.0	-1.33	-1.52
Jupiter	E	2043-11-09T18:53:56.309	20.02	-20.28	71492.0	0.99	1.13