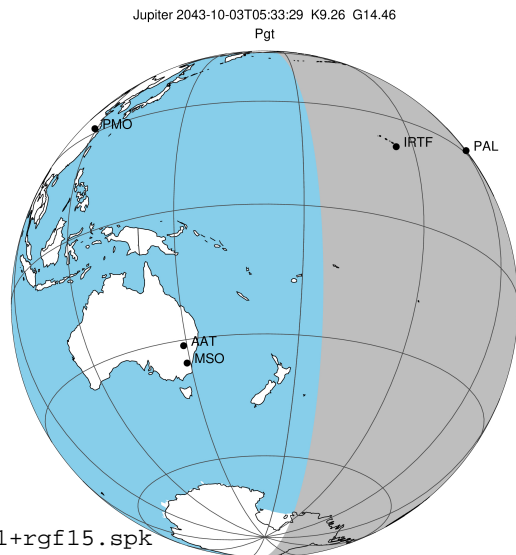


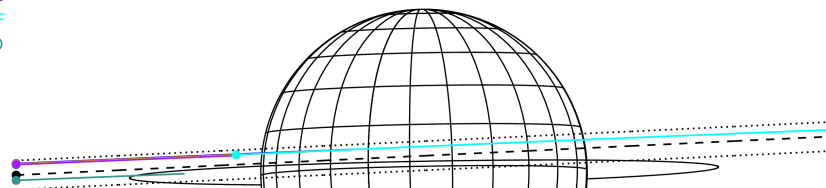
target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2043-10-03T05:33:29.040
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 4116481653758265984
 2Mass ID (if available) : 17421998-2317223

Jupiter 2043-10-03T05:33:29 K9.26 G14.46 Pgt

ICRS Star Coord at Epoch: 17h 42m 19.98321s -23:17:22.71858s
 RUWE (>1.4 is poor) : 0.84
 K magnitude : 9.255
 G magnitude : 14.458
 RP magnitude : 13.145
 BP magnitude : 16.471
 DUPflag : 0
 Distance (au) : 5.369
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : 20.00
 Sun-Target sep (deg) : 76.64
 Sun-Moon sep (deg) : 75.52
 B (ring opening deg) : -2.19
 PA of pole (deg) : 1.07
 Pole direction: RA (deg): 268.05674
 Dec (deg): 64.49731
 C/A sky separation (") : 1.880
 C/A sky separation (km) : 7322.4
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk
 URKALLvl.spk
 naif0012.tls
 nep097.bsp
 nep101.bsp
 sat4401.bsp



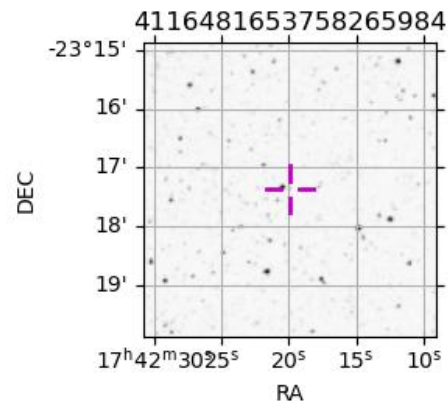
Earth
 PAL
 KPNO
 MCD
 IRTF
 ESO



2043-10-03T05:33:29.0400 cc: 17 42 19.9832 s: -23 17 22.719 C/A 1.872" PA 182.71 deg v_sky +20.00 km/s D 05.37 AU
 Credit: Styled after SORA/Lucky Star

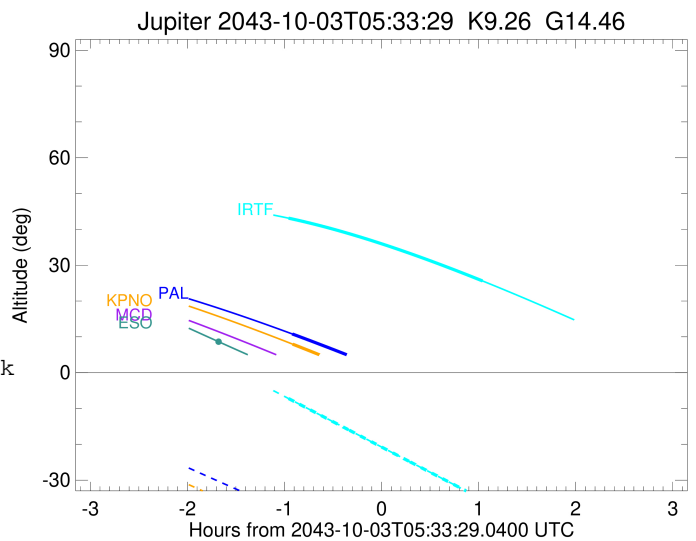
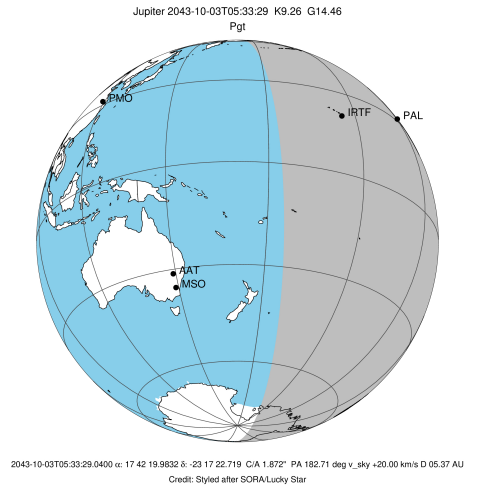
Observable events with sun below -5 deg and altitude above 5 deg

Obs	Location	lat	Elon	Target	Observed Events Interval	OEncode
PIC	Pic du Midi	42.9	0.1			Pnn
PAL	Palomar Mt (200")	33.4	243.1	+	OCT 03 04:38 - OCT 03 04:38	Pin
PMO	Purple Mtn Obs. Nanking	32.1	118.8			Pnn
KPNO	Kitt Peak Natl Obs	32.0	248.4	+	OCT 03 04:38 - OCT 03 04:38	Pin
MCD	McDonald Obs. 2.7m	30.7	256.0			Pnn
TEN	Teide Obs./Tenerife	28.3	343.5			Pnn
IRTF	Mauna Kea/IRTF	19.8	204.5	+ +	OCT 03 04:36 - OCT 03 06:35	Pie
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			Pnn
MSO	Mt. Stromlo Observatory	-35.3	149.0			Pnn



```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-10-03T05:37:39.970
Event type          : Pgt
: Jupiter occs: geocentric, topocentric
: Not a ringed target
Observer code       : PAL
Location            : Palomar Mt (200")
Latitude (deg)      : 33.35622
E. Longitude (deg)  : 243.13601
Altitude (km)       : 1.706
Gaia source ID      : 4116481653758265984
2Mass ID (if available) : 17421998-2317223
ICRS Star Coord at Epoch: 17h 42m 19.98321s -23:17:22.71859s
RUWE (>1.4 is poor) : 0.84
K magnitude          : 9.255
G magnitude          : 14.458
RP magnitude         : 13.145
BP magnitude         : 16.471
DUPflag             : 0
Distance (au)        : 5.369
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 20.00
Sun-Target sep (deg) : 76.64
Sun-Moon sep (deg)  : 75.72
B (ring opening deg) : -2.19
PA of pole (deg)    : 1.07
Pole direction: RA (deg): 268.05674
Dec (deg): 64.49731
C/A sky separation ("): 2.915
C/A sky separation (km): 11352.0
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
    
```

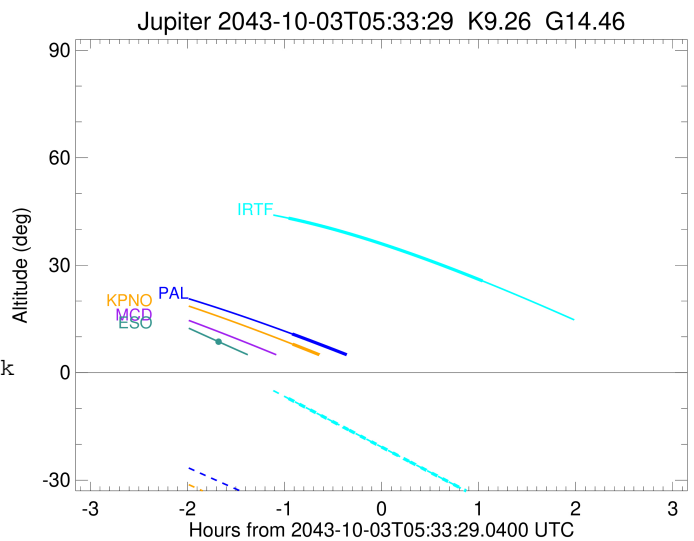
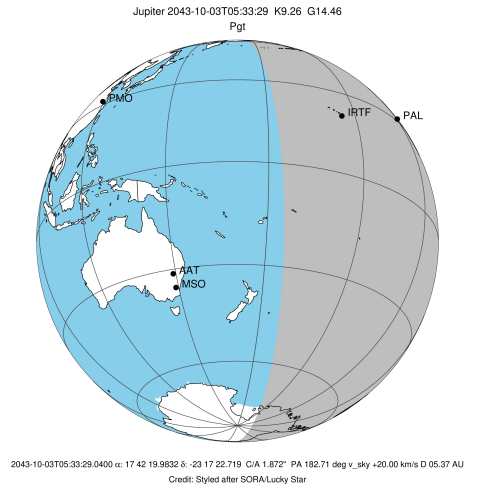


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-10-03T04:38:19.955	10.80	-39.23	71491.9	7.87	8.98
Jupiter	E	2043-10-03T06:36:39.206	-10.89x	-57.60	71491.8	10.34	11.79

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-10-03T05:37:50.850
Event type            : Pgt
: Jupiter occs: geocentric, topocentric
: Not a ringed target
Observer code         : KPNO
Location              : Kitt Peak Natl Obs
Latitude (deg)        : 31.96333
E. Longitude (deg)    : 248.40000
Altitude (km)         : 2.120
Gaia source ID        : 4116481653758265984
2Mass ID (if available) : 17421998-2317223
ICRS Star Coord at Epoch: 17h 42m 19.98321s -23:17:22.71859s
RUWE (>1.4 is poor) : 0.84
K magnitude           : 9.255
G magnitude           : 14.458
RP magnitude          : 13.145
BP magnitude          : 16.471
DUPflag              : 0
Distance (au)         : 5.369
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 20.00
Sun-Target sep (deg)  : 76.64
Sun-Moon sep (deg)    : 75.68
B (ring opening deg) : -2.19
PA of pole (deg)      : 1.07
Pole direction: RA (deg): 268.05674
Dec (deg): 64.49731
C/A sky separation (") : 2.840
C/A sky separation (km) : 11058.7
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
    
```

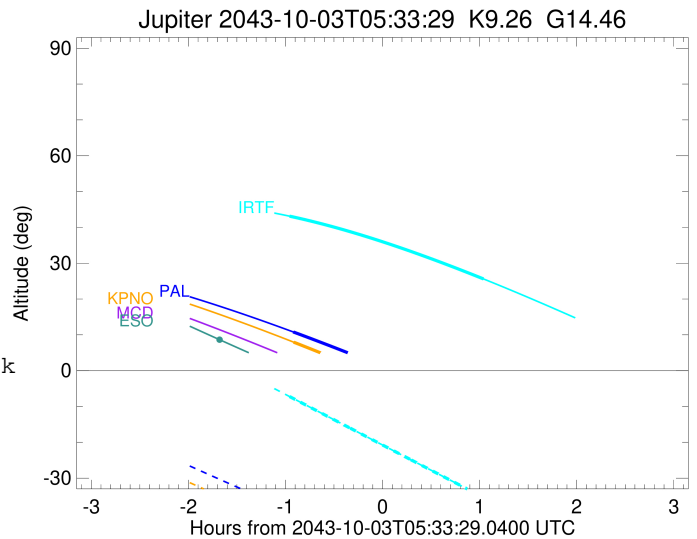
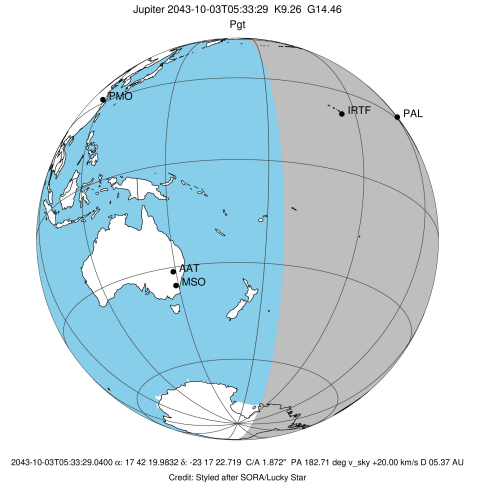


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-10-03T04:38:34.149	7.96	-43.86	71491.9	7.66	8.74
Jupiter	E	2043-10-03T06:36:46.153	-14.62x	-60.71	71491.8	10.09	11.50

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-10-03T05:36:11.540
Event type          : Pgt
                    : Jupiter occs: geocentric, topocentric
                    : Not a ringed target
Observer code       : IRTF
Location            : Mauna Kea/IRTF
Latitude (deg)      : 19.82622
E. Longitude (deg)  : 204.52800
Altitude (km)       : 4.168
Gaia source ID      : 4116481653758265984
2Mass ID (if available) : 17421998-2317223
ICRS Star Coord at Epoch: 17h 42m 19.98321s -23:17:22.71859s
RUWE (>1.4 is poor) : 0.84
K magnitude         : 9.255
G magnitude         : 14.458
RP magnitude        : 13.145
BP magnitude        : 16.471
DUPflag            : 0
Distance (au)       : 5.369
f0 (km)             : 0.00
g0 (km)             : 0.00
skyplane vel. (km/s) : 20.00
Sun-Target sep (deg) : 76.64
Sun-Moon sep (deg)  : 76.16
B (ring opening deg) : -2.19
PA of pole (deg)    : 1.07
Pole direction: RA (deg): 268.05674
Dec (deg): 64.49731
C/A sky separation (" ) : 2.929
C/A sky separation (km) : 11404.6
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	2043-10-03T04:36:10.023	43.11	-7.25	71491.9	7.71	8.79
Jupiter	E	2043-10-03T06:35:57.743	25.59	-35.36	71491.8	10.52	11.99