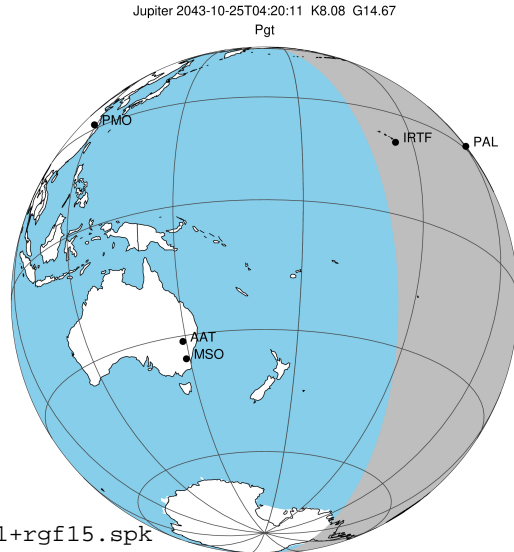


target : Jupiter
target radius (km) : 71492.00
C/A epoch : 2043-10-25T04:20:11.500
Event type : Pgt
: Jupiter occs: geocentric, topocentric
: Not a ringed target
Gaia source ID : 4069364247510577152
2Mass ID (if available) : 17562314-2323292

Jupiter 2043-10-25T04:20:11 K8.08 G14.67 Pgt

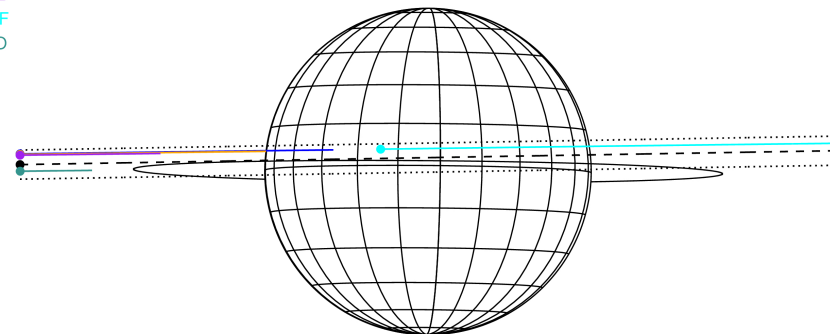
ICRS Star Coord at Epoch: 17h 56m 23.13741s -23:23:29.45645s
RUWE (>1.4 is poor) : 0.93
K magnitude : 8.079
G magnitude : 14.675
RP magnitude : 13.202
BP magnitude : 17.536
DUPflag : 0
Distance (au) : 5.678
f0 (km) : 0.00
g0 (km) : 0.00
skyplane vel. (km/s) : 28.93
Sun-Target sep (deg) : 58.14
Sun-Moon sep (deg) : 146.89
B (ring opening deg) : -2.11
PA of pole (deg) : -0.45
Pole direction: RA (deg): 268.05675
Dec (deg): 64.49731
C/A sky separation (") : 1.474
C/A sky separation (km) : 6069.3
NAIF SPICE kernels : RAJobs_U111+rgf15.spk



2043-10-25T04:20:11.5000000 cc: 17 56 23.1374 s: -23 23 29.456 C/A 1.4667 PA 180.97 deg v_sky +28.93 km/s D 05.68 AU

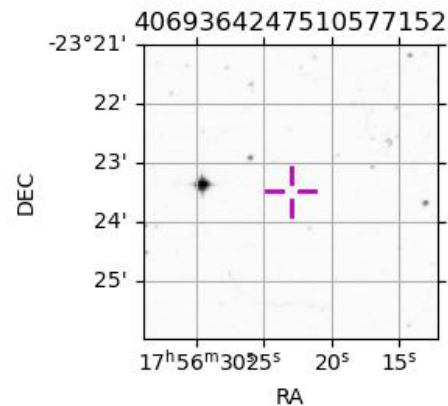
Credit: Styled after SORA/Lucky Star

Earth
PAL
KPNO
MCD
IRTF
ESO



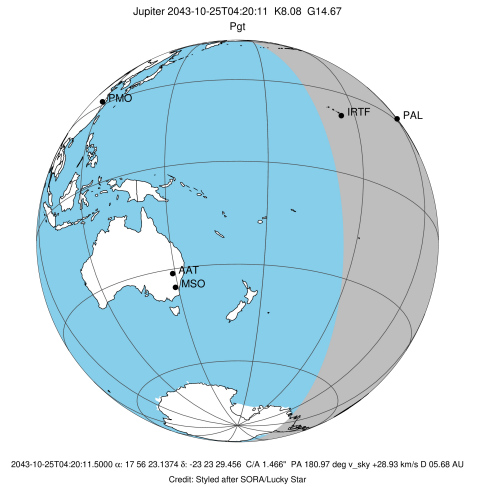
Observable events with sun below -5 deg and altitude above 5 deg

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	+	OCT 25 03:42 - OCT 25 03:42	Pin
PMO	Purple Mtn Obs. Nanking	32.1	118.8			Pnn
KPNO	Kitt Peak Natl Obs	32.0	248.4	+	OCT 25 03:42 - OCT 25 03:42	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 25 05:03 - OCT 25 05:03	Pne
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

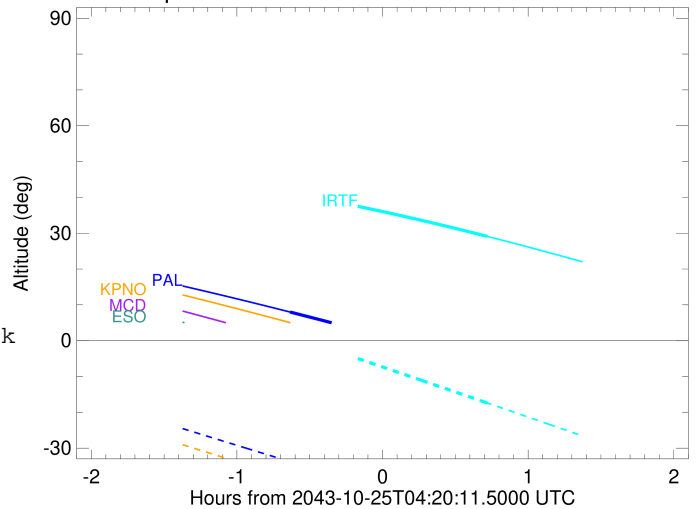


```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-10-25T04:23:07.590
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        : 4069364247510577152
2Mass ID (if available) : 17562314-2323292
ICRS Star Coord at Epoch: 17h 56m 23.13741s -23:23:29.45645s
RUWE (>1.4 is poor) : 0.93
K magnitude           : 8.079
G magnitude           : 14.675
RP magnitude          : 13.202
BP magnitude          : 17.536
DUPflag              : 0
Distance (au)         : 5.678
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 28.93
Sun-Target sep (deg)  : 58.14
Sun-Moon sep (deg)   : 146.33
B (ring opening deg) : -2.11
PA of pole (deg)     : -0.45
Pole direction: RA (deg): 268.05675
Dec (deg): 64.49731
C/A sky separation (" ) : 2.420
C/A sky separation (km) : 9965.5
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 2043-10-25T04:20:11 K8.08 G14.67

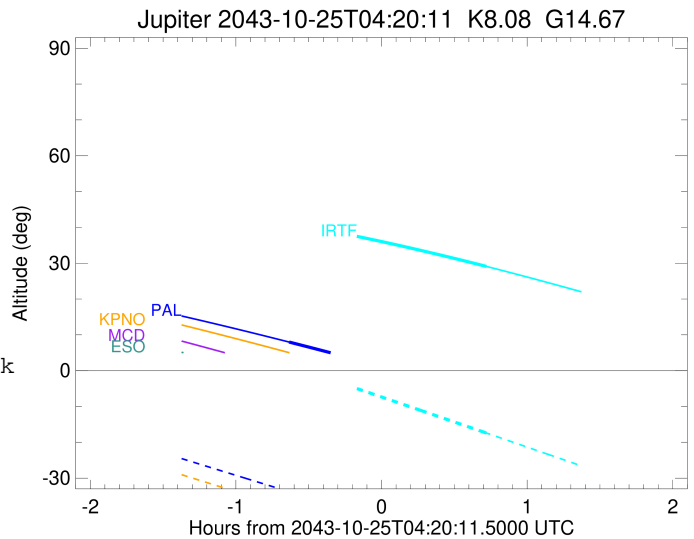
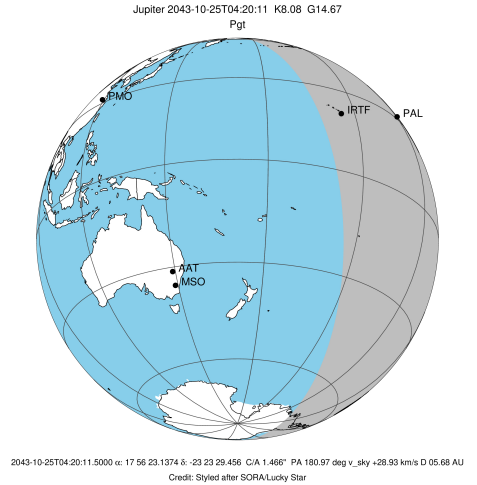


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-10-25T03:42:07.033	7.99	-33.77	71491.9	6.86	7.83
Jupiter	E	2043-10-25T05:04:01.416	-7.02x	-50.28	71491.8	9.13	10.41

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-10-25T04:23:14.890
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        : 4069364247510577152
2Mass ID (if available) : 17562314-2323292
ICRS Star Coord at Epoch: 17h 56m 23.13741s -23:23:29.45645s
RUWE (>1.4 is poor) : 0.93
K magnitude           : 8.079
G magnitude           : 14.675
RP magnitude          : 13.202
BP magnitude          : 17.536
DUPflag              : 0
Distance (au)         : 5.678
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 28.93
Sun-Target sep (deg) : 58.14
Sun-Moon sep (deg)   : 146.27
B (ring opening deg) : -2.11
PA of pole (deg)     : -0.45
Pole direction: RA (deg): 268.05675
Dec (deg): 64.49731
C/A sky separation (") : 2.347
C/A sky separation (km) : 9666.7
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
    
```

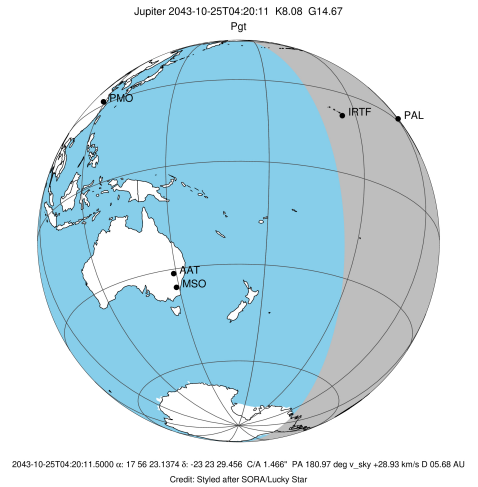


x: target alt < 5.0 deg or sun > -5.0 deg

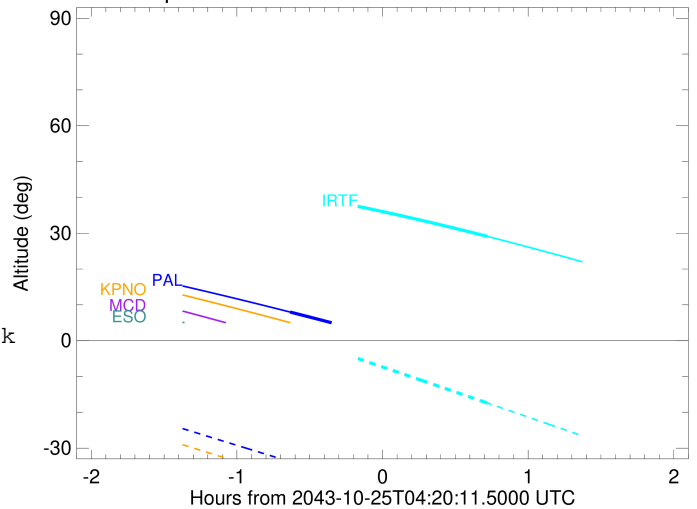
Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-10-25T03:42:15.645	5.00	-38.41	71491.9	6.64	7.58
Jupiter	E	2043-10-25T05:04:07.199	-10.63x	-54.91	71491.9	8.88	10.13

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-10-25T04:22:06.350
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      : 4069364247510577152
2Mass ID (if available) : 17562314-2323292
ICRS Star Coord at Epoch: 17h 56m 23.13741s -23:23:29.45645s
RUWE (>1.4 is poor) : 0.93
K magnitude         : 8.079
G magnitude         : 14.675
RP magnitude        : 13.202
BP magnitude        : 17.536
DUPflag            : 0
Distance (au)       : 5.678
f0 (km)             : 0.00
g0 (km)             : 0.00
skyplane vel. (km/s) : 28.93
Sun-Target sep (deg) : 58.14
Sun-Moon sep (deg)  : 146.85
B (ring opening deg) : -2.11
PA of pole (deg)    : -0.45
Pole direction: RA (deg): 268.05675
Dec (deg): 64.49731
C/A sky separation (" ) : 2.445
C/A sky separation (km) : 10067.2
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
    
```



Jupiter 2043-10-25T04:20:11 K8.08 G14.67



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	2043-10-25T03:40:45.909	41.22	1.74x	71491.9	6.82	7.79
Jupiter	E	2043-10-25T05:03:21.907	29.11	-17.39	71491.8	9.30	10.61