

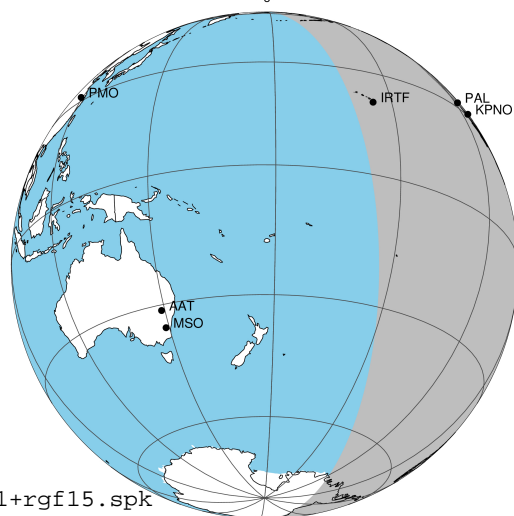
target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2043-10-19T04:14:38.240
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 4068634378013603840
 2Mass ID (if available) : 17520710-2322262

Jupiter 2043-10-19T04:14:38 K9.95 G13.99 Pgt

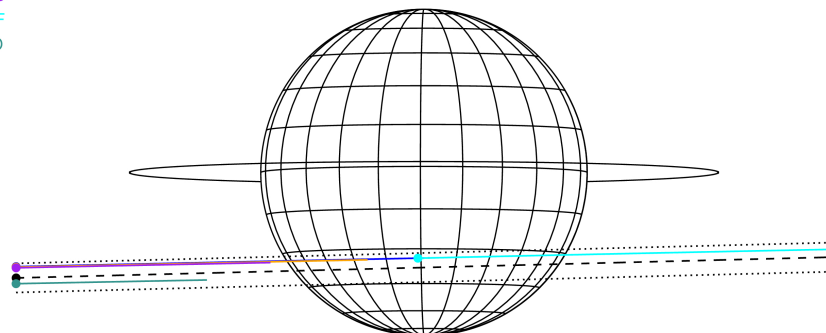
ICRS Star Coord at Epoch: 17h 52m 07.15027s -23°22'26.25131s

RUWE (>1.4 is poor) : 0.93
 K magnitude : 9.953
 G magnitude : 13.988
 RP magnitude : 13.091
 BP magnitude : 14.676
 DUPflag : 0
 Distance (au) : 5.598
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : 26.64
 Sun-Target sep (deg) : 63.13
 Sun-Moon sep (deg) : 126.25
 B (ring opening deg) : -2.13
 PA of pole (deg) : 0.01
 Pole direction: RA (deg): 268.05675
 Dec (deg): 64.49731
 C/A sky separation (") : 10.251
 C/A sky separation (km) : 41620.1
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk

Jupiter 2043-10-19T04:14:38 K9.95 G13.99
 Pgt



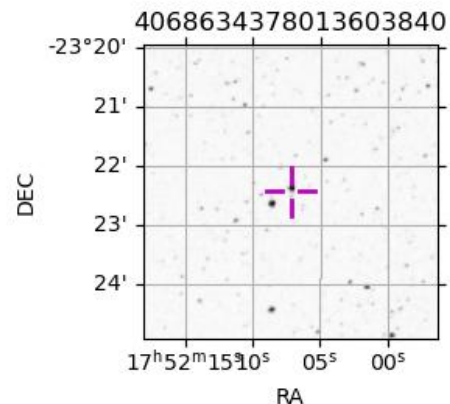
Earth
 PAL
 KPNO
 MCD
 IRTF
 ESO



2043-10-19T04:14:38.2400 α: 17 52 07.1503 δ: -23 22 26.251 C/A ***** PA 1.46 deg v_sky +26.64 km/s D 05.60 AU
 Credit: Styled after SORA/Lucky Star

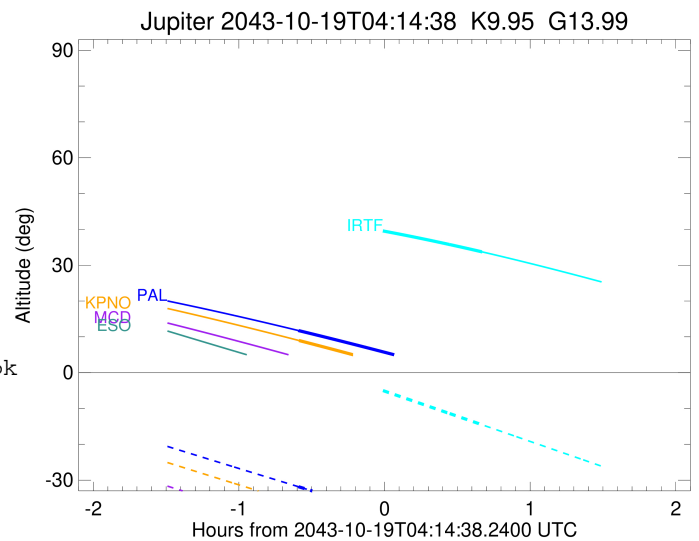
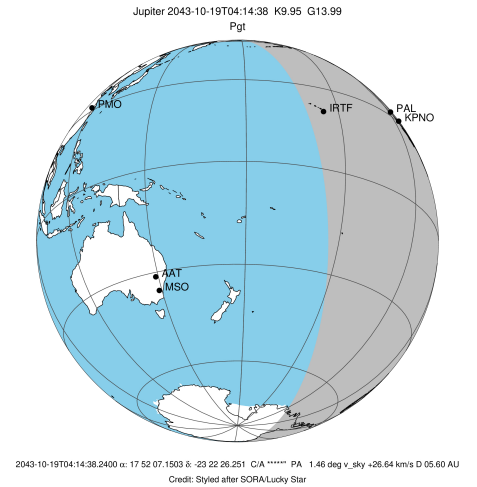
Observable events with sun below -5 deg and altitude above 5 deg

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	+	OCT 19 03:39 - OCT 19 03:39	Pin
PMO	Purple Mtn Obs. Nanking	32.1	118.8			Pnn
KPNO	Kitt Peak Natl Obs	32.0	248.4	+	OCT 19 03:39 - OCT 19 03:39	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 19 04:54 - OCT 19 04:54	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



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target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-10-19T04:17:31.170
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       : 4068634378013603840
2Mass ID (if available) : 17520710-2322262
ICRS Star Coord at Epoch: 17h 52m 07.15027s -23:22:26.25131s
RUWE (>1.4 is poor) : 0.93
K magnitude          : 9.953
G magnitude          : 13.988
RP magnitude         : 13.091
BP magnitude         : 14.676
DUPflag             : 0
Distance (au)        : 5.598
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 26.64
Sun-Target sep (deg) : 63.13
Sun-Moon sep (deg)   : 126.82
B (ring opening deg) : -2.13
PA of pole (deg)     : 0.01
Pole direction: RA (deg): 268.05675
Dec (deg): 64.49731
C/A sky separation (") : 9.229
C/A sky separation (km) : 37470.2
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
    
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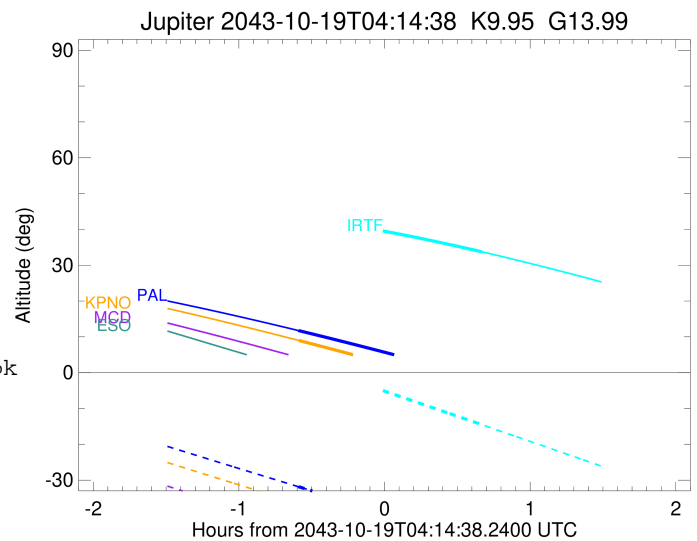
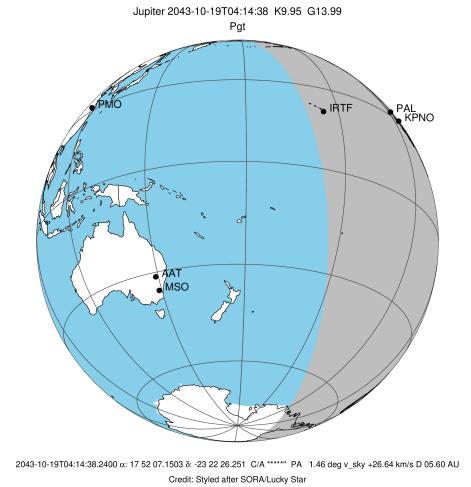


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-10-19T03:39:09.356	11.76	-31.83	71490.2	-32.75	-36.26
Jupiter	E	2043-10-19T04:55:46.860	-1.78x	-47.20	71490.4	-30.45	-33.85

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-10-19T04:17:40.530
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        : 4068634378013603840
2Mass ID (if available) : 17520710-2322262
ICRS Star Coord at Epoch: 17h 52m 07.15027s -23:22:26.25131s
RUWE (>1.4 is poor) : 0.93
K magnitude           : 9.953
G magnitude           : 13.988
RP magnitude          : 13.091
BP magnitude          : 14.676
DUPflag              : 0
Distance (au)         : 5.598
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 26.64
Sun-Target sep (deg) : 63.13
Sun-Moon sep (deg)   : 126.80
B (ring opening deg) : -2.13
PA of pole (deg)     : 0.01
Pole direction: RA (deg): 268.05675
Dec (deg): 64.49731
C/A sky separation (") : 9.299
C/A sky separation (km) : 37756.6
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
    
```

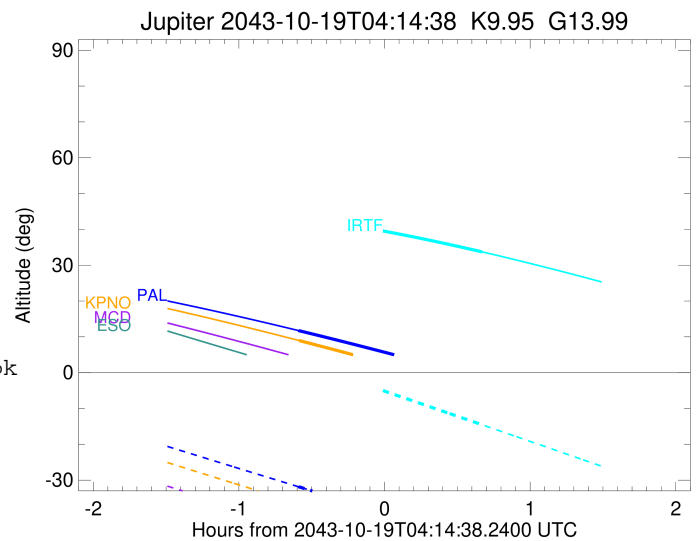
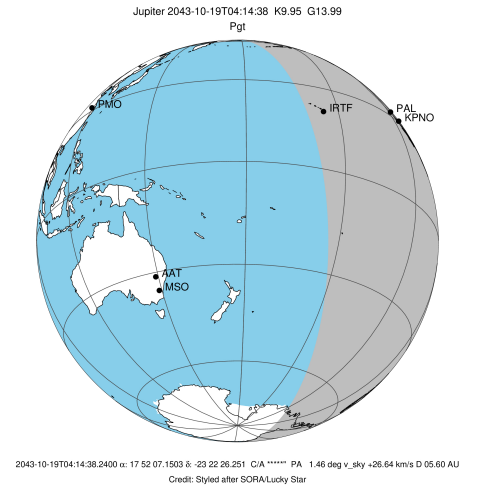


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-10-19T03:39:27.966	8.96	-36.51	71490.2	-33.00	-36.52
Jupiter	E	2043-10-19T04:55:46.758	-5.18x	-51.80	71490.4	-30.73	-34.14

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target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-10-19T04:16:15.140
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      : 4068634378013603840
2Mass ID (if available) : 17520710-2322262
ICRS Star Coord at Epoch: 17h 52m 07.15027s -23:22:26.25131s
RUWE (>1.4 is poor) : 0.93
K magnitude          : 9.953
G magnitude          : 13.988
RP magnitude         : 13.091
BP magnitude         : 14.676
DUPflag             : 0
Distance (au)       : 5.598
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 26.64
Sun-Target sep (deg) : 63.13
Sun-Moon sep (deg)  : 127.05
B (ring opening deg) : -2.13
PA of pole (deg)    : 0.01
Pole direction: RA (deg): 268.05675
Dec (deg): 64.49731
C/A sky separation (" ) : 9.230
C/A sky separation (km) : 37473.9
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	2043-10-19T03:37:34.667	43.56	3.44x	71490.2	-32.91	-36.43
Jupiter	E	2043-10-19T04:54:51.610	33.72	-14.55	71490.4	-30.33	-33.72