

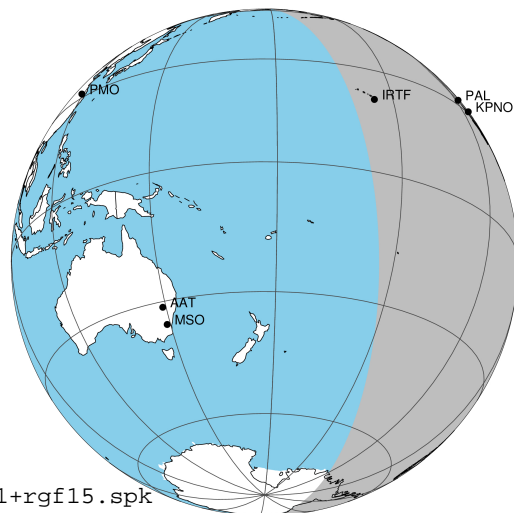
target : Jupiter  
 target radius (km) : 71492.00  
 C/A epoch : 2043-10-19T04:16:03.100  
 Event type : Pgt  
 : Jupiter occs: geocentric, topocentric  
 : Not a ringed target  
 Gaia source ID : 4068634373610555264  
 2Mass ID (if available) : 17520715-2322235

Jupiter 2043-10-19T04:16:03 K9.88 G12.48 Pgt

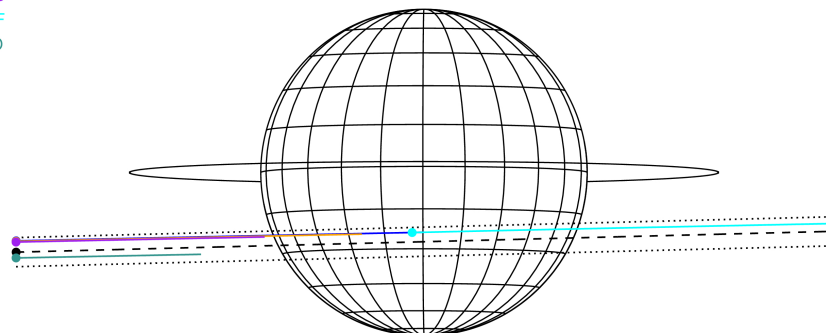
ICRS Star Coord at Epoch: 17h 52m 07.19583s -23:22:23.48383s

RUWE (>1.4 is poor) : 0.87  
 K magnitude : 9.885  
 G magnitude : 12.478  
 RP magnitude : 11.661  
 BP magnitude : 13.158  
 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) : 126.27  
 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 (") : 7.468  
 C/A sky separation (km) : 30322.6  
 NAIF SPICE kernels : RAJobs\_U111+rgf15.spk

Jupiter 2043-10-19T04:16:03 K9.88 G12.48  
 Pgt



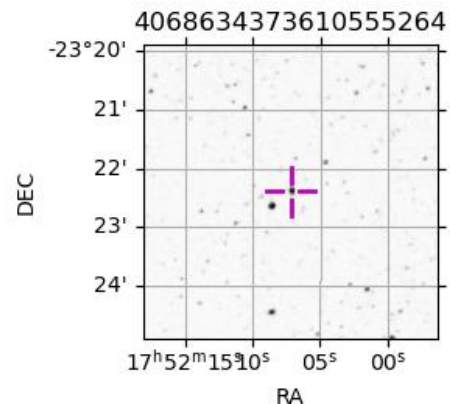
Earth  
 PAL  
 KPNO  
 MCD  
 IRTF  
 ESO



2043-10-19T04:16:03.1000 α: 17 52 07.1958 δ: -23 22 23.484 C/A 7.476" PA 1.46 deg v\_sky +26.64 km/s D 05.60 AU  
 Credit: Styled after SORA/Lucky Star

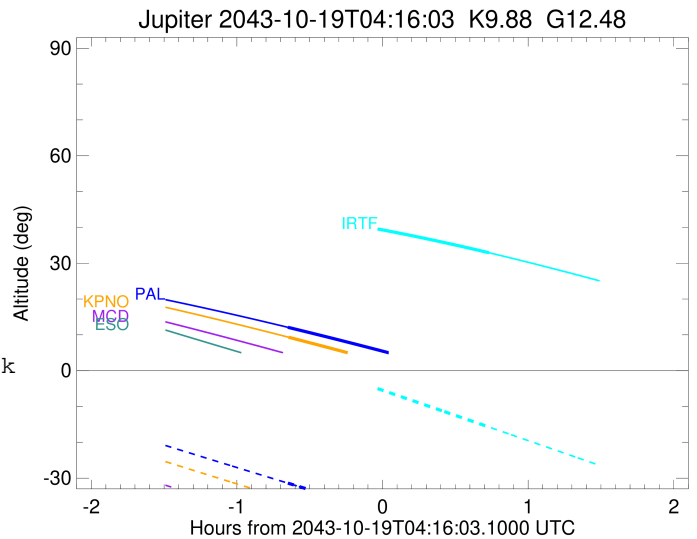
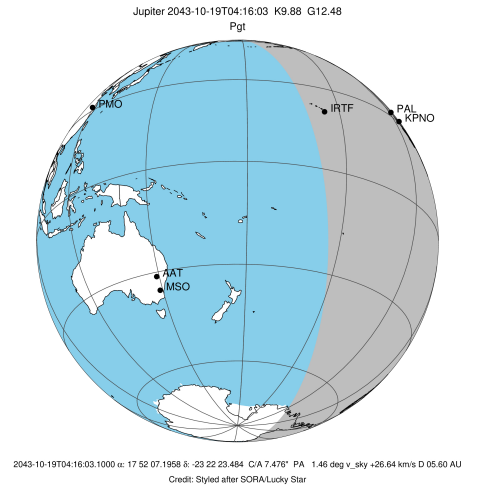
Observable events with sun below -5 deg and altitude above 5 deg

Obs	Location	lat	Elon	Target	Observed Events Interval	OEcode
PIC	Pic du Midi	42.9	0.1			Pnn
PAL	Palomar Mt (200")	33.4	243.1	+	OCT 19 03:37 - OCT 19 03:37	Pin
PMO	Purple Mtn Obs. Nanking	32.1	118.8			Pnn
KPNO	Kitt Peak Natl Obs	32.0	248.4	+	OCT 19 03:37 - OCT 19 03:37	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 04:59 - OCT 19 04:59	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             : 2043-10-19T04:18:58.730
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        : 4068634373610555264
2Mass ID (if available) : 17520715-2322235
ICRS Star Coord at Epoch: 17h 52m 07.19583s -23:22:23.48383s
RUWE (>1.4 is poor)  : 0.87
K magnitude           : 9.885
G magnitude           : 12.478
RP magnitude          : 11.661
BP magnitude          : 13.158
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)    : 126.83
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 (") : 6.449
C/A sky separation (km) : 26184.6
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
    
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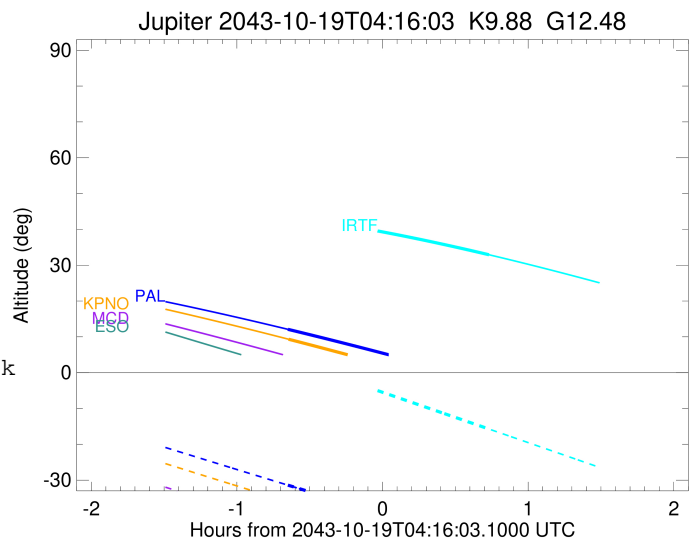
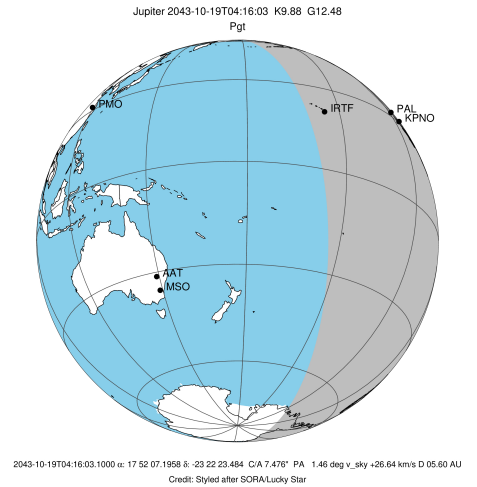


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-10-19T03:37:03.529	12.10	-31.39	71491.1	-22.63	-25.46
Jupiter	E	2043-10-19T05:00:46.578	-2.71x	-48.15	71491.2	-20.33	-22.94

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-10-19T04:19:08.120
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      : 4068634373610555264
2Mass ID (if available) : 17520715-2322235
ICRS Star Coord at Epoch: 17h 52m 07.19583s -23:22:23.48383s
RUWE (>1.4 is poor) : 0.87
K magnitude         : 9.885
G magnitude         : 12.478
RP magnitude        : 11.661
BP magnitude        : 13.158
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)  : 126.81
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 (") : 6.520
C/A sky separation (km) : 26471.6
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
    
```

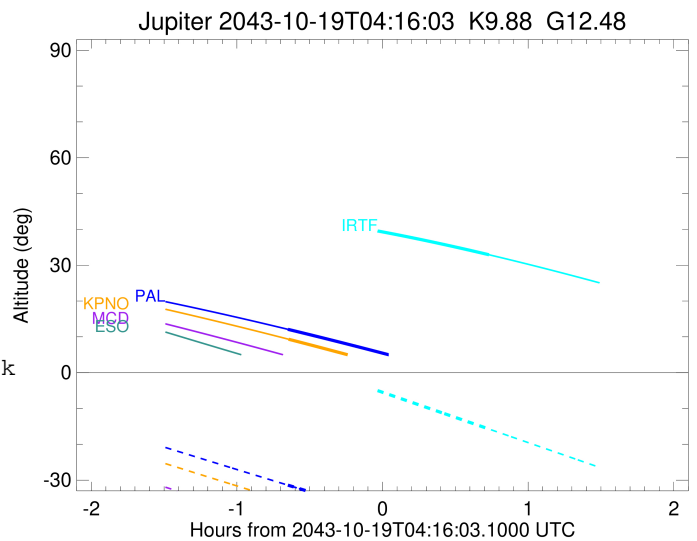
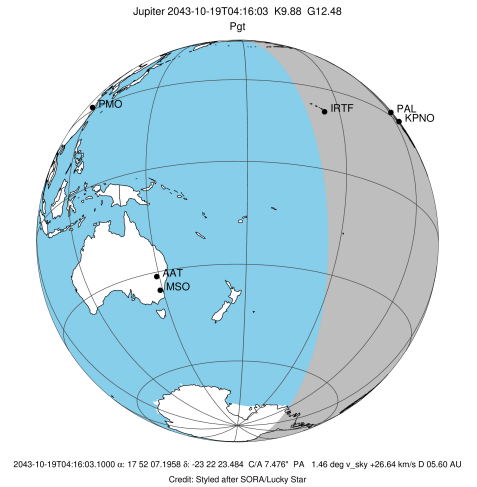


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-10-19T03:37:20.016	9.33	-36.07	71491.1	-22.86	-25.71
Jupiter	E	2043-10-19T05:00:48.594	-6.16x	-52.75	71491.2	-20.60	-23.23

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-10-19T04:17:42.390
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      : 4068634373610555264
2Mass ID (if available) : 17520715-2322235
ICRS Star Coord at Epoch: 17h 52m 07.19583s -23:22:23.48383s
RUWE (>1.4 is poor) : 0.87
K magnitude         : 9.885
G magnitude         : 12.478
RP magnitude        : 11.661
BP magnitude        : 13.158
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)  : 127.06
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 (" ) : 6.449
C/A sky separation (km) : 26182.7
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	2043-10-19T03:35:26.570	43.75	3.93x	71491.1	-22.79	-25.63
Jupiter	E	2043-10-19T04:59:53.373	32.92	-15.72	71491.3	-20.21	-22.81