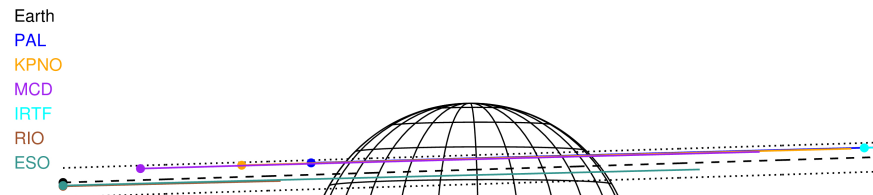
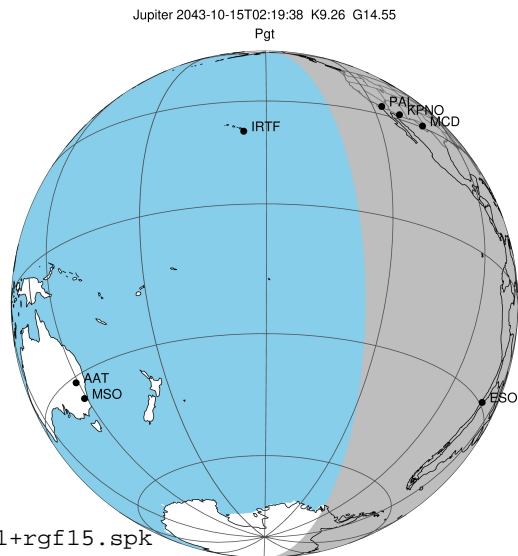


target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2043-10-15T02:19:38.400
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 4068670039066225152
 2Mass ID (if available) : 17492356-2321011

Jupiter 2043-10-15T02:19:38 K9.26 G14.55 Pgt

ICRS Star Coord at Epoch: 17h 49m 23.55905s -23:21:01.65287s

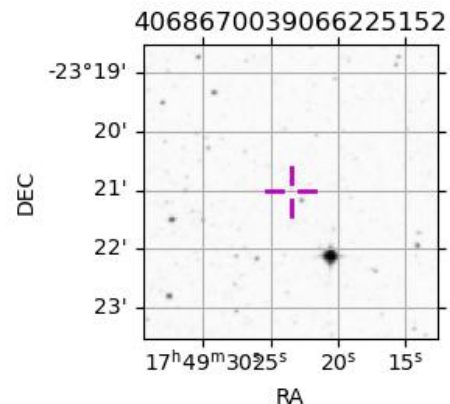
RUWE (>1.4 is poor) : 1.47
 K magnitude : 9.258
 G magnitude : 14.547
 RP magnitude : 13.198
 BP magnitude : 16.423
 DUPflag : 0
 Distance (au) : 5.542
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : 25.02
 Sun-Target sep (deg) : 66.54
 Sun-Moon sep (deg) : 68.38
 B (ring opening deg) : -2.15
 PA of pole (deg) : 0.31
 Pole direction: RA (deg): 268.05675
 Dec (deg): 64.49731
 C/A sky separation (") : 10.538
 C/A sky separation (km) : 42353.4
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk



2043-10-15T02:19:38.4000 @: 17 49 23.5591 @: -23 21 01.653 C/A ***** PA 181.79 deg v_sky +25.02 km/s D 05.54 AU
 Credit: Styled after SORA/Lucky Star

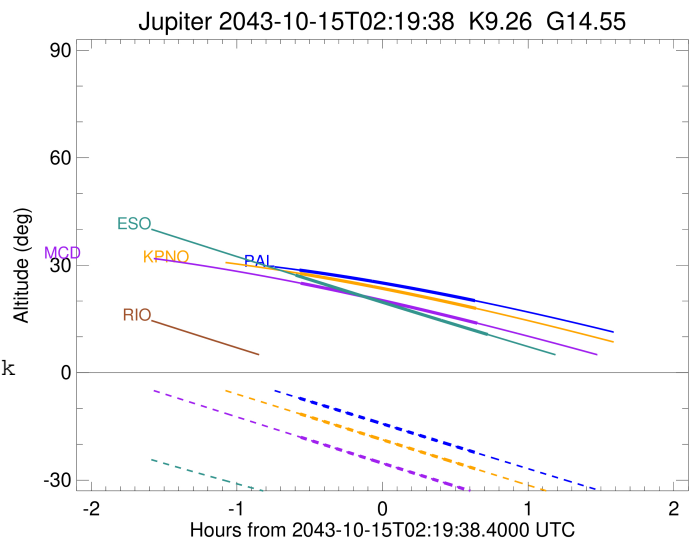
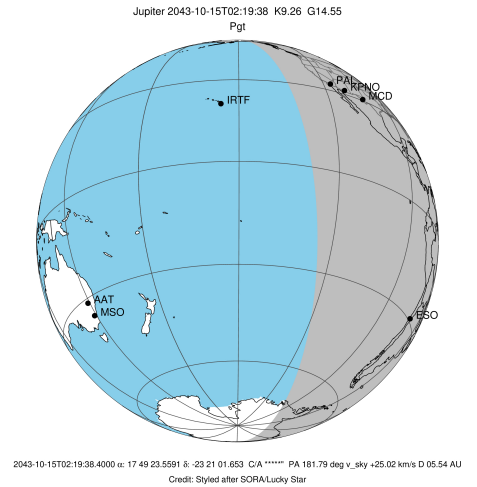
Observable events with sun below -5 deg and altitude above 5 deg

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 15 01:45 - OCT 15 02:57	Pie
PMO	Purple Mtn Obs. Nanking	32.1	118.8			Pnn
KPNO	Kitt Peak Natl Obs	32.0	248.4	+ +	OCT 15 01:45 - OCT 15 02:58	Pie
MCD	McDonald Obs. 2.7m	30.7	256.0	+ +	OCT 15 01:46 - OCT 15 02:58	Pie
TEN	Teide Obs./Tenerife	28.3	343.5			Pnn
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	+ +	OCT 15 01:43 - OCT 15 03:03	Pie
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            : 2043-10-15T02:21:38.520
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       : 4068670039066225152
2Mass ID (if available) : 17492356-2321011
ICRS Star Coord at Epoch: 17h 49m 23.55905s -23:21:01.65287s
RUWE (>1.4 is poor) : 1.47
K magnitude           : 9.258
G magnitude           : 14.547
RP magnitude          : 13.198
BP magnitude          : 16.423
DUPflag              : 0
Distance (au)         : 5.542
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 25.02
Sun-Target sep (deg) : 66.54
Sun-Moon sep (deg)   : 68.62
B (ring opening deg) : -2.15
PA of pole (deg)     : 0.31
Pole direction: RA (deg): 268.05675
Dec (deg): 64.49731
C/A sky separation (") : 11.790
C/A sky separation (km) : 47385.3
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
    
```

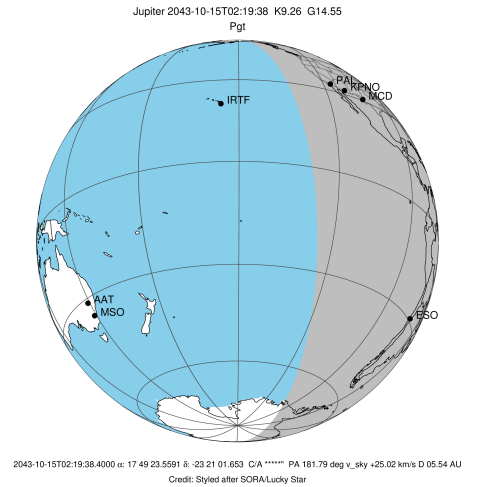


x: target alt < 5.0 deg or sun > -5.0 deg

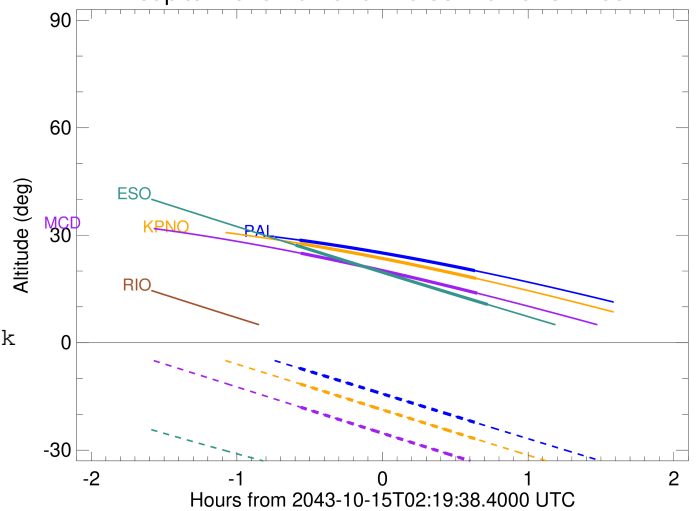
Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-10-15T01:45:28.336	28.63	-7.14	71489.4	40.15	43.86
Jupiter	E	2043-10-15T02:57:44.626	20.10	-22.26	71489.1	42.76	46.47

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-10-15T02:21:57.790
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      : 4068670039066225152
2Mass ID (if available) : 17492356-2321011
ICRS Star Coord at Epoch: 17h 49m 23.55905s -23:21:01.65287s
RUWE (>1.4 is poor) : 1.47
K magnitude         : 9.258
G magnitude         : 14.547
RP magnitude        : 13.198
BP magnitude        : 16.423
DUPflag            : 0
Distance (au)       : 5.542
f0 (km)             : 0.00
g0 (km)             : 0.00
skyplane vel. (km/s) : 25.02
Sun-Target sep (deg) : 66.54
Sun-Moon sep (deg)  : 68.57
B (ring opening deg) : -2.15
PA of pole (deg)    : 0.31
Pole direction: RA (deg): 268.05675
Dec (deg): 64.49731
C/A sky separation (") : 11.740
C/A sky separation (km) : 47185.9
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
    
```



Jupiter 2043-10-15T02:19:38 K9.26 G14.55

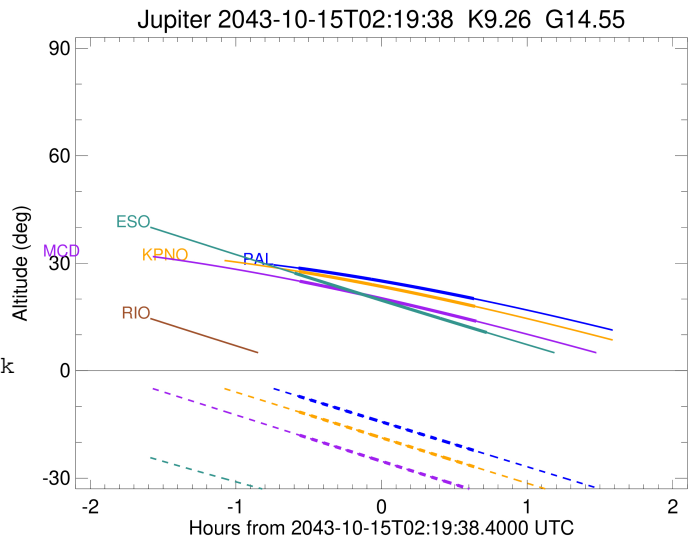
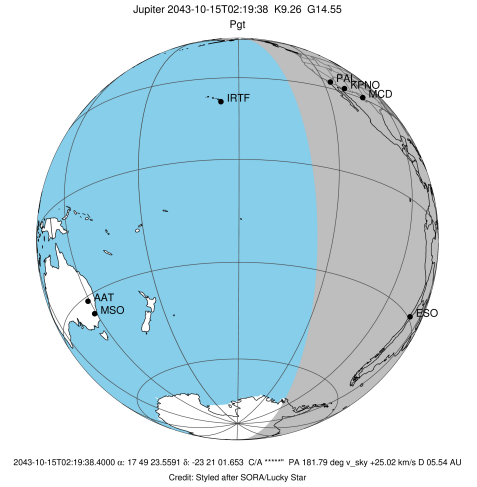


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-10-15T01:45:41.753	27.68	-11.52	71489.4	39.97	43.68
Jupiter	E	2043-10-15T02:58:09.268	17.95	-26.90	71489.1	42.51	46.23

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-10-15T02:22:22.690
Event type            : Pgt
: Jupiter occs: geocentric, topocentric
: Not a ringed target
Observer code         : MCD
Location              : McDonald Obs. 2.7m
Latitude (deg)        : 30.67158
E. Longitude (deg)    : 255.97844
Altitude (km)         : 2.075
Gaia source ID        : 4068670039066225152
2Mass ID (if available) : 17492356-2321011
ICRS Star Coord at Epoch: 17h 49m 23.55905s -23:21:01.65287s
RUWE (>1.4 is poor) : 1.47
K magnitude           : 9.258
G magnitude           : 14.547
RP magnitude          : 13.198
BP magnitude          : 16.423
DUPflag              : 0
Distance (au)         : 5.542
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 25.02
Sun-Target sep (deg)  : 66.54
Sun-Moon sep (deg)    : 68.49
B (ring opening deg) : -2.15
PA of pole (deg)      : 0.31
Pole direction: RA (deg): 268.05675
Dec (deg): 64.49731
C/A sky separation (") : 11.672
C/A sky separation (km) : 46912.1
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
    
```

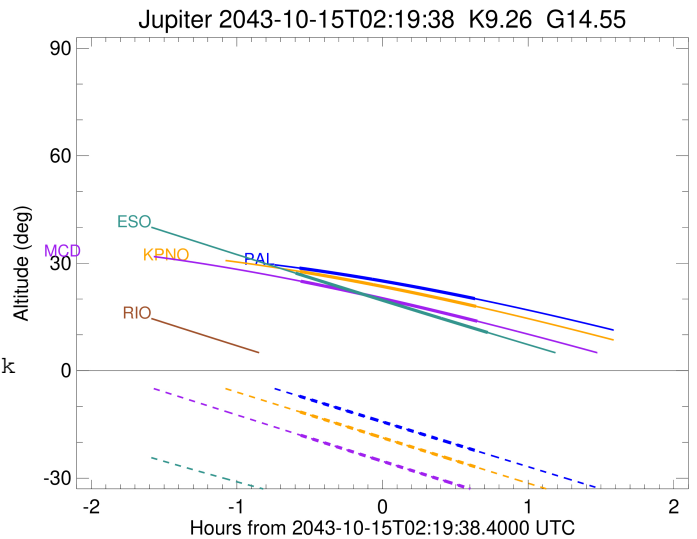
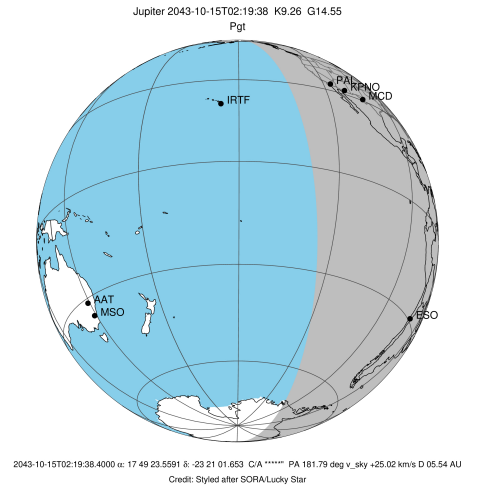


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-10-15T01:45:59.565	24.96	-18.04	71489.4	39.72	43.43
Jupiter	E	2043-10-15T02:58:40.621	13.81	-33.61	71489.2	42.18	45.90

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-10-15T02:23:30.740
Event type           : Pgt
: Jupiter occs: geocentric, topocentric
: Not a ringed target
Observer code        : ESO
Location             : European Southern Obs. (3.6m)
Latitude (deg)       : -29.26097
E. Longitude (deg)   : 289.26831
Altitude (km)        : 2.400
Gaia source ID       : 4068670039066225152
2Mass ID (if available) : 17492356-2321011
ICRS Star Coord at Epoch: 17h 49m 23.55905s -23:21:01.65287s
RUWE (>1.4 is poor) : 1.47
K magnitude           : 9.258
G magnitude           : 14.547
RP magnitude          : 13.198
BP magnitude          : 16.423
DUPflag              : 0
Distance (au)         : 5.542
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 25.02
Sun-Target sep (deg)  : 66.54
Sun-Moon sep (deg)    : 68.37
B (ring opening deg) : -2.15
PA of pole (deg)      : 0.31
Pole direction: RA (deg): 268.05675
Dec (deg): 64.49731
C/A sky separation (" ) : 9.955
C/A sky separation (km) : 40012.7
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	2043-10-15T01:43:52.324	27.22	-35.38	71490.1	32.88	36.39
Jupiter	E	2043-10-15T03:03:01.238	10.65	-47.16	71489.9	35.12	38.72