

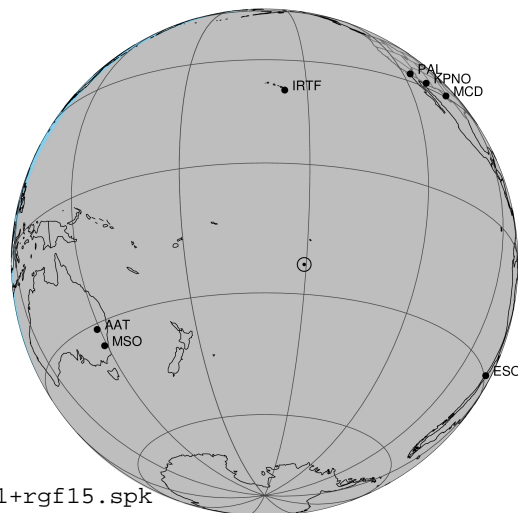
target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2043-06-28T10:05:19.450
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 4068790474287798144
 2Mass ID (if available) : 17470948-2304179

Jupiter 2043-06-28T10:05:19 K8.95 G13.99 Pgt

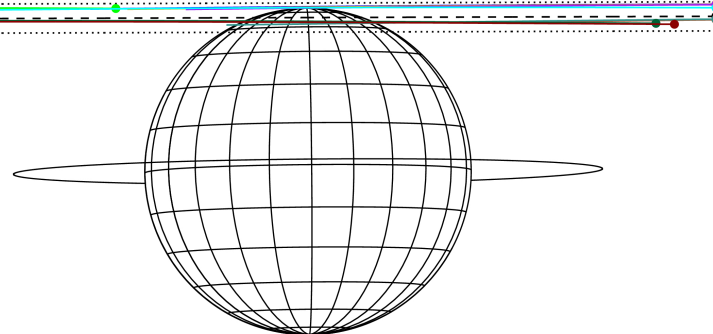
ICRS Star Coord at Epoch: 17h 47m 09.48559s -23:04:18.03997s

RUWE (>1.4 is poor) : 0.97
 K magnitude : 8.948
 G magnitude : 13.986
 RP magnitude : 12.677
 BP magnitude : 15.948
 DUPflag : 0
 Distance (au) : 4.257
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : -16.07
 Sun-Target sep (deg) : 171.00
 Sun-Moon sep (deg) : 77.57
 B (ring opening deg) : -2.43
 PA of pole (deg) : 0.55
 Pole direction: RA (deg): 268.05669
 Dec (deg): 64.49732
 C/A sky separation (") : 21.838
 C/A sky separation (km) : 67428.6
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk

Jupiter 2043-06-28T10:05:19 K8.95 G13.99
 Pgt



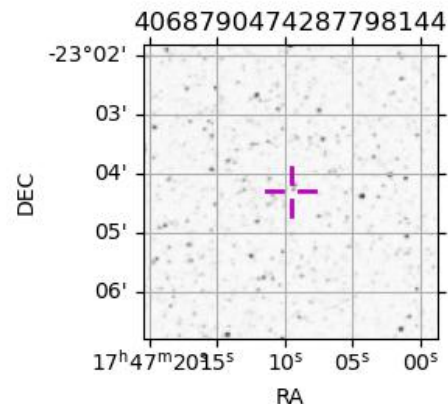
Earth
 PAL
 PMO
 KPNO
 MCD
 IRTF
 RIO
 ESO
 AAT
 MSO



2043-06-28T10:05:19.4500 a: 17 47 09.4856 ð -23 04 18.040 C/A ***** PA 180.18 deg v_sky -16.07 km/s D 04.26 AU
 Credit: Styled after SORA/Lucky Star

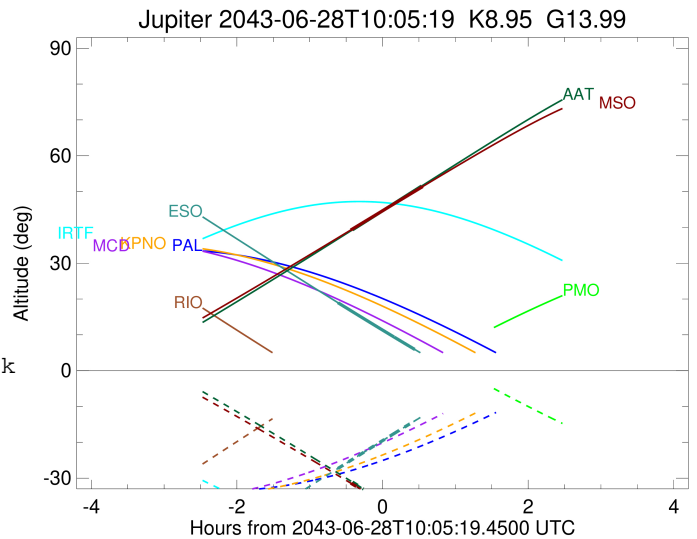
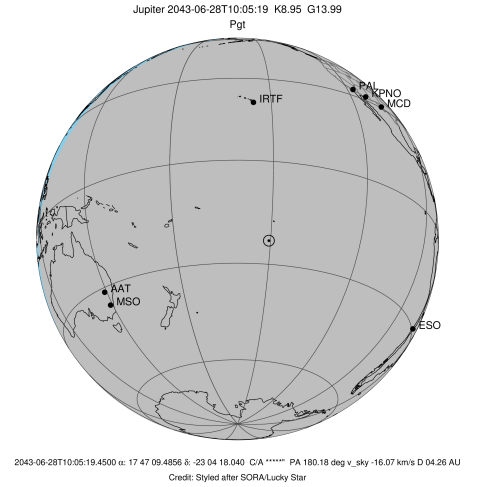
Observable events with sun below -5 deg and altitude above 5 deg

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			Pnn
PMO	Purple Mtn Obs. Nanking	32.1	118.8			Pnn
KPNO	Kitt Peak Natl Obs	32.0	248.4			Pnn
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			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	+ +	JUN 28 09:28 - JUN 28 10:31	Pie
AAT	Siding Spring (AAT)	-31.3	149.1	+ +	JUN 28 09:40 - JUN 28 10:37	Pie
SAAO	So. Afr. Astro. Obs. (Sutherland)	-32.4	20.8			Pnn
MSO	Mt. Stromlo Observatory	-35.3	149.0	+ +	JUN 28 09:39 - JUN 28 10:38	Pie



```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-06-28T10:00:13.110
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        : 4068790474287798144
2Mass ID (if available) : 17470948-2304179
ICRS Star Coord at Epoch: 17h 47m 09.48559s -23:04:18.03997s
RUWE (>1.4 is poor) : 0.97
K magnitude           : 8.948
G magnitude           : 13.986
RP magnitude          : 12.677
BP magnitude          : 15.948
DUPflag              : 0
Distance (au)         : 4.257
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : -16.07
Sun-Target sep (deg)  : 171.00
Sun-Moon sep (deg)    : 77.57
B (ring opening deg) : -2.43
PA of pole (deg)      : 0.55
Pole direction: RA (deg): 268.05669
Dec (deg): 64.49732
C/A sky separation (") : 20.934
C/A sky separation (km) : 64636.1
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
    
```

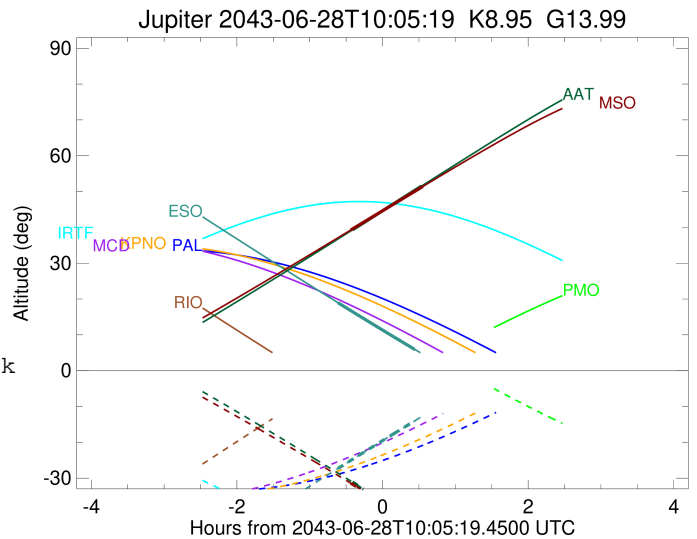
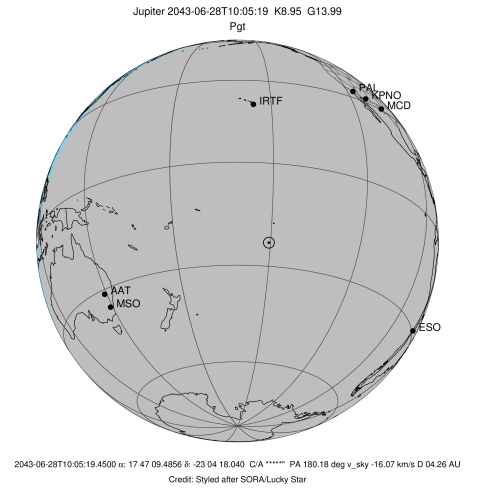


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-06-28T09:28:38.124	18.97	-27.29	71485.4	64.80	67.49
Jupiter	E	2043-06-28T10:31:54.663	5.93	-14.01	71485.5	64.41	67.13

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-06-28T10:09:08.700
Event type          : Pgt
                    : Jupiter occs: geocentric, topocentric
                    : Not a ringed target
Observer code       : AAT
Location            : Siding Spring (AAT)
Latitude (deg)      : -31.27703
E. Longitude (deg)  : 149.06608
Altitude (km)       : 1.164
Gaia source ID      : 4068790474287798144
2Mass ID (if available) : 17470948-2304179
ICRS Star Coord at Epoch: 17h 47m 09.48559s -23:04:18.03997s
RUWE (>1.4 is poor) : 0.97
K magnitude          : 8.948
G magnitude          : 13.986
RP magnitude         : 12.677
BP magnitude         : 15.948
DUPflag             : 0
Distance (au)       : 4.257
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : -16.07
Sun-Target sep (deg) : 171.00
Sun-Moon sep (deg)  : 78.36
B (ring opening deg) : -2.43
PA of pole (deg)    : 0.55
Pole direction: RA (deg): 268.05669
Dec (deg): 64.49732
C/A sky separation ("): 21.308
C/A sky separation (km): 65792.5
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
    
```

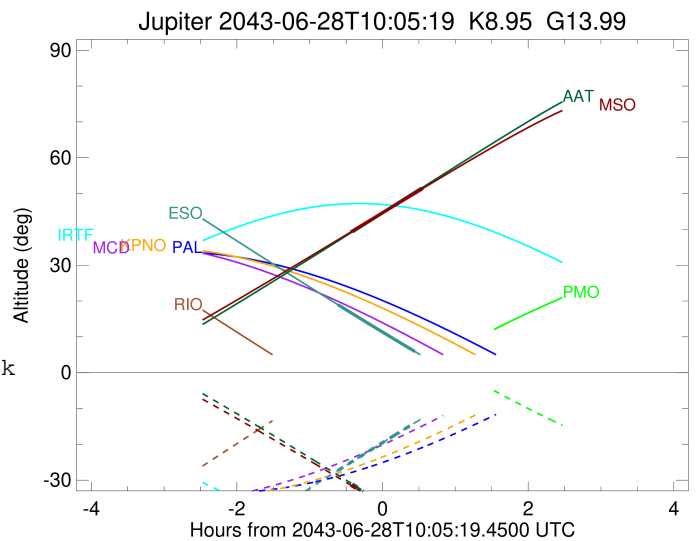
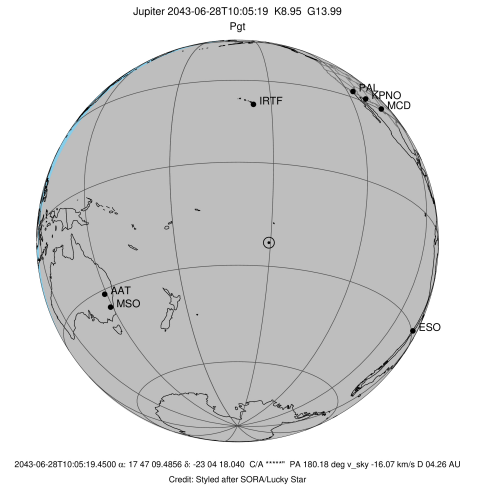


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-06-28T09:40:33.497	39.31	-31.10	71485.3	66.06	68.64
Jupiter	E	2043-06-28T10:37:40.214	51.55	-43.22	71485.2	67.62	70.06

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-06-28T10:08:58.870
Event type           : Pgt
: Jupiter occs: geocentric, topocentric
: Not a ringed target
Observer code        : MSO
Location             : Mt. Stromlo Observatory
Latitude (deg)       : -35.32000
E. Longitude (deg)   : 149.00833
Altitude (km)        : 0.770
Gaia source ID       : 4068790474287798144
2Mass ID (if available) : 17470948-2304179
ICRS Star Coord at Epoch: 17h 47m 09.48559s -23:04:18.03997s
RUWE (>1.4 is poor) : 0.97
K magnitude          : 8.948
G magnitude          : 13.986
RP magnitude         : 12.677
BP magnitude         : 15.948
DUPflag             : 0
Distance (au)        : 4.257
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : -16.07
Sun-Target sep (deg) : 171.00
Sun-Moon sep (deg)   : 78.35
B (ring opening deg) : -2.43
PA of pole (deg)     : 0.55
Pole direction: RA (deg): 268.05669
Dec (deg): 64.49732
C/A sky separation ("): 21.175
C/A sky separation (km): 65382.3
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	2043-06-28T09:39:24.368	39.30	-31.44	71485.4	65.25	67.91
Jupiter	E	2043-06-28T10:38:29.597	51.40	-43.48	71485.2	66.78	69.30