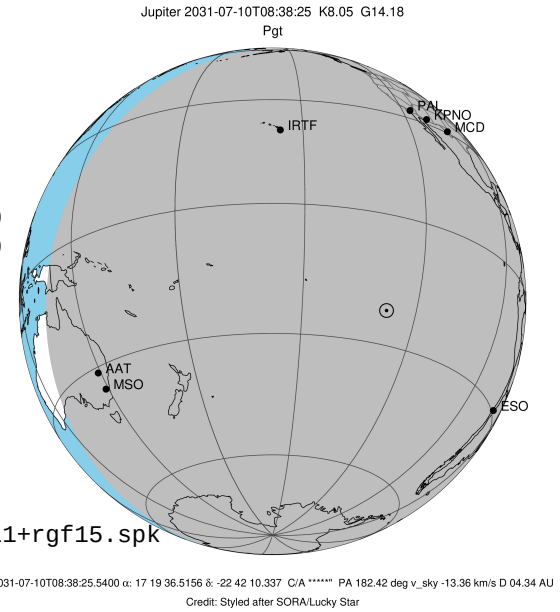
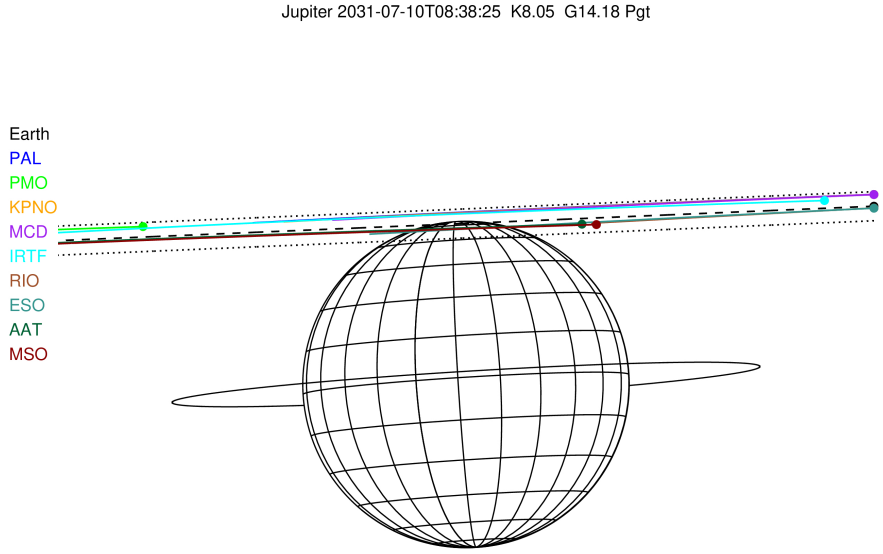
Stellar occultation prediction by rfrench@wellesley.edu Sun Jun 25 09:42:26 2023

target : Jupiter
target radius (km) : 71492.00
C/A epoch : 2031-07-10T08:38:25.540
Event type : Pgt
: Jupiter occs: geocentric, topocentric
: Not a ringed target
Gaia source ID : 4114684982961374848
2Mass ID (if available) : 17193652-2242101

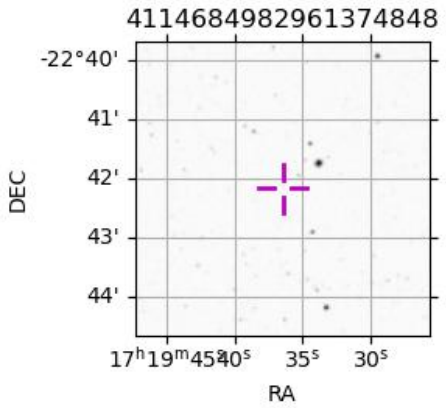
ICRS Star Coord at Epoch: 17h 19m 36.51556s -22:42:10.33650s
RUWE (>1.4 is poor) : 1.03
K magnitude : 8.054
G magnitude : 14.177
RP magnitude : 12.668
BP magnitude : 17.467
DUPflag : 0
Distance (au) : 4.345
f0 (km) : 0.00
g0 (km) : 0.00
skyplane vel. (km/s) : -13.36
Sun-Target sep (deg) : 153.20
Sun-Moon sep (deg) : 102.84
B (ring opening deg) : -2.57
PA of pole (deg) : 3.51
Pole direction: RA (deg): 268.05690
Dec (deg): 64.49651
C/A sky separation (") : 22.373
C/A sky separation (km) : 70497.0
NAIF SPICE kernels : RAJobs_U111+rgf15.spk
URKALLv1.spk
naif0012.tls
nep097.bsp
nep101.bsp
sat440l.bsp



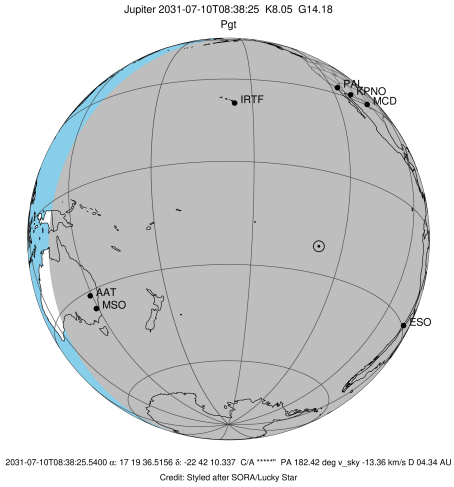


Observable events with sun below -5 deg and altitude above 5 deg

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			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	+ +	JUL 10 08:05 - JUL 10 08:59	Pie
AAT	Siding Spring (AAT)	-31.3	149.1	+ +	JUL 10 08:18 - JUL 10 09:07	Pie
SAAO	So. Afr. Astro. Obs. (Sutherland)	-32.4	20.8			Pnn
MSO	Mt. Stromlo Observatory	-35.3	149.0	+ +	JUL 10 08:16 - JUL 10 09:09	Pie



Jupiter_2031-07-10T08_38_25.5400_ESO.txt
Occultation predictions computed by rfrench@wellesley.edu Sun Jun 11 11:32:24 2023




```
target                  : Jupiter
target radius (km)      :  71492.00
C/A epoch               : 2031-07-10T08:32:21.600
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          : 4114684982961374848
2Mass ID (if available) : 17193652-2242101
ICRS Star Coord at Epoch: 17h 19m 36.51556s -22:42:10.33650s
RUWE (>1.4 is poor)     :   1.03
K magnitude             :  8.054
G magnitude             : 14.177
RP magnitude            : 12.668
BP magnitude            : 17.467
DUPflag                 : 0
Distance (au)           :  4.345
f0 (km)                 :       0.00
g0 (km)                 :       0.00
skyplane vel. (km/s)    : -13.36
Sun-Target sep (deg)    :  153.20
Sun-Moon sep (deg)      :  103.26
B (ring opening deg)    :   -2.57
PA of pole (deg)        :    3.51
Pole direction: RA (deg): 268.05690
Dec (deg):  64.49651
C/A sky separation (")  :  21.595
C/A sky separation (km) :  68045.1
NAIF SPICE kernels      : RAJobs_U111+rgf15.spk
URKALLv1.spk
naif0012.tls
nep097.bsp
nep101.bsp
sat440l.bsp
de440.bsp
earth_720101_070426.bpc
jup365.bsp
ura116.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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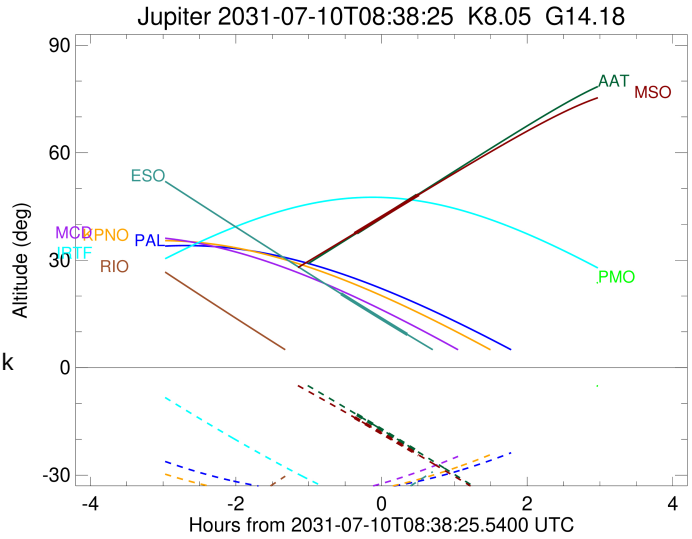
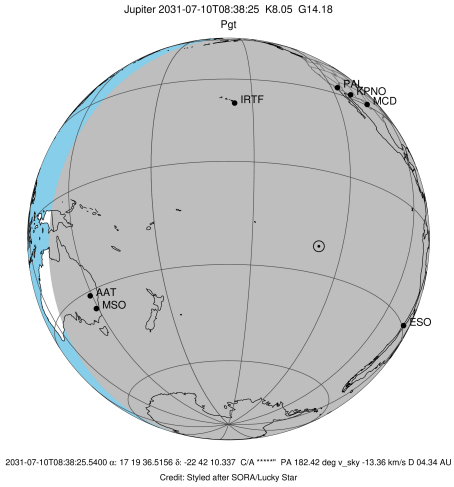


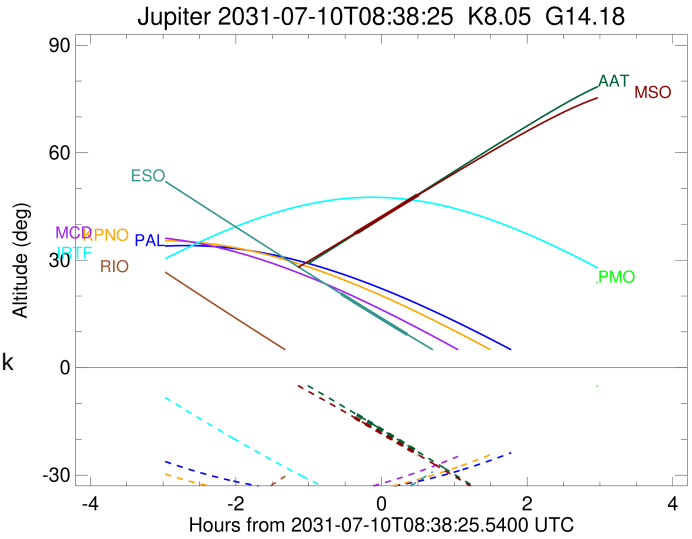
x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2031-07-10T08:05:09.803	20.62	-45.43	71483.9	71.55	73.62
Jupiter	E	2031-07-10T08:59:39.472	9.27	-33.59	71483.8	72.39	74.38

Jupiter_2031-07-10T08_38_25.5400_AAT.txt
Occultation predictions computed by rfrench@wellesley.edu Sun Jun 11 11:34:28 2023



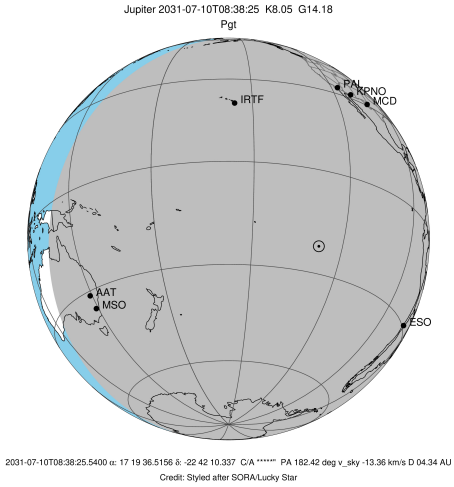

```
target                  : Jupiter
target radius (km)      :  71492.00
C/A epoch               : 2031-07-10T08:42:54.630
Event type              : Pgt
: Jupiter occs: geocentric, topocentric
: Not a ringed target
Observer code           : AAT
Location                : Siding Spring (AAT)
Latitude (deg)          : -31.27703
E. Longitude (deg)      : 149.06608
Altitude (km)           :   1.164
Gaia source ID          : 4114684982961374848
2Mass ID (if available) : 17193652-2242101
ICRS Star Coord at Epoch: 17h 19m 36.51556s -22:42:10.33650s
RUWE (>1.4 is poor)     :   1.03
K magnitude             :  8.054
G magnitude             : 14.177
RP magnitude            : 12.668
BP magnitude            : 17.467
DUPflag                 : 0
Distance (au)           :  4.345
f0 (km)                 :       0.00
g0 (km)                 :       0.00
skyplane vel. (km/s)    : -13.36
Sun-Target sep (deg)    :  153.20
Sun-Moon sep (deg)      :  103.32
B (ring opening deg)    :   -2.57
PA of pole (deg)        :    3.51
Pole direction: RA (deg): 268.05690
Dec (deg):  64.49651
C/A sky separation (")  :  21.765
C/A sky separation (km) :  68580.1
NAIF SPICE kernels      : RAJobs_U111+rgf15.spk
URKALLv1.spk
naif0012.tls
nep097.bsp
nep101.bsp
sat440l.bsp
de440.bsp
earth_720101_070426.bpc
jup365.bsp
ura116.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
```



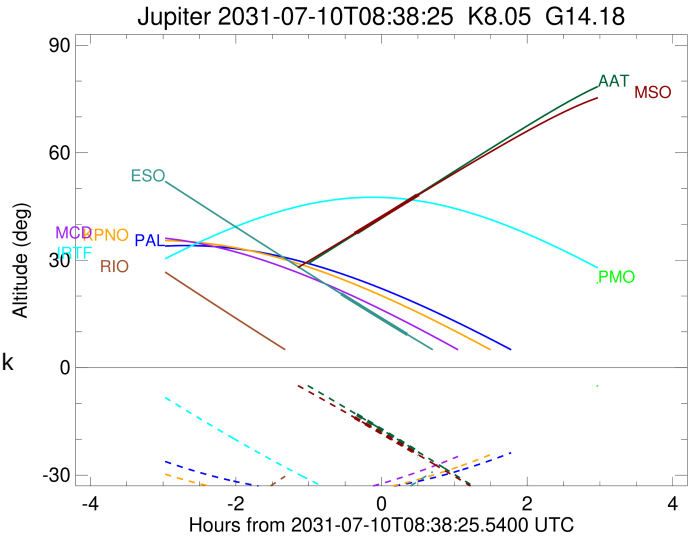
x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2031-07-10T08:18:08.390	37.58	-13.11	71483.9	71.78	73.82
Jupiter	E	2031-07-10T09:07:37.628	48.18	-23.31	71483.6	75.02	76.73

Jupiter_2031-07-10T08_38_25.5400_MSO.txt
Occultation predictions computed by rfrench@wellesley.edu Sun Jun 11 11:38:35 2023




```
target                  : Jupiter
target radius (km)      :  71492.00
C/A epoch               : 2031-07-10T08:42:41.710
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          : 4114684982961374848
2Mass ID (if available) : 17193652-2242101
ICRS Star Coord at Epoch: 17h 19m 36.51556s -22:42:10.33650s
RUWE (>1.4 is poor)     :   1.03
K magnitude             :  8.054
G magnitude             : 14.177
RP magnitude            : 12.668
BP magnitude            : 17.467
DUPflag                 : 0
Distance (au)           :  4.345
f0 (km)                 :       0.00
g0 (km)                 :       0.00
skyplane vel. (km/s)    : -13.36
Sun-Target sep (deg)    :  153.20
Sun-Moon sep (deg)      :  103.32
B (ring opening deg)    :   -2.57
PA of pole (deg)        :    3.51
Pole direction: RA (deg): 268.05690
Dec (deg):  64.49651
C/A sky separation (")  :  21.638
C/A sky separation (km) :  68180.9
NAIF SPICE kernels      : RAJobs_U111+rgf15.spk
URKALLv1.spk
naif0012.tls
nep097.bsp
nep101.bsp
sat440l.bsp
de440.bsp
earth_720101_070426.bpc
jup365.bsp
ura116.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	2031-07-10T08:16:17.581	37.47	-13.93	71484.0	70.71	72.87
Jupiter	E	2031-07-10T09:09:02.333	48.28	-24.38	71483.7	73.91	75.74