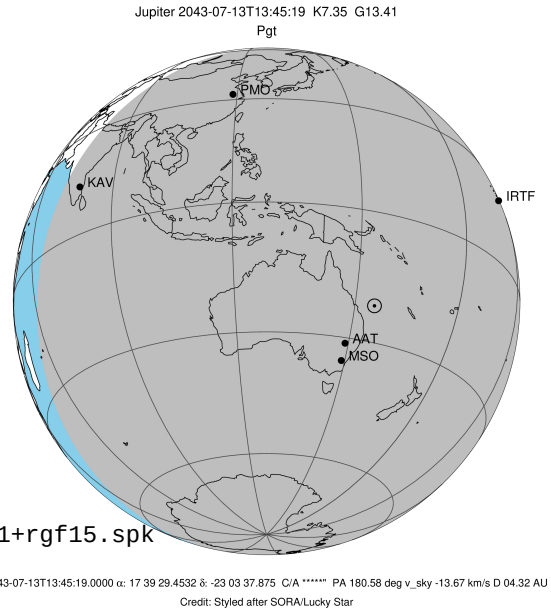
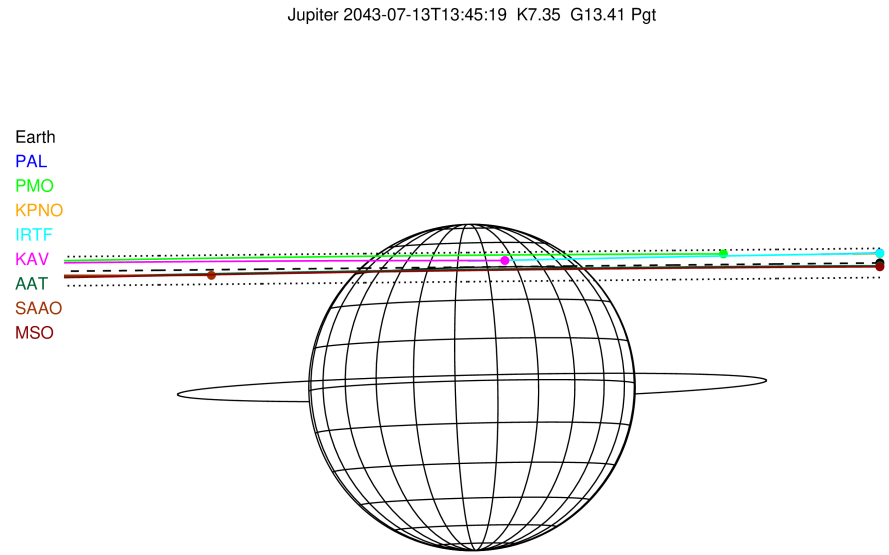
Stellar occultation prediction by rfrench@wellesley.edu Sun Jun 25 12:37:49 2023

target : Jupiter
target radius (km) : 71492.00
C/A epoch : 2043-07-13T13:45:19.000
Event type : Pgt
: Jupiter occs: geocentric, topocentric
: Not a ringed target
Gaia source ID : 4116555488404257408
2Mass ID (if available) : 17392945-2303378

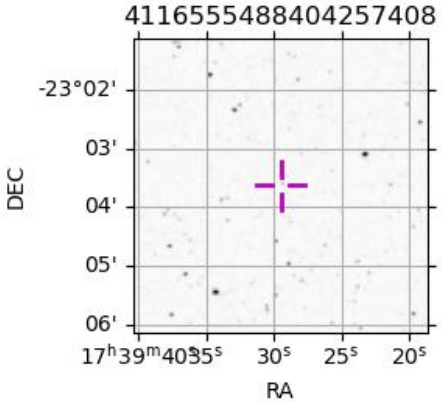
ICRS Star Coord at Epoch: 17h 39m 29.45324s -23:03:37.87511s
RUWE (>1.4 is poor) : 0.78
K magnitude : 7.347
G magnitude : 13.407
RP magnitude : 11.937
BP magnitude : 16.458
DUPflag : 0
Distance (au) : 4.321
f0 (km) : 0.00
g0 (km) : 0.00
skyplane vel. (km/s) : -13.67
Sun-Target sep (deg) : 154.79
Sun-Moon sep (deg) : 70.37
B (ring opening deg) : -2.41
PA of pole (deg) : 1.37
Pole direction: RA (deg): 268.05670
Dec (deg): 64.49732
C/A sky separation (") : 16.831
C/A sky separation (km) : 52743.0
NAIF SPICE kernels : RAJobs_U111+rgf15.spk
URKALLv1.spk
naif0012.tls
nep097.bsp
nep101.bsp
sat440l.bsp





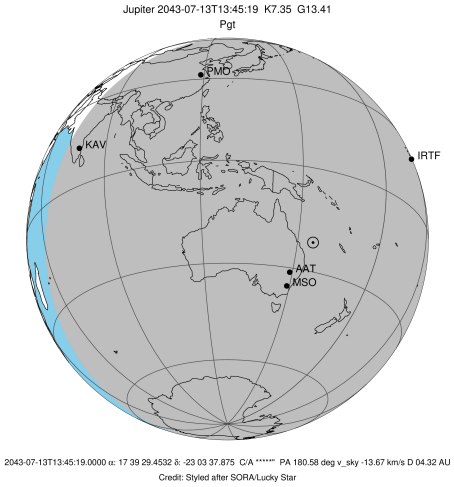
Observable events with sun below -5 deg and altitude above 5 deg

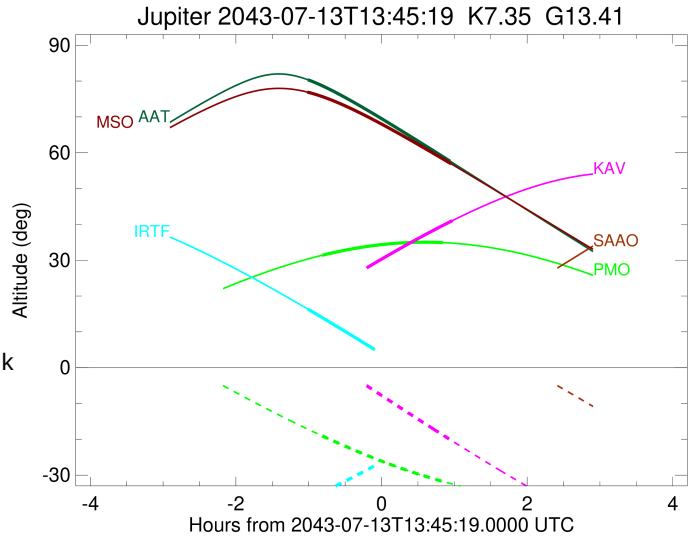
Obs	Location	lat	Elon	Target		Observed Events Interval	OEcode
PIC	Pic du Midi	42.9	0.1				Pnn
PAL	Palomar Mt (200")	33.4	243.1				Pnn
PMO	Purple Mtn Obs. Nanking	32.1	118.8	+	+	JUL 13 12:56 - JUL 13 14:35	Pie
KPNO	Kitt Peak Natl Obs	32.0	248.4				Pnn
MCD	McDonald Obs. 2.7m	30.7	256.0				Pnn
TEN	Teide Obs./Tenerife	28.3	343.5				Pnn
IRTF	Mauna Kea/IRTF	19.8	204.5	+		JUL 13 12:44 - JUL 13 12:44	Pin
KAV	Kavalur Observatory	12.6	78.8		+	JUL 13 14:43 - JUL 13 14:43	Pne
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	+	+	JUL 13 12:44 - JUL 13 14:41	Pie
SAAO	So. Afr. Astro. Obs. (Sutherland)	-32.4	20.8				Pnn
MSO	Mt. Stromlo Observatory	-35.3	149.0	+	+	JUL 13 12:44 - JUL 13 14:42	Pie



Jupiter_2043-07-13T13_45_19.0000_PMO.txt
Occultation predictions computed by rfrench@wellesley.edu Sun Jun 11 11:19:00 2023

target : Jupiter
target radius (km) : 71492.00
C/A epoch : 2043-07-13T13:46:13.830
Event type : Pgt
: Jupiter occs: geocentric, topocentric
: Not a ringed target
Observer code : PMO
Location : Purple Mtn Obs. Nanking
Latitude (deg) : 32.06667
E. Longitude (deg) : 118.82089
Altitude (km) : 0.364
Gaia source ID : 4116555488404257408
2Mass ID (if available) : 17392945-2303378
ICRS Star Coord at Epoch: 17h 39m 29.45324s -23:03:37.87511s
RUWE (>1.4 is poor) : 0.78
K magnitude : 7.347
G magnitude : 13.407
RP magnitude : 11.937
BP magnitude : 16.458
DUPflag : 0
Distance (au) : 4.321
f0 (km) : 0.00
g0 (km) : 0.00
skyplane vel. (km/s) : -13.67
Sun-Target sep (deg) : 154.79
Sun-Moon sep (deg) : 70.82
B (ring opening deg) : -2.41
PA of pole (deg) : 1.37
Pole direction: RA (deg): 268.05670
Dec (deg): 64.49732
C/A sky separation (") : 18.486
C/A sky separation (km) : 57932.0
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



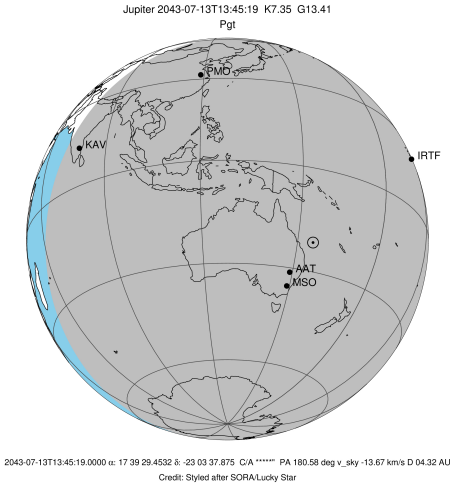


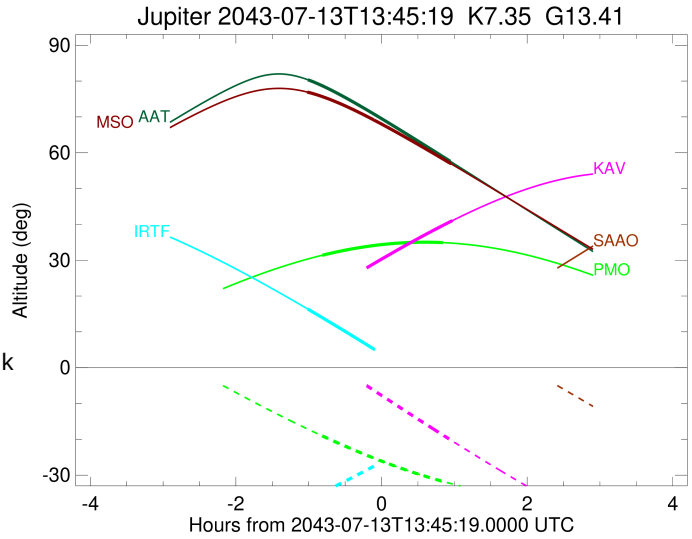
x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-07-13T12:56:28.123	31.38	-19.04	71486.9	53.10	56.57
Jupiter	E	2043-07-13T14:35:58.407	34.91	-31.76	71486.7	54.89	58.26

Jupiter_2043-07-13T13_45_19.0000_IRTF.txt
Occultation predictions computed by rfrench@wellesley.edu Sun Jun 11 11:27:16 2023

target : Jupiter
target radius (km) : 71492.00
C/A epoch : 2043-07-13T13:39:03.940
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 : 4116555488404257408
2Mass ID (if available) : 17392945-2303378
ICRS Star Coord at Epoch: 17h 39m 29.45324s -23:03:37.87511s
RUWE (>1.4 is poor) : 0.78
K magnitude : 7.347
G magnitude : 13.407
RP magnitude : 11.937
BP magnitude : 16.458
DUPflag : 0
Distance (au) : 4.321
f0 (km) : 0.00
g0 (km) : 0.00
skyplane vel. (km/s) : -13.67
Sun-Target sep (deg) : 154.79
Sun-Moon sep (deg) : 70.70
B (ring opening deg) : -2.41
PA of pole (deg) : 1.37
Pole direction: RA (deg): 268.05670
Dec (deg): 64.49732
C/A sky separation (") : 17.667
C/A sky separation (km) : 55362.8
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

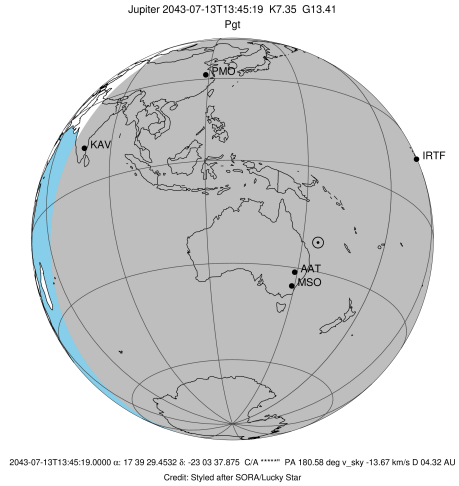




x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-07-13T12:44:32.863	16.36	-36.71	71487.3	50.56	54.13
Jupiter	E	2043-07-13T14:34:00.066	-6.63x	-16.92	71487.3	50.78	54.33

Jupiter_2043-07-13T13_45_19.0000_KAV.txt
Occultation predictions computed by rfrench@wellesley.edu Sun Jun 11 11:29:17 2023




```
target                  : Jupiter
target radius (km)      :  71492.00
C/A epoch               : 2043-07-13T13:50:18.580
Event type              : Pgt
: Jupiter occs: geocentric, topocentric
: Not a ringed target
Observer code           : KAV
Location                : Kavalur Observatory
Latitude (deg)          :  12.57556
E. Longitude (deg)      :  78.83167
Altitude (km)           :   0.722
Gaia source ID          : 4116555488404257408
2Mass ID (if available) : 17392945-2303378
ICRS Star Coord at Epoch: 17h 39m 29.45324s -23:03:37.87511s
RUWE (>1.4 is poor)     :   0.78
K magnitude             :  7.347
G magnitude             : 13.407
RP magnitude            : 11.937
BP magnitude            : 16.458
DUPflag                 : 0
Distance (au)           :  4.321
f0 (km)                 :       0.00
g0 (km)                 :       0.00
skyplane vel. (km/s)    : -13.67
Sun-Target sep (deg)    :  154.79
Sun-Moon sep (deg)      :   70.58
B (ring opening deg)    :   -2.41
PA of pole (deg)        :    1.37
Pole direction: RA (deg): 268.05670
Dec (deg):  64.49732
C/A sky separation (")  :  17.752
C/A sky separation (km) :  55630.3
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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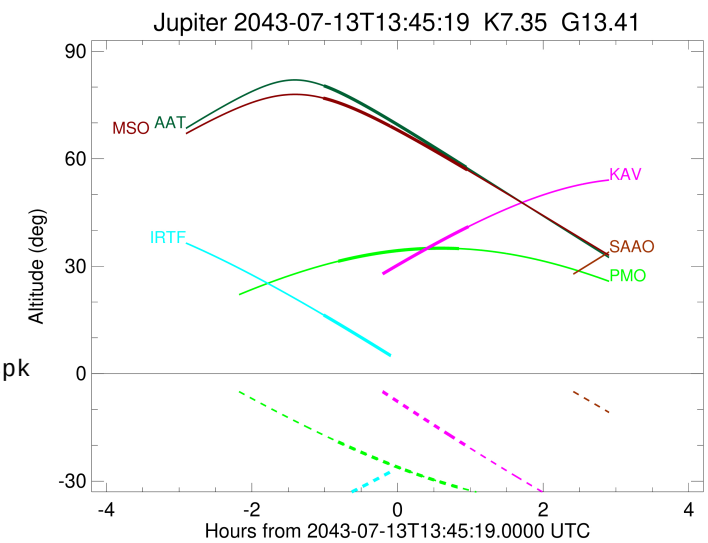
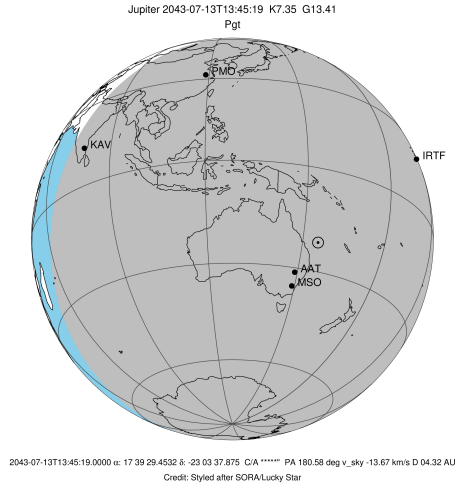


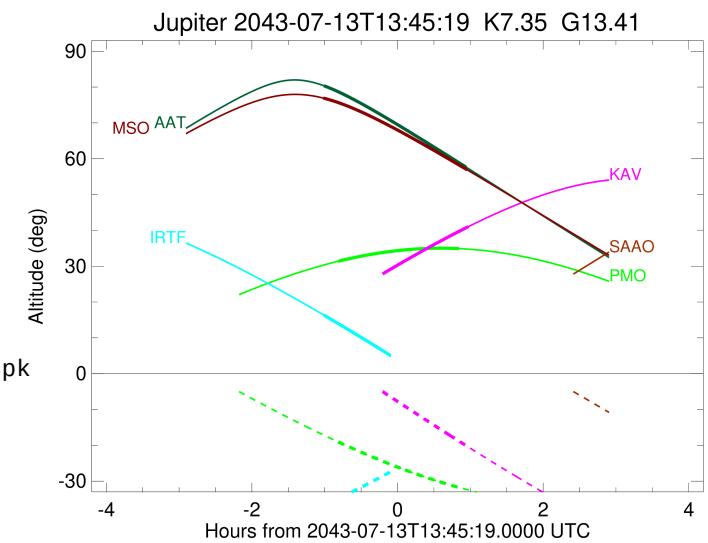
x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-07-13T12:56:32.612	20.32	3.22x	71487.4	49.64	53.24
Jupiter	E	2043-07-13T14:43:48.925	41.05	-20.50	71487.1	52.30	55.80

Jupiter_2043-07-13T13_45_19.0000_AAT.txt
Occultation predictions computed by rfrench@wellesley.edu Sun Jun 11 11:35:23 2023




```
target                  : Jupiter
target radius (km)      :  71492.00
C/A epoch               : 2043-07-13T13:43:11.800
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          : 4116555488404257408
2Mass ID (if available) : 17392945-2303378
ICRS Star Coord at Epoch: 17h 39m 29.45324s -23:03:37.87511s
RUWE (>1.4 is poor)     :   0.78
K magnitude             :  7.347
G magnitude             : 13.407
RP magnitude            : 11.937
BP magnitude            : 16.458
DUPflag                 : 0
Distance (au)           :  4.321
f0 (km)                 :       0.00
g0 (km)                 :       0.00
skyplane vel. (km/s)    : -13.67
Sun-Target sep (deg)    :  154.79
Sun-Moon sep (deg)      :   71.27
B (ring opening deg)    :   -2.41
PA of pole (deg)        :    1.37
Pole direction: RA (deg): 268.05670
Dec (deg):  64.49732
C/A sky separation (")  :  16.506
C/A sky separation (km) :  51726.5
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
```

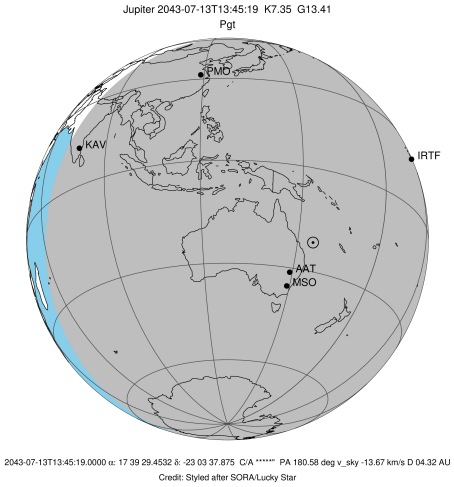


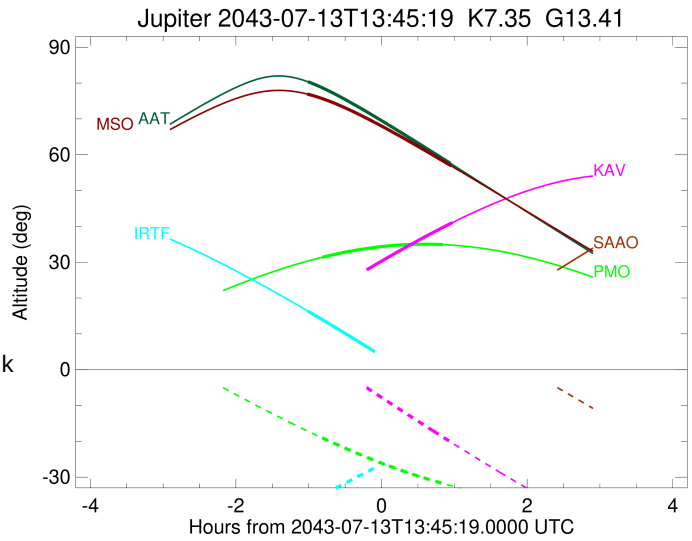
x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-07-13T12:44:36.665	80.37	-68.89	71488.0	45.65	49.34
Jupiter	E	2043-07-13T14:41:57.771	57.60	-78.18	71487.8	46.79	50.47

Jupiter_2043-07-13T13_45_19.0000_MSO.txt
Occultation predictions computed by rfrench@wellesley.edu Sun Jun 11 11:39:32 2023

target : Jupiter
target radius (km) : 71492.00
C/A epoch : 2043-07-13T13:43:17.440
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 : 4116555488404257408
2Mass ID (if available) : 17392945-2303378
ICRS Star Coord at Epoch: 17h 39m 29.45324s -23:03:37.87511s
RUWE (>1.4 is poor) : 0.78
K magnitude : 7.347
G magnitude : 13.407
RP magnitude : 11.937
BP magnitude : 16.458
DUPflag : 0
Distance (au) : 4.321
f0 (km) : 0.00
g0 (km) : 0.00
skyplane vel. (km/s) : -13.67
Sun-Target sep (deg) : 154.79
Sun-Moon sep (deg) : 71.26
B (ring opening deg) : -2.41
PA of pole (deg) : 1.37
Pole direction: RA (deg): 268.05670
Dec (deg): 64.49732
C/A sky separation (") : 16.367
C/A sky separation (km) : 51291.4
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	2043-07-13T12:44:05.990	76.93	-67.01	71488.0	45.14	48.84
Jupiter	E	2043-07-13T14:42:39.554	56.90	-74.82	71487.9	46.30	49.99