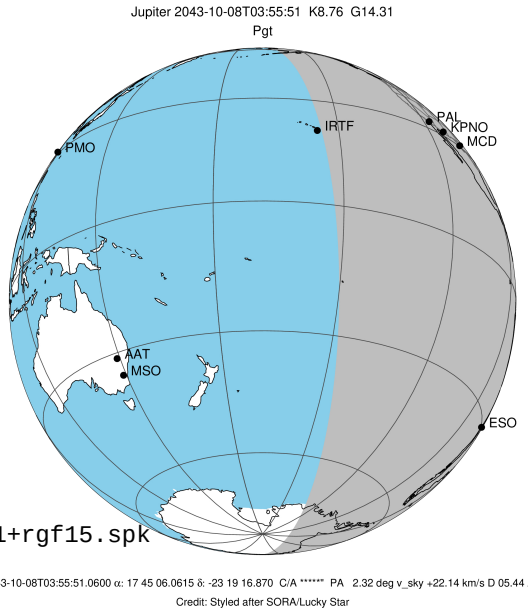
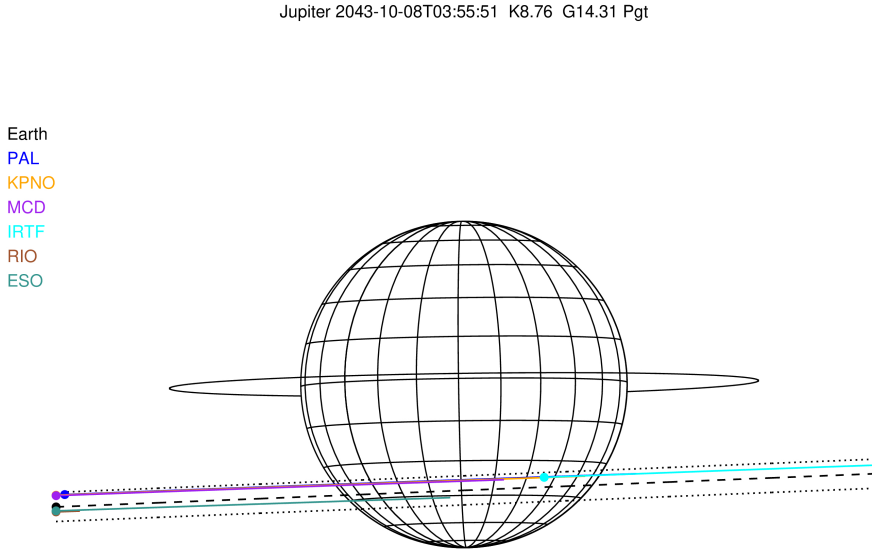
Stellar occultation prediction by rfrench@wellesley.edu Sun Jun 25 13:10:34 2023

target : Jupiter
target radius (km) : 71492.00
C/A epoch : 2043-10-08T03:55:51.060
Event type : Pgt
: Jupiter occs: geocentric, topocentric
: Not a ringed target
Gaia source ID : 4068805107152231040
2Mass ID (if available) : 17450607-2319167

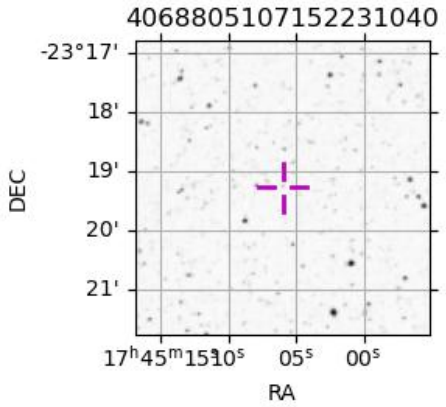
ICRS Star Coord at Epoch: 17h 45m 06.06154s -23:19:16.86981s
RUWE (>1.4 is poor) : 0.89
K magnitude : 8.755
G magnitude : 14.307
RP magnitude : 12.885
BP magnitude : 16.661
DUPflag : 0
Distance (au) : 5.442
f0 (km) : 0.00
g0 (km) : 0.00
skyplane vel. (km/s) : 22.14
Sun-Target sep (deg) : 72.41
Sun-Moon sep (deg) : 17.50
B (ring opening deg) : -2.17
PA of pole (deg) : 0.77
Pole direction: RA (deg): 268.05674
Dec (deg): 64.49731
C/A sky separation (") : 11.740
C/A sky separation (km) : 46339.4
NAIF SPICE kernels : RAJobs_U111+rgf15.spk
URKALLv1.spk
naif0012.tls
nep097.bsp
nep101.bsp
sat440l.bsp



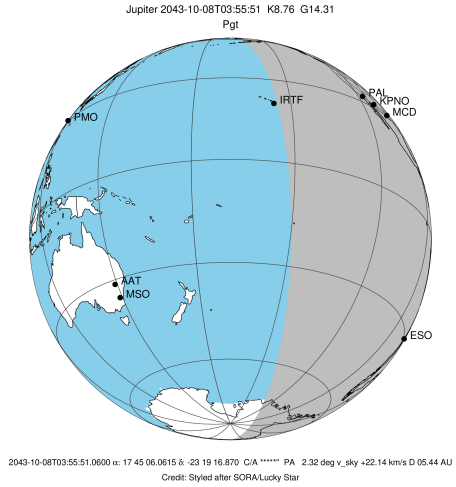


Observable events with sun below -5 deg and altitude above 5 deg

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	+ +	OCT 08 03:14 - OCT 08 04:42	Pie
PMO	Purple Mtn Obs. Nanking	32.1	118.8			Pnn
KPNO	Kitt Peak Natl Obs	32.0	248.4	+	OCT 08 03:14 - OCT 08 03:14	Pin
MCD	McDonald Obs. 2.7m	30.7	256.0	+	OCT 08 03:15 - OCT 08 03:15	Pin
TEN	Teide Obs./Tenerife	28.3	343.5			Pnn
IRTF	Mauna Kea/IRTF	19.8	204.5	+	OCT 08 04:41 - OCT 08 04:41	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	+	OCT 08 03:20 - OCT 08 03:20	Pin
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



Jupiter_2043-10-08T03_55_51.0600_PAL.txt
Occultation predictions computed by rfrench@wellesley.edu Sun Jun 11 11:17:09 2023




```
target                  : Jupiter
target radius (km)      :  71492.00
C/A epoch               : 2043-10-08T03:58:45.220
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          : 4068805107152231040
2Mass ID (if available) : 17450607-2319167
ICRS Star Coord at Epoch: 17h 45m 06.06154s -23:19:16.86981s
RUWE (>1.4 is poor)     :   0.89
K magnitude             :  8.755
G magnitude             : 14.307
RP magnitude            : 12.885
BP magnitude            : 16.661
DUPflag                 : 0
Distance (au)           :  5.442
f0 (km)                 :       0.00
g0 (km)                 :       0.00
skyplane vel. (km/s)    :  22.14
Sun-Target sep (deg)    :   72.41
Sun-Moon sep (deg)      :   18.28
B (ring opening deg)    :   -2.17
PA of pole (deg)        :    0.77
Pole direction: RA (deg): 268.05674
Dec (deg):  64.49731
C/A sky separation (")  :  10.566
C/A sky separation (km) :  41704.4
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
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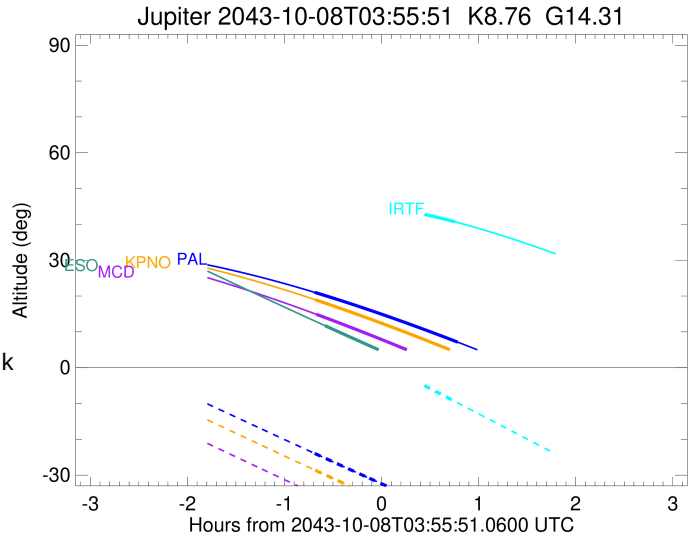
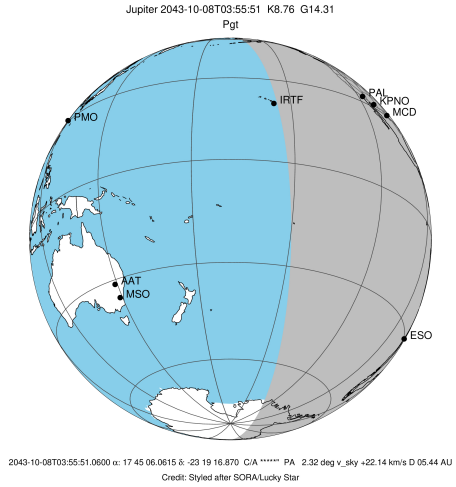


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-10-08T03:14:31.014	21.02	-23.93	71489.7	-36.94	-40.60
Jupiter	E	2043-10-08T04:42:50.638	7.14	-41.62	71489.9	-34.43	-38.00

Jupiter_2043-10-08T03_55_51.0600_KPNO.txt
Occultation predictions computed by rfrench@wellesley.edu Sun Jun 11 11:21:14 2023




```
target                  : Jupiter
target radius (km)      :  71492.00
C/A epoch               : 2043-10-08T03:59:00.600
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          : 4068805107152231040
2Mass ID (if available) : 17450607-2319167
ICRS Star Coord at Epoch: 17h 45m 06.06154s -23:19:16.86981s
RUWE (>1.4 is poor)     :   0.89
K magnitude             :  8.755
G magnitude             : 14.307
RP magnitude            : 12.885
BP magnitude            : 16.661
DUPflag                 : 0
Distance (au)           :  5.442
f0 (km)                 :       0.00
g0 (km)                 :       0.00
skyplane vel. (km/s)    :  22.14
Sun-Target sep (deg)    :   72.41
Sun-Moon sep (deg)      :   18.31
B (ring opening deg)    :   -2.17
PA of pole (deg)        :    0.77
Pole direction: RA (deg): 268.05674
Dec (deg):  64.49731
C/A sky separation (")  :  10.629
C/A sky separation (km) :  41954.7
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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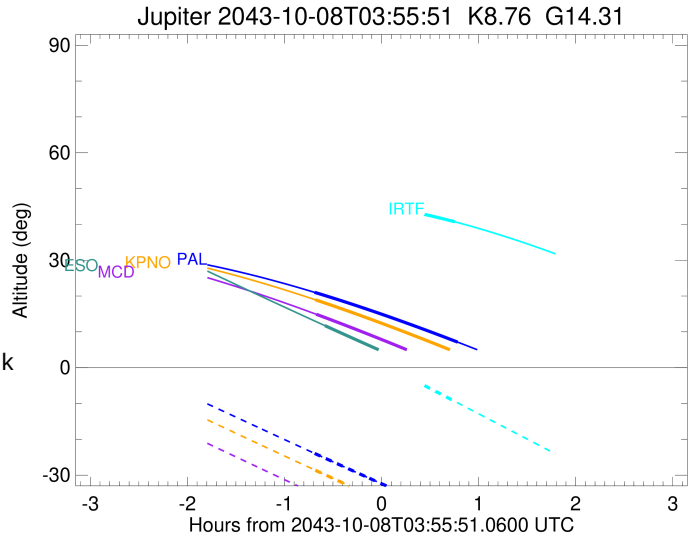
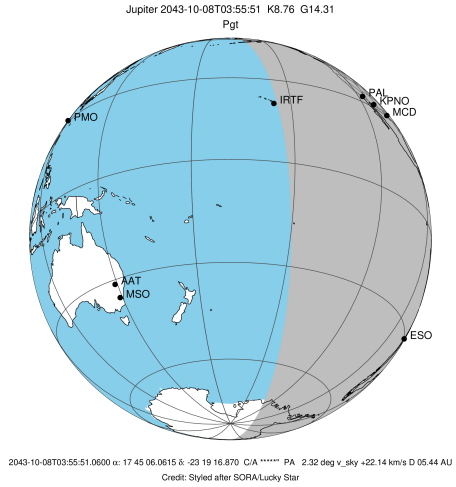


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-10-08T03:14:57.432	18.95	-28.64	71489.6	-37.16	-40.82
Jupiter	E	2043-10-08T04:42:54.454	4.13x	-46.22	71489.9	-34.70	-38.29

Jupiter_2043-10-08T03_55_51.0600_MCD.txt
Occultation predictions computed by rfrench@wellesley.edu Sun Jun 11 11:23:22 2023




```
target                  : Jupiter
target radius (km)      :  71492.00
C/A epoch               : 2043-10-08T03:59:18.440
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          : 4068805107152231040
2Mass ID (if available) : 17450607-2319167
ICRS Star Coord at Epoch: 17h 45m 06.06154s -23:19:16.86981s
RUWE (>1.4 is poor)     :   0.89
K magnitude             :  8.755
G magnitude             : 14.307
RP magnitude            : 12.885
BP magnitude            : 16.661
DUPflag                 : 0
Distance (au)           :  5.442
f0 (km)                 :       0.00
g0 (km)                 :       0.00
skyplane vel. (km/s)    :  22.14
Sun-Target sep (deg)    :   72.41
Sun-Moon sep (deg)      :   18.32
B (ring opening deg)    :   -2.17
PA of pole (deg)        :    0.77
Pole direction: RA (deg): 268.05674
Dec (deg):  64.49731
C/A sky separation (")  :  10.715
C/A sky separation (km) :  42292.5
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
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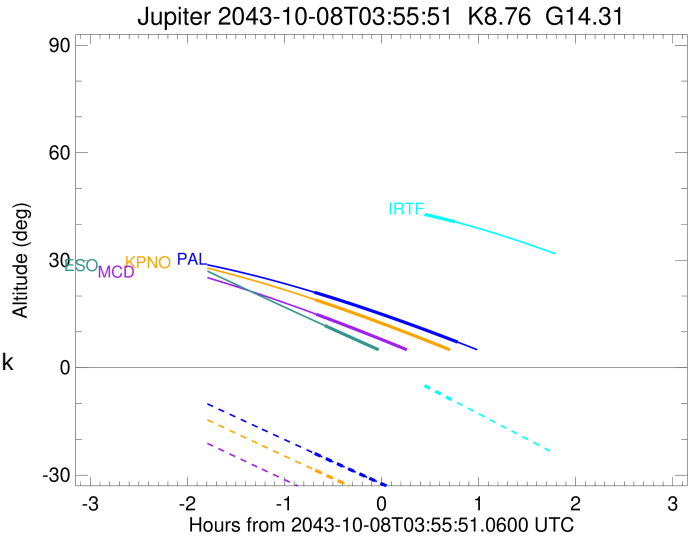
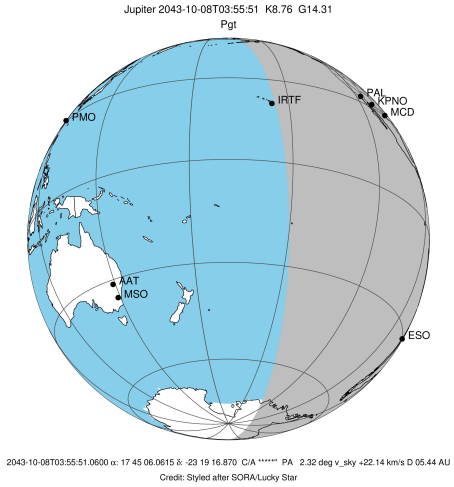


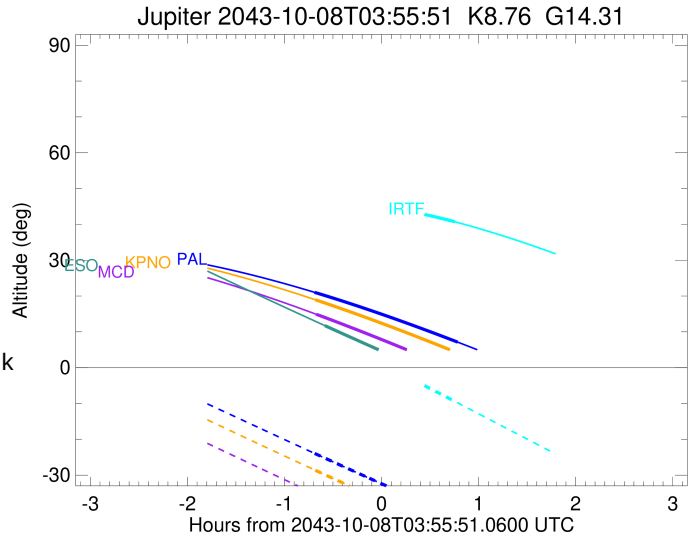
x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-10-08T03:15:31.313	14.90	-35.36	71489.6	-37.46	-41.12
Jupiter	E	2043-10-08T04:42:55.716	-0.95x	-52.43	71489.9	-35.06	-38.66

Jupiter_2043-10-08T03_55_51.0600_IRTF.txt
Occultation predictions computed by rfrench@wellesley.edu Sun Jun 11 11:27:26 2023



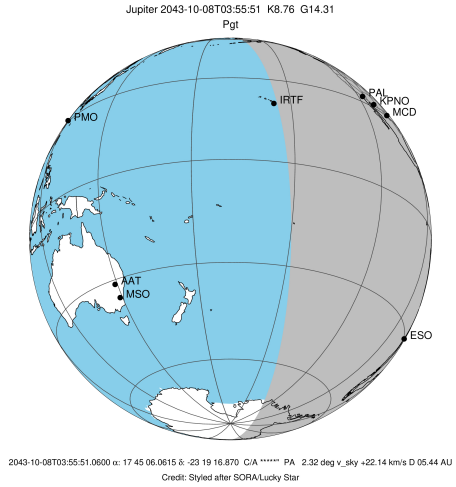

```
target                  : Jupiter
target radius (km)      :  71492.00
C/A epoch               : 2043-10-08T03:56:45.120
Event type              : Pgt
: Jupiter occs: geocentric, topocentric
: Not a ringed target
Observer code           : IRTF
Location                : Mauna Kea/IRTF
Latitude (deg)          :  19.82622
E. Longitude (deg)      : 204.52800
Altitude (km)           :   4.168
Gaia source ID          : 4068805107152231040
2Mass ID (if available) : 17450607-2319167
ICRS Star Coord at Epoch: 17h 45m 06.06154s -23:19:16.86981s
RUWE (>1.4 is poor)     :   0.89
K magnitude             :  8.755
G magnitude             : 14.307
RP magnitude            : 12.885
BP magnitude            : 16.661
DUPflag                 : 0
Distance (au)           :  5.442
f0 (km)                 :       0.00
g0 (km)                 :       0.00
skyplane vel. (km/s)    :  22.14
Sun-Target sep (deg)    :   72.41
Sun-Moon sep (deg)      :   18.04
B (ring opening deg)    :   -2.17
PA of pole (deg)        :    0.77
Pole direction: RA (deg): 268.05674
Dec (deg):  64.49731
C/A sky separation (")  :  10.641
C/A sky separation (km) :  42003.0
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
```



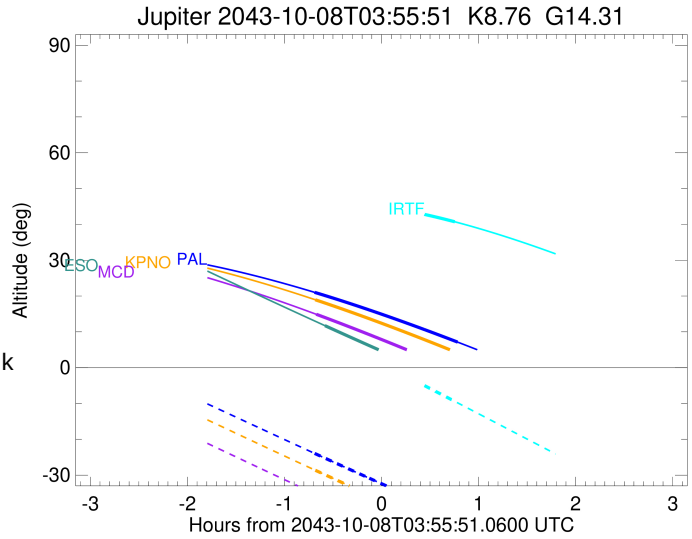
x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-10-08T03:12:21.092	46.90	11.35x	71489.6	-37.49	-41.15
Jupiter	E	2043-10-08T04:41:05.069	40.73	-9.39	71489.9	-34.51	-38.09

Jupiter_2043-10-08T03_55_51.0600_ESO.txt
Occultation predictions computed by rfrench@wellesley.edu Sun Jun 11 11:33:30 2023



target : Jupiter
target radius (km) : 71492.00
C/A epoch : 2043-10-08T03:59:48.390
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 : 4068805107152231040
2Mass ID (if available) : 17450607-2319167
ICRS Star Coord at Epoch: 17h 45m 06.06154s -23:19:16.86981s
RUWE (>1.4 is poor) : 0.89
K magnitude : 8.755
G magnitude : 14.307
RP magnitude : 12.885
BP magnitude : 16.661
DUPflag : 0
Distance (au) : 5.442
f0 (km) : 0.00
g0 (km) : 0.00
skyplane vel. (km/s) : 22.14
Sun-Target sep (deg) : 72.41
Sun-Moon sep (deg) : 18.13
B (ring opening deg) : -2.17
PA of pole (deg) : 0.77
Pole direction: RA (deg): 268.05674
Dec (deg): 64.49731
C/A sky separation (") : 12.498
C/A sky separation (km) : 49332.6
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	2043-10-08T03:20:53.789	11.72	-51.29	71488.8	-44.74	-48.44
Jupiter	E	2043-10-08T04:38:34.619	-3.71x	-55.02	71489.1	-42.45	-46.17