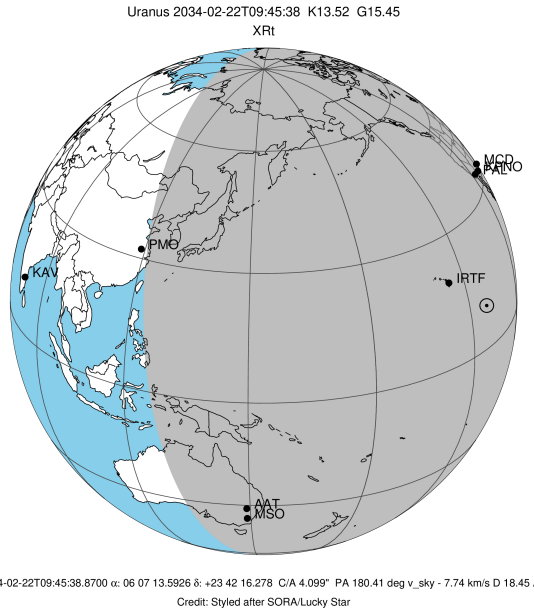
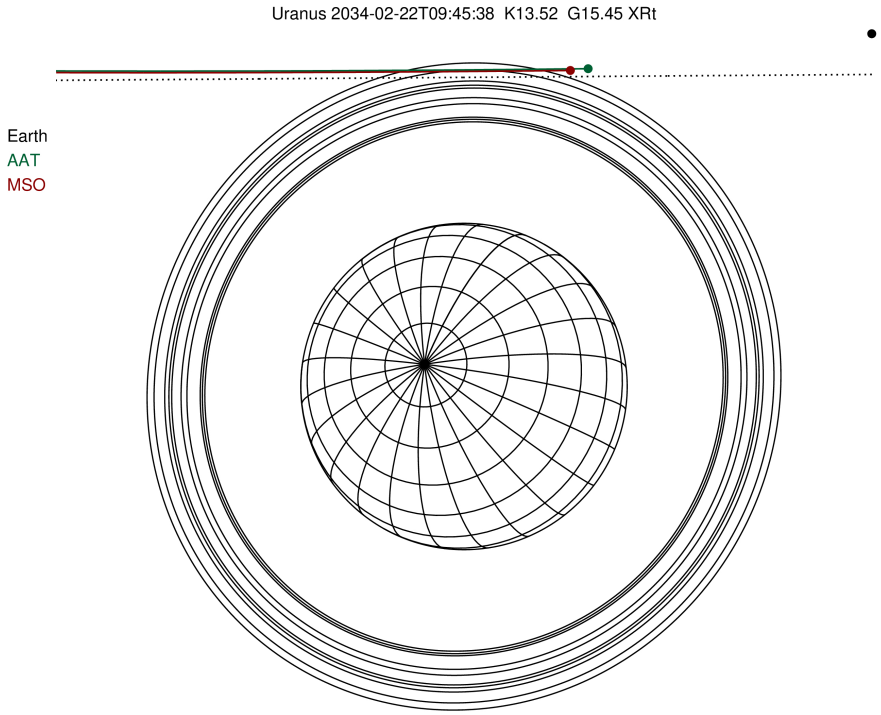
Stellar occultation prediction by rfrench@wellesley.edu Sun Jun 25 01:14:13 2023

target : Uranus
target radius (km) : 25559.00
C/A epoch : 2034-02-22T09:45:38.870
Event type : XRt
: No Uranus occs
: Ring occs: topocentric, not geoecetric
Gaia source ID : 3426149189309305088
2Mass ID (if available) : 06071360+2342162

ICRS Star Coord at Epoch: 06h 07m 13.59262s +23:42:16.27820s
RUWE (>1.4 is poor) : 1.02
K magnitude : 13.519
G magnitude : 15.450
RP magnitude : 14.787
BP magnitude : 15.937
DUPflag : 0
Distance (au) : 18.454
f0 (km) : 0.000
g0 (km) : 0.000
skyplane vel. (km/s) : -7.74
Sun-Target sep (deg) : 118.29
Sun-Moon sep (deg) : 71.92
B (ring opening deg) : 73.91
PA of pole (deg) : 60.63

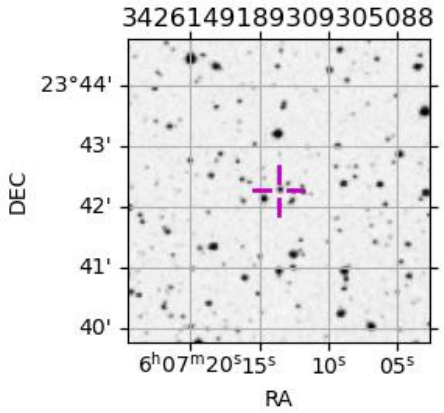
#	a(km)	ring
1	41837.2	6
2	42235.0	5
3	42571.2	4
4	44718.5	alpha
5	45661.1	beta
6	47176.1	eta
7	47626.3	gamma
8	48300.3	delta
9	50026.7	lambda
10	51149.4	epsilon





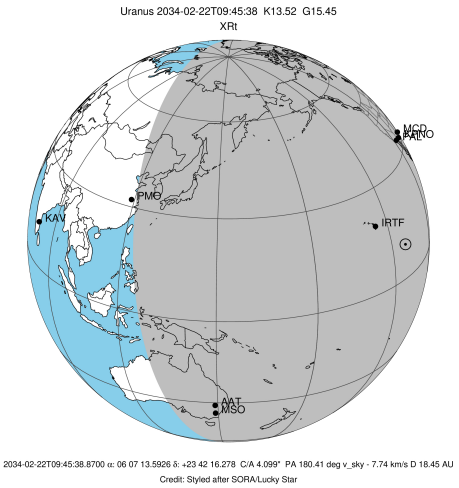
Observable events with sun below -5 deg and altitude above 5 deg unblocked by planet

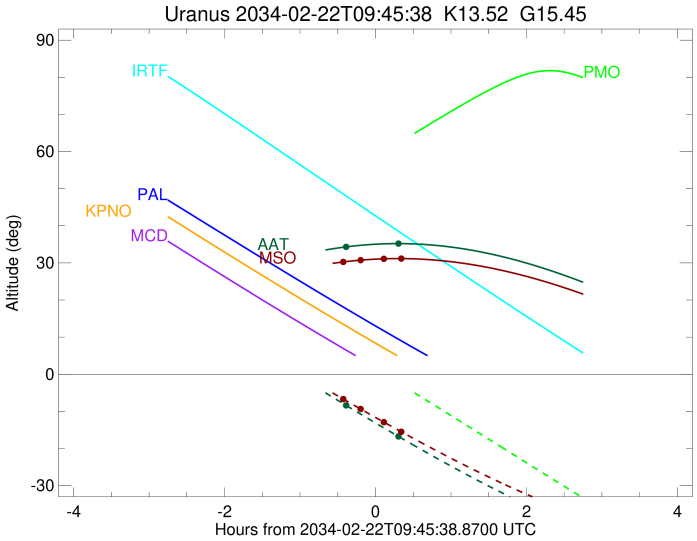
Obs	Location	lat	Elon	Rings I	Planet	Rings E	Observed Events Interval	OEcode
PIC	Pic du Midi	42.9	0.1					PnnRnn
PAL	Palomar Mt (200")	33.4	243.1					PnnRnn
PMO	Purple Mtn Obs. Nanki	32.1	118.8					PnnRnn
KPNO	Kitt Peak Natl Obs	32.0	248.4					PnnRnn
MCD	McDonald Obs. 2.7m	30.7	256.0					PnnRnn
TEN	Teide Obs./Tenerife	28.3	343.5					PnnRnn
IRTF	Mauna Kea/IRTF	19.8	204.5					PnnRnn
KAV	Kavalur Observatory	12.6	78.8					PnnRnn
RIO	Rio de Janeiro	-22.9	316.8					PnnRnn
ESO	European Southern Obs	-29.3	289.3					PnnRnn
AAT	Siding Spring (AAT)	-31.3	149.1	+		+	FEB 22 09:24 - FEB 22 10:00	PnnRie
SAAO	So. Afr. Astro. Obs.	-32.4	20.8					PnnRnn
MSO	Mt. Stromlo Observato	-35.3	149.0	++		++	FEB 22 09:21 - FEB 22 10:03	PnnRie



Uranus_2034-02-22T09_45_38.8700_AAT.txt
Occultation predictions computed by rfrench@wellesley.edu Sun Jun 11 11:37:47 2023

target : Uranus
target radius (km) : 25559.00
C/A epoch : 2034-02-22T09:46:29.830
Event type : XRt
: No Uranus occs
: Ring occs: topocentric, not geoecetric
Observer code : AAT
Location : Siding Spring (AAT)
Latitude (deg) : -31.27703
E. Longitude (deg) : 149.06608
Altitude (km) : 1.164
Gaia source ID : 3426149189309305088
2Mass ID (if available) : 06071360+2342162
ICRS Star Coord at Epoch: 06h 07m 13.59262s +23:42:16.27820s
RUWE (>1.4 is poor) : 1.02
K magnitude : 13.519
G magnitude : 15.450
RP magnitude : 14.787
BP magnitude : 15.937
DUPflag : 0
Distance (au) : 18.454
f0 (km) : 0.000
g0 (km) : 0.000
skyplane vel. (km/s) : -7.74
Sun-Target sep (deg) : 118.29
Sun-Moon sep (deg) : 72.45
B (ring opening deg) : 73.91
PA of pole (deg) : 60.63
Pole direction: RA (deg): 257.31100
Dec (deg): -15.17500
C/A sky separation (") : 3.704
C/A sky separation (km) : 49577.9
NAIF SPICE kernels : RAJobs_U111+rgf15.spk
URKALLv1.spk
ura111.bsp
IAU_URANUS_for_RINGFIT.tpc
vgr2.ura111.bsp
ura161.bsp
vgr2.ura161.bsp
peph.ura160.bsp
earthstns_itrf93_040916.bsp
earth_720101_070426.bpc
earth_200101_990628_predict.bpc
pg3f0000r.bsp
pg490000r.bsp
naif0012.tls
earth_flat_IAU.spk





b: ring blocked by planet x: target alt < 5.0 deg or sun > -5.0 deg

Ring	I/E	UTC	b?	alt	alt-sun	radius	r-dot	lat-geo	lat-geodetic
epsilon	I	2034-02-22T09:24:20.003		34.40	-8.80	50960.80	-1.51		

No planet occultations

epsilon	E	2034-02-22T10:00:36.028		35.19	-16.09	50846.87	1.51		

Uranus_2034-02-22T09_45_38.8700_MSO.txt
Occultation predictions computed by rfrench@wellesley.edu Sun Jun 11 11:42:04 2023

```
target                  : Uranus
target radius (km)      :  25559.00
C/A epoch               : 2034-02-22T09:46:27.780
Event type              : XRt
: No Uranus occs
: Ring occs: topocentric, not geoecetric
Observer code           : MSO
Location                : Mt. Stromlo Observatory
Latitude (deg)          : -35.32000
E. Longitude (deg)      : 149.00833
Altitude (km)           :   0.770
Gaia source ID          : 3426149189309305088
2Mass ID (if available) : 06071360+2342162
ICRS Star Coord at Epoch: 06h 07m 13.59262s +23:42:16.27820s
RUWE (>1.4 is poor)     :   1.02
K magnitude             : 13.519
G magnitude             : 15.450
RP magnitude            : 14.787
BP magnitude            : 15.937
DUPflag                 : 0
Distance (au)           : 18.454
f0 (km)                 :       0.000
g0 (km)                 :       0.000
skyplane vel. (km/s)    :  -7.74
Sun-Target sep (deg)    :  118.29
Sun-Moon sep (deg)      :   72.39
B (ring opening deg)    :   73.91
PA of pole (deg)        :   60.63
Pole direction: RA (deg): 257.31100
Dec (deg): -15.17500
C/A sky separation (")  :   3.686
C/A sky separation (km) :  49334.0
NAIF SPICE kernels      : RAJobs_U111+rgf15.spk
URKALLv1.spk
ura111.bsp
IAU_URANUS_for_RINGFIT.tpc
vgr2.ura111.bsp
ura161.bsp
vgr2.ura161.bsp
peph.ura160.bsp
earthstns_itrf93_040916.bsp
earth_720101_070426.bpc
earth_200101_990628_predict.bpc
pg3f0000r.bsp
pg490000r.bsp
naif0012.tls
earth_flat_IAU.spk
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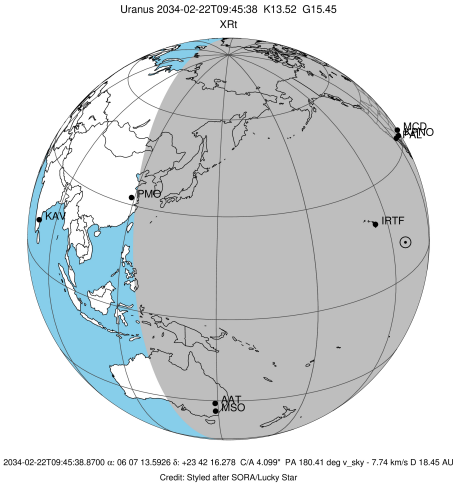

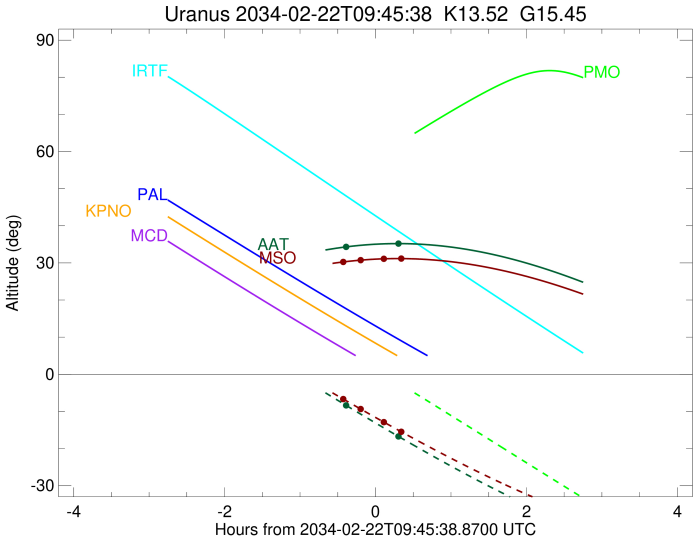

b: ring blocked by planet x: target alt < 5.0 deg or sun > -5.0 deg

Ring	I/E	UTC	b?	alt	alt-sun	radius	r-dot	lat-geo	lat-geodetic
epsilon	I	2034-02-22T09:21:45.624		30.33	-7.02	50969.85	-1.71		
lambda	I	2034-02-22T09:34:09.564		30.75	-9.43	50026.71	-0.75		

No planet occultations

lambda	E	2034-02-22T09:51:58.238	31.10	-12.83	50026.71	0.75		
epsilon	E	2034-02-22T10:03:07.159	31.17	-14.93	50840.14	1.71		