

target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2023-02-25T15:38:50.670
 Event type : XRgt
 : No Uranus occs
 : Ring occs: geocentric, topocentric
 Gaia source ID : 33481713909395712
 2Mass ID (if available) : 02505967+1602556

ICRS Star Coord at Epoch: 02h 50m 59.69317s +16:02:55.23489s

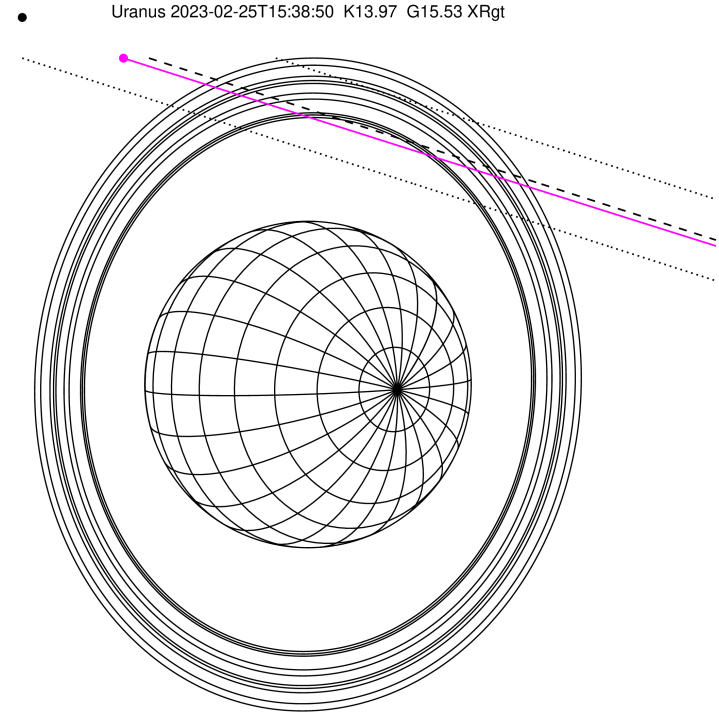
RUWE (>1.4 is poor) : 1.02
 K magnitude : 13.972
 G magnitude : 15.529
 RP magnitude : 14.995
 BP magnitude : 15.881
 DUPflag : 0
 Distance (au) : 20.000
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : 17.22
 Sun-Target sep (deg) : 68.66
 Sun-Moon sep (deg) : 2.20
 B (ring opening deg) : 56.74
 PA of pole (deg) : -93.33

#	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



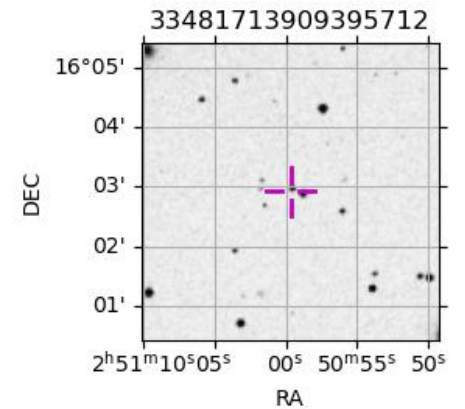
2023-02-25T15:38:50.6700 ex: 02 50 59.6932 s: +16 02 55.235 C/A 2.832" PA 162.21 deg v_sky +17.22 km/s D 20.00 AU
 Credit: Styled after SORA/Lucky Star

Earth
KAV

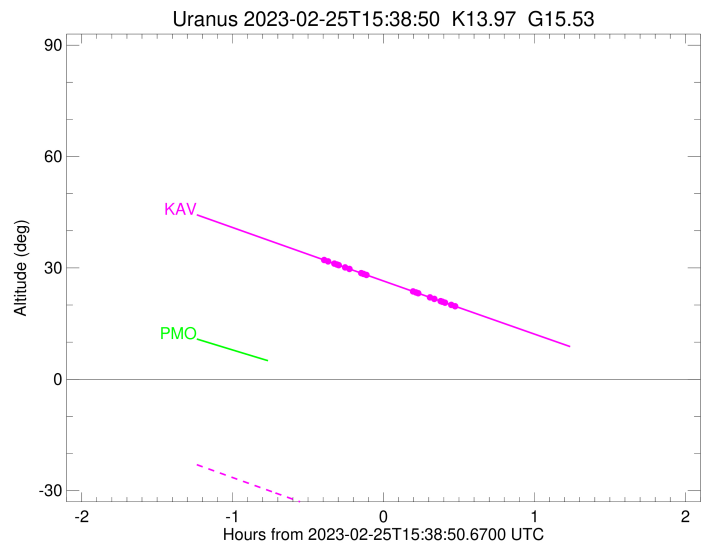
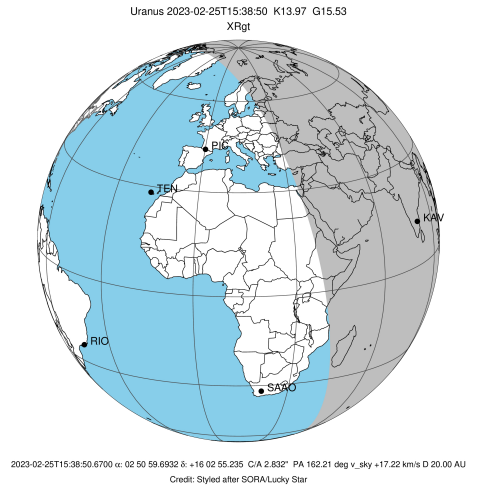


Observable events with sun below -5 deg and altitude above 5 deg unblocked by planet

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	+++++		+++++	FEB 25 15:15 - FEB 25 16:06	PnnRie
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					PnnRnn
SAAO	So. Afr. Astro. Obs.	-32.4	20.8					PnnRnn
MSO	Mt. Stromlo Observato	-35.3	149.0					PnnRnn



target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2023-02-25T15:44:11.700
 Event type : XRgt
 : No Uranus occs
 : Ring occs: geocentric, topocentric
 Observer code : KAV
 Location : Kavalur Observatory
 Latitude (deg) : 12.57556
 E. Longitude (deg) : 78.83167
 Altitude (km) : 0.722
 Gaia source ID : 33481713909395712
 2Mass ID (if available) : 02505967+1602556
 ICRS Star Coord at Epoch: 02h 50m 59.69317s +16:02:55.23489s
 RUWE (>1.4 is poor) : 1.02
 K magnitude : 13.972
 G magnitude : 15.529
 RP magnitude : 14.995
 BP magnitude : 15.881
 DUPflag : 0
 Distance (au) : 20.000
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : 17.22
 Sun-Target sep (deg) : 68.66
 Sun-Moon sep (deg) : 1.76
 B (ring opening deg) : 56.74
 PA of pole (deg) : -93.33
 Pole direction: RA (deg): 257.31100
 Dec (deg): -15.17500
 C/A sky separation (") : 2.753
 C/A sky separation (km) : 39936.6
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk
 URKALLvl.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



Ring	I/E	UTC	b?	alt	alt-sun	radius	r-dot	lat-geo	lat-geodetic
epsilon	I	2023-02-25T15:15:34.454		32.05	-35.42	50938.22	-12.18		
lambda	I	2023-02-25T15:16:49.828		31.75	-35.73	50026.71	-11.90		
delta	I	2023-02-25T15:19:20.043		31.15	-36.34	48300.35	-11.07		
gamma	I	2023-02-25T15:20:21.915		30.90	-36.59	47626.69	-10.70		
eta	I	2023-02-25T15:21:04.532		30.73	-36.76	47176.12	-10.44		
beta	I	2023-02-25T15:23:38.932		30.12	-37.39	45641.14	-9.43		
alpha	I	2023-02-25T15:25:16.688		29.73	-37.79	44752.00	-8.72		
4	I	2023-02-25T15:30:04.254		28.58	-38.96	42563.15	-6.46		
5	I	2023-02-25T15:30:58.645		28.36	-39.18	42223.66	-5.93		
6	I	2023-02-25T15:32:09.580		28.08	-39.47	41822.67	-5.35		

No planet occultations

6	E	2023-02-25T15:50:31.206		23.68	-43.95	41845.19	5.36		
5	E	2023-02-25T15:51:30.779		23.45	-44.19	42180.95	5.94		
4	E	2023-02-25T15:52:38.192		23.18	-44.47	42591.93	6.48		
alpha	E	2023-02-25T15:57:18.759		22.06	-45.61	44735.22	8.76		
beta	E	2023-02-25T15:58:59.679		21.66	-46.02	45651.43	9.47		
eta	E	2023-02-25T16:01:32.454		21.05	-46.64	47176.12	10.49		
gamma	E	2023-02-25T16:02:14.397		20.88	-46.81	47621.68	10.75		
delta	E	2023-02-25T16:03:16.418		20.64	-47.06	48300.35	11.13		
lambda	E	2023-02-25T16:05:45.805		20.04	-47.67	50026.71	11.97		
epsilon	E	2023-02-25T16:06:46.188		19.80	-47.91	50759.05	12.25		