

target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2039-09-20T22:26:41.300
 Event type : XRgt
 : No Uranus occs
 : Ring occs: geocentric, topocentric
 Gaia source ID : 675604647789878016
 2Mass ID (if available) : 08164912+2016238

ICRS Star Coord at Epoch: 08h 16m 49.11262s +20:16:23.84470s

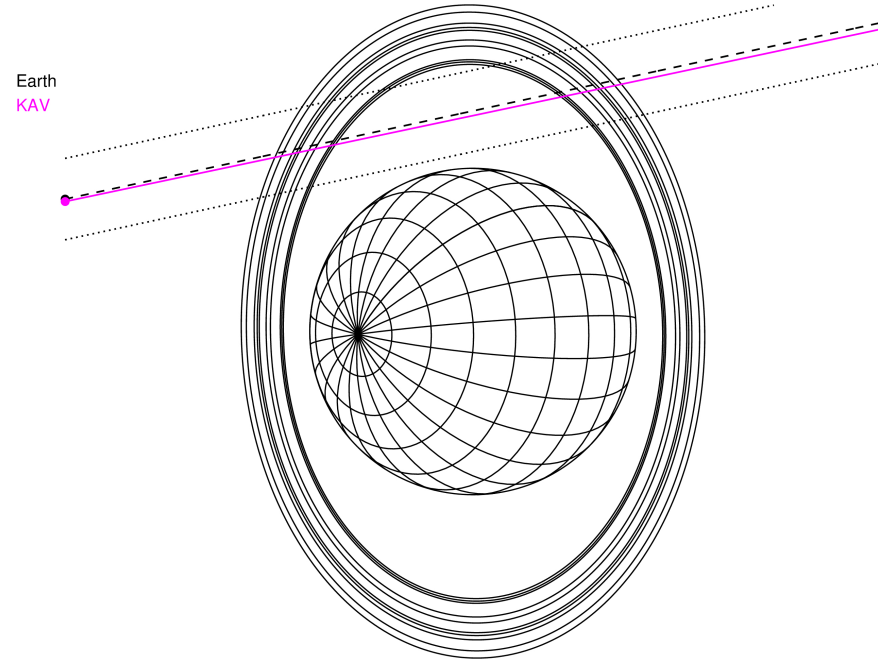
RUWE (>1.4 is poor) : 0.92
 K magnitude : 12.854
 G magnitude : 14.077
 RP magnitude : 13.658
 BP magnitude : 14.336
 DUPflag : 0
 Distance (au) : 19.158
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : 23.45
 Sun-Target sep (deg) : 55.46
 Sun-Moon sep (deg) : 89.05
 B (ring opening deg) : 45.18
 PA of pole (deg) : 91.38

#	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



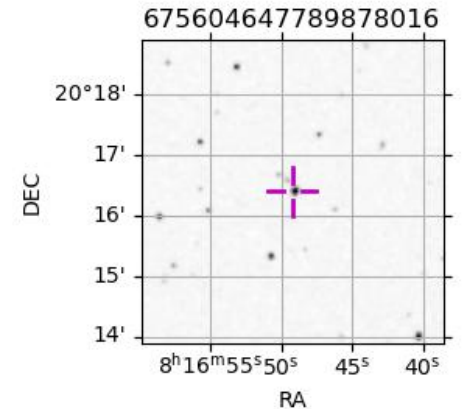
2039-09-20T22:26:41.3000 ex: 08 16 49.1126 s: +20 16 23.845 C/A 2.434° PA 192.20 deg v_sky +23.45 km/s D 19.16 AU
 Credit: Styled after SORA/Lucky Star

Uranus 2039-09-20T22:26:41 K12.85 G14.08 XRgt

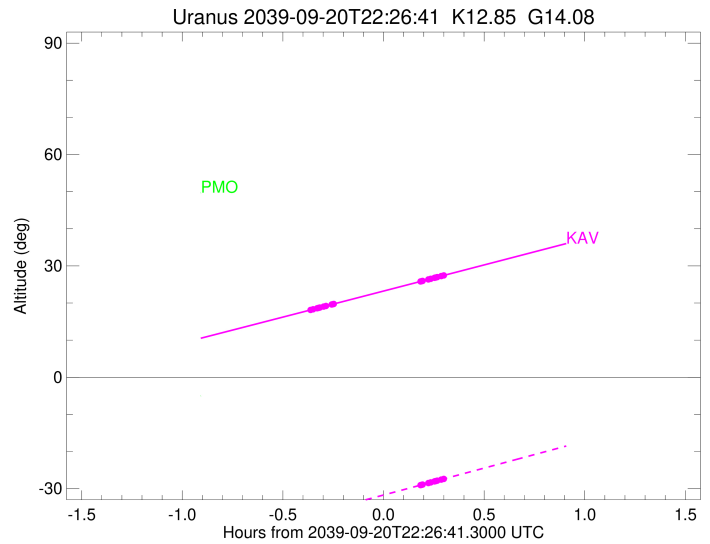
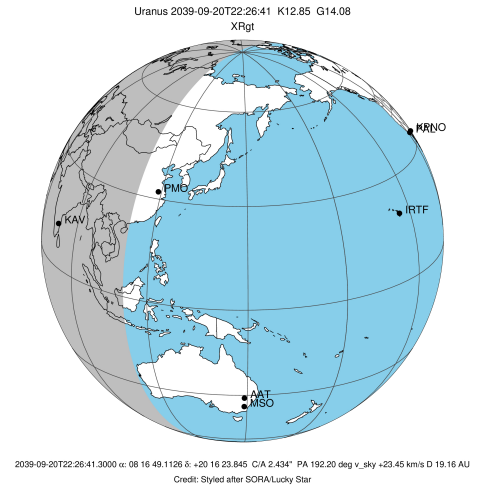


Observable events with sun below -5 deg and altitude above 5 deg unblocked by planet

Obs	Location	lat	Elon	Rings I	Planet	Rings E	Observed Events Interval	OEncode
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	+++++		+++++	SEP 20 22:04 - SEP 20 22:44	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 : 2039-09-20T22:22:38.130
 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 : 675604647789878016
 2Mass ID (if available) : 08164912+2016238
 ICRS Star Coord at Epoch: 08h 16m 49.11262s +20:16:23.84470s
 RUWE (>1.4 is poor) : 0.92
 K magnitude : 12.854
 G magnitude : 14.077
 RP magnitude : 13.658
 BP magnitude : 14.336
 DUPflag : 0
 Distance (au) : 19.158
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : 23.45
 Sun-Target sep (deg) : 55.46
 Sun-Moon sep (deg) : 89.44
 B (ring opening deg) : 45.18
 PA of pole (deg) : 91.38
 Pole direction: RA (deg): 257.31100
 Dec (deg): -15.17500
 C/A sky separation (") : 2.381
 C/A sky separation (km) : 33077.6
 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_itr93_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	2039-09-20T22:04:54.644		18.13	-36.96	51215.74	-24.55		
lambda	I	2039-09-20T22:05:43.174		18.31	-36.77	50026.71	-24.28		
delta	I	2039-09-20T22:06:55.340		18.60	-36.48	48300.35	-23.55		
gamma	I	2039-09-20T22:07:24.290		18.71	-36.36	47622.89	-23.25		
eta	I	2039-09-20T22:07:43.600		18.78	-36.29	47176.12	-23.03		
beta	I	2039-09-20T22:08:51.133		19.05	-36.02	45645.62	-22.23		
alpha	I	2039-09-20T22:09:33.957		19.21	-35.84	44711.02	-21.70		
4	I	2039-09-20T22:11:17.549		19.62	-35.43	42547.02	-20.19		
5	I	2039-09-20T22:11:31.094		19.67	-35.38	42292.41	-19.98		
6	I	2039-09-20T22:11:49.215		19.74	-35.30	41876.59	-19.65		

No planet occultations

6	E	2039-09-20T22:37:42.766		25.80	-29.06	41832.42	19.60		
5	E	2039-09-20T22:38:00.927		25.88	-28.99	42194.93	19.94		
4	E	2039-09-20T22:38:17.263		25.94	-28.92	42528.38	20.14		
alpha	E	2039-09-20T22:40:03.632		26.36	-28.50	44750.54	21.64		
beta	E	2039-09-20T22:40:46.066		26.52	-28.32	45672.82	22.17		
eta	E	2039-09-20T22:41:52.585		26.78	-28.06	47176.12	22.96		
gamma	E	2039-09-20T22:42:12.280		26.86	-27.98	47630.43	23.17		
delta	E	2039-09-20T22:42:40.996		26.97	-27.86	48300.35	23.48		
lambda	E	2039-09-20T22:43:53.401		27.25	-27.57	50026.71	24.19		
epsilon	E	2039-09-20T22:44:22.869		27.37	-27.45	50743.67	24.47		