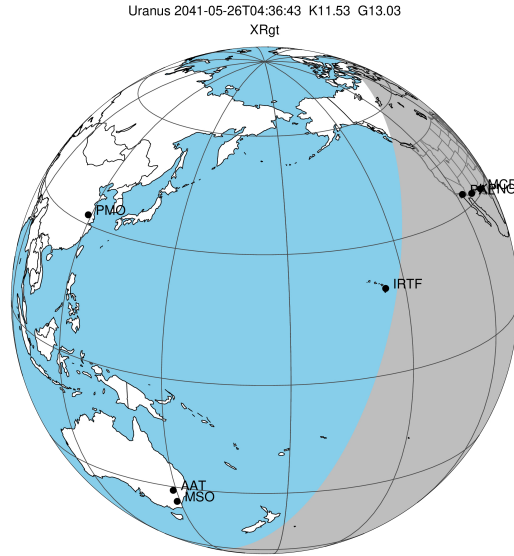


target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2041-05-26T04:36:43.330
 Event type : XRgt
 : No Uranus occs
 : Ring occs: geocentric, topocentric
 Gaia source ID : 663728891418330240
 2Mass ID (if available) : 08265952+1946264

ICRS Star Coord at Epoch: 08h 26m 59.52154s +19:46:26.17373s

RUWE (>1.4 is poor) : 0.95
 K magnitude : 11.528
 G magnitude : 13.031
 RP magnitude : 12.518
 BP magnitude : 13.380
 DUPflag : 0
 Distance (au) : 19.011
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : 21.67
 Sun-Target sep (deg) : 59.52
 Sun-Moon sep (deg) : 106.79
 B (ring opening deg) : 42.78
 PA of pole (deg) : 92.66

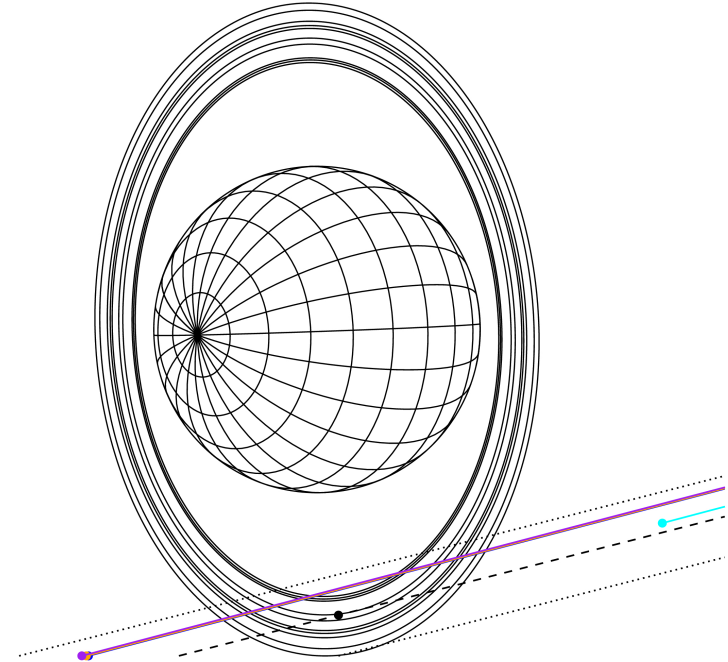
#	a(km)	ring
1	41837.2	6
2	42235.0	5
3	42571.2	4
4	44718.5	alpha
5	45661.1	beta
6	47176.1	eta
7	47626.3	gamma
8	48300.3	delta
9	50026.7	lambda
10	51149.4	epsilon



2041-05-26T04:36:43.3300 or: 08 26 59.5215 s; +19 46 26.174 C/A 3.194° PA 14.31 deg v_sky +21.67 km/s D 19.01 AU
 Credit: Styled after SORA/Lucky Star

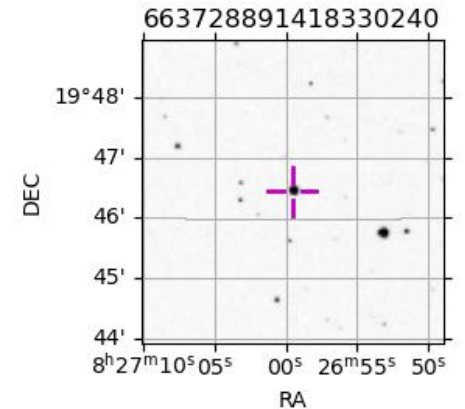
Earth
 PAL
 KPNO
 MCD
 IRTF

Uranus 2041-05-26T04:36:43 K11.53 G13.03 XRgt

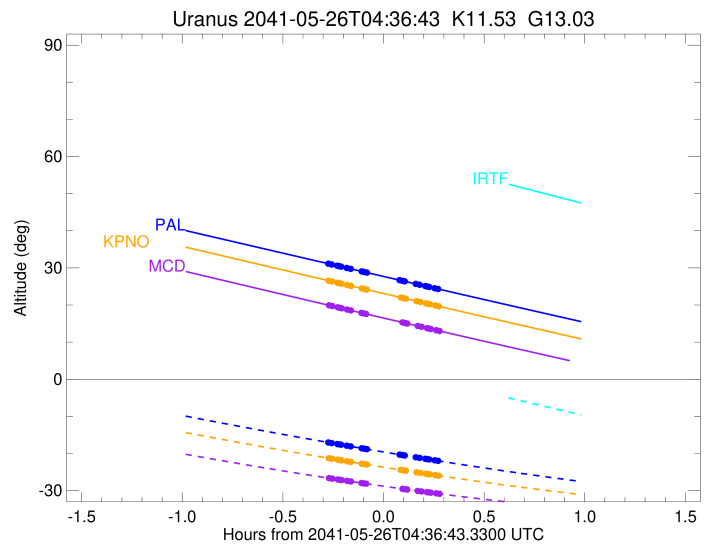
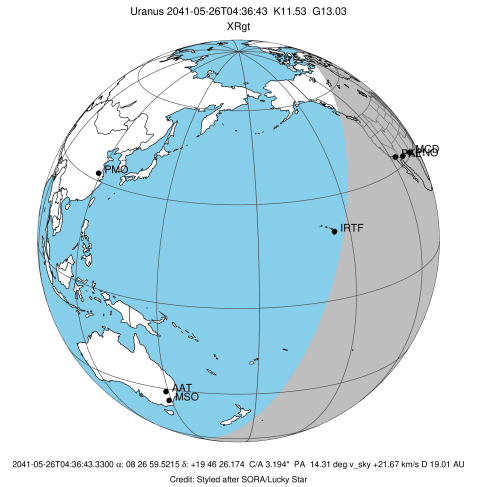


Observable events with sun below -5 deg and altitude above 5 deg unblocked by planet

Obs	Location	lat	Elon	Rings I	Planet	Rings E	Observed Events Interval	OEcode
PIC	Pic du Midi	42.9	0.1					PnnRnn
PAL	Palomar Mt (200")	33.4	243.1	+++++		+++++	MAY 26 04:20 - MAY 26 04:53	PnnRie
PMO	Purple Mtn Obs. Nanki	32.1	118.8					PnnRnn
KPNO	Kitt Peak Natl Obs	32.0	248.4	+++++		+++++	MAY 26 04:20 - MAY 26 04:53	PnnRie
MCD	McDonald Obs. 2.7m	30.7	256.0	+++++		+++++	MAY 26 04:20 - MAY 26 04:53	PnnRie
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					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 : 2041-05-26T04:40:09.470
 Event type : XRgt
 : No Uranus occs
 : Ring occs: geocentric, topocentric
 Observer code : PAL
 Location : Palomar Mt (200")
 Latitude (deg) : 33.35622
 E. Longitude (deg) : 243.13601
 Altitude (km) : 1.706
 Gaia source ID : 663728891418330240
 2Mass ID (if available) : 08265952+1946264
 ICRS Star Coord at Epoch: 08h 26m 59.52154s +19:46:26.17373s
 RUWE (>1.4 is poor) : 0.95
 K magnitude : 11.528
 G magnitude : 13.031
 RP magnitude : 12.518
 BP magnitude : 13.380
 DUPflag : 0
 Distance (au) : 19.011
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : 21.67
 Sun-Target sep (deg) : 59.52
 Sun-Moon sep (deg) : 107.03
 B (ring opening deg) : 42.78
 PA of pole (deg) : 92.66
 Pole direction: RA (deg): 257.31100
 Dec (deg): -15.17500
 C/A sky separation (") : 2.925
 C/A sky separation (km) : 40337.7
 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

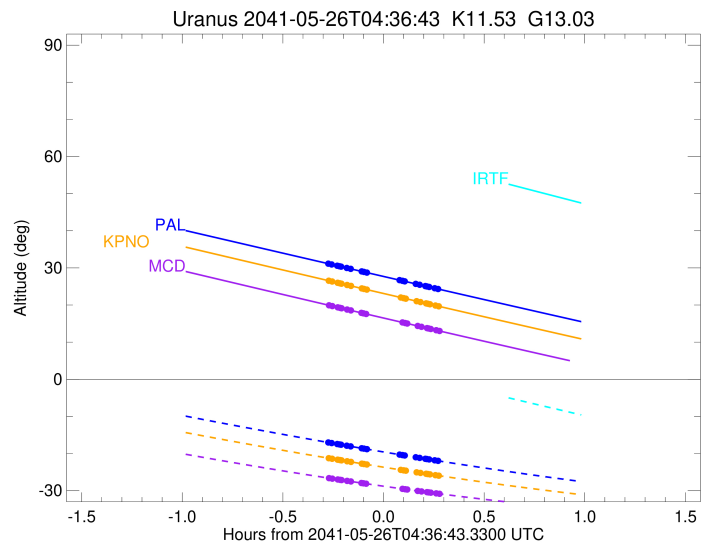
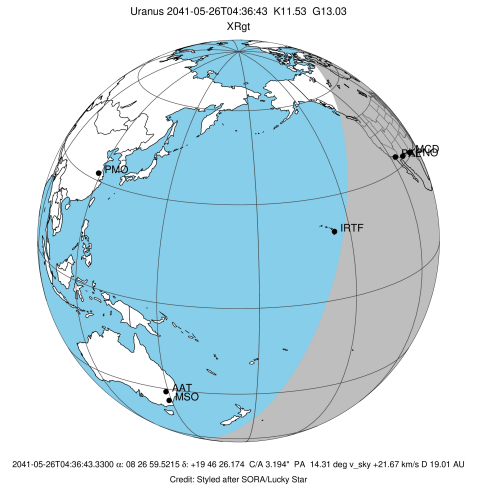


Ring	I/E	UTC	b?	alt	alt-sun	radius	r-dot	lat-geo	lat-geodetic
epsilon	I	2041-05-26T04:20:21.165		31.12	-17.04	51067.46	-19.01		
lambda	I	2041-05-26T04:21:17.527		30.92	-17.19	50026.71	-18.10		
delta	I	2041-05-26T04:22:56.546		30.58	-17.45	48300.35	-16.74		
gamma	I	2041-05-26T04:23:37.717		30.43	-17.56	47623.63	-16.13		
eta	I	2041-05-26T04:24:05.837		30.34	-17.63	47176.12	-15.70		
beta	I	2041-05-26T04:25:47.670		29.98	-17.90	45662.23	-14.02		
alpha	I	2041-05-26T04:26:56.173		29.74	-18.08	44743.74	-12.83		
4	I	2041-05-26T04:30:19.689		29.03	-18.60	42532.47	-8.77		
5	I	2041-05-26T04:30:59.914		28.89	-18.71	42202.50	-7.97		
6	I	2041-05-26T04:31:53.728		28.71	-18.84	41802.78	-6.69		

No planet occultations

6	E	2041-05-26T04:41:22.466		26.73	-20.28	41816.28	6.70		
5	E	2041-05-26T04:42:24.460		26.51	-20.43	42242.73	7.98		
4	E	2041-05-26T04:42:58.819		26.40	-20.52	42551.13	8.78		
alpha	E	2041-05-26T04:46:21.840		25.69	-21.01	44752.22	12.85		
beta	E	2041-05-26T04:47:27.717		25.46	-21.17	45645.76	14.05		
eta	E	2041-05-26T04:49:10.467		25.11	-21.42	47176.12	15.73		
gamma	E	2041-05-26T04:49:38.861		25.01	-21.49	47629.09	16.17		
delta	E	2041-05-26T04:50:19.597		24.87	-21.59	48300.35	16.78		
lambda	E	2041-05-26T04:51:58.361		24.53	-21.83	50026.71	18.15		
epsilon	E	2041-05-26T04:53:17.894		24.25	-22.02	51511.11	19.07		

target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2041-05-26T04:40:19.040
 Event type : XRgt
 : No Uranus occs
 : Ring occs: geocentric, topocentric
 Observer code : KPNO
 Location : Kitt Peak Natl Obs
 Latitude (deg) : 31.96333
 E. Longitude (deg) : 248.40000
 Altitude (km) : 2.120
 Gaia source ID : 663728891418330240
 2Mass ID (if available) : 08265952+1946264
 ICRS Star Coord at Epoch: 08h 26m 59.52154s +19:46:26.17373s
 RUWE (>1.4 is poor) : 0.95
 K magnitude : 11.528
 G magnitude : 13.031
 RP magnitude : 12.518
 BP magnitude : 13.380
 DUPflag : 0
 Distance (au) : 19.011
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : 21.67
 Sun-Target sep (deg) : 59.52
 Sun-Moon sep (deg) : 106.95
 B (ring opening deg) : 42.78
 PA of pole (deg) : 92.66
 Pole direction: RA (deg): 257.31100
 Dec (deg): -15.17500
 C/A sky separation (") : 2.919
 C/A sky separation (km) : 40252.5
 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_itrff93_040916.bsp
 earth_720101_070426.bpc
 earth_200101_990628_predict.bpc
 pg3f0000r.bsp
 pg490000r.bsp
 naif0012.tls
 earth_flat_IAU.spk

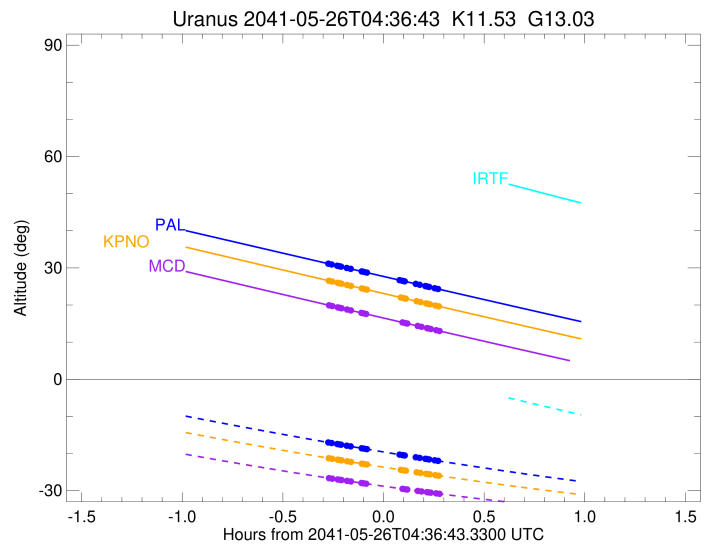
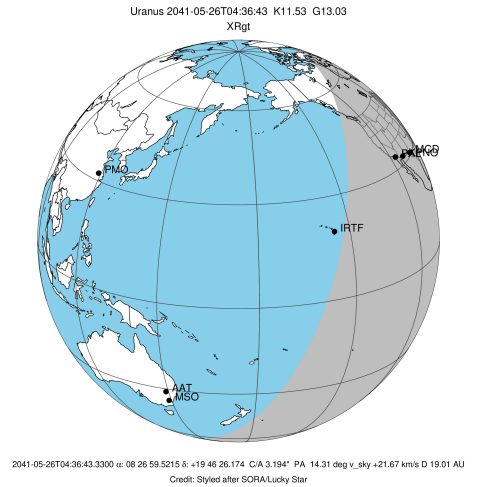


Ring	I/E	UTC	b?	alt	alt-sun	radius	r-dot	lat-geo	lat-geodetic
epsilon	I	2041-05-26T04:20:29.550		26.53	-21.28	51066.32	-19.11		
lambda	I	2041-05-26T04:21:25.543		26.33	-21.42	50026.71	-18.21		
delta	I	2041-05-26T04:23:03.946		25.99	-21.67	48300.35	-16.85		
gamma	I	2041-05-26T04:23:44.827		25.84	-21.77	47623.62	-16.25		
eta	I	2041-05-26T04:24:12.733		25.74	-21.84	47176.12	-15.82		
beta	I	2041-05-26T04:25:53.668		25.39	-22.09	45662.32	-14.16		
alpha	I	2041-05-26T04:27:01.441		25.15	-22.26	44743.63	-12.98		
4	I	2041-05-26T04:30:21.411		24.45	-22.75	42532.30	-9.00		
5	I	2041-05-26T04:31:00.586		24.31	-22.85	42201.91	-8.23		
6	I	2041-05-26T04:31:52.296		24.13	-22.98	41802.54	-6.99		

No planet occultations

6	E	2041-05-26T04:41:44.872		22.06	-24.39	41816.62	7.00		
5	E	2041-05-26T04:42:44.736		21.85	-24.53	42243.36	8.24		
4	E	2041-05-26T04:43:18.059		21.73	-24.61	42551.41	9.01		
alpha	E	2041-05-26T04:46:37.524		21.03	-25.08	44752.21	13.01		
beta	E	2041-05-26T04:47:42.673		20.81	-25.22	45645.71	14.19		
eta	E	2041-05-26T04:49:24.516		20.45	-25.46	47176.12	15.86		
gamma	E	2041-05-26T04:49:52.694		20.35	-25.52	47629.11	16.29		
delta	E	2041-05-26T04:50:33.137		20.21	-25.61	48300.35	16.90		
lambda	E	2041-05-26T04:52:11.277		19.87	-25.83	50026.71	18.26		
epsilon	E	2041-05-26T04:53:30.400		19.59	-26.01	51511.61	19.17		

target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2041-05-26T04:40:26.300
 Event type : XRgt
 : No Uranus occs
 : Ring occs: geocentric, topocentric
 Observer code : MCD
 Location : McDonald Obs. 2.7m
 Latitude (deg) : 30.67158
 E. Longitude (deg) : 255.97844
 Altitude (km) : 2.075
 Gaia source ID : 663728891418330240
 2Mass ID (if available) : 08265952+1946264
 ICRS Star Coord at Epoch: 08h 26m 59.52154s +19:46:26.17373s
 RUWE (>1.4 is poor) : 0.95
 K magnitude : 11.528
 G magnitude : 13.031
 RP magnitude : 12.518
 BP magnitude : 13.380
 DUPflag : 0
 Distance (au) : 19.011
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : 21.67
 Sun-Target sep (deg) : 59.52
 Sun-Moon sep (deg) : 106.84
 B (ring opening deg) : 42.78
 PA of pole (deg) : 92.66
 Pole direction: RA (deg): 257.31100
 Dec (deg): -15.17500
 C/A sky separation (") : 2.907
 C/A sky separation (km) : 40084.8
 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_itrff93_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	2041-05-26T04:20:33.823		19.91	-26.65	51064.06	-19.29		
lambda	I	2041-05-26T04:21:29.135		19.71	-26.78	50026.71	-18.40		
delta	I	2041-05-26T04:23:06.410		19.37	-27.00	48300.35	-17.07		
gamma	I	2041-05-26T04:23:46.759		19.23	-27.09	47623.58	-16.47		
eta	I	2041-05-26T04:24:14.273		19.13	-27.15	47176.12	-16.05		
beta	I	2041-05-26T04:25:53.557		18.78	-27.38	45662.49	-14.42		
alpha	I	2041-05-26T04:26:59.994		18.55	-27.53	44743.41	-13.28		
4	I	2041-05-26T04:30:13.586		17.87	-27.96	42531.98	-9.44		
5	I	2041-05-26T04:30:50.940		17.73	-28.04	42200.79	-8.70		
6	I	2041-05-26T04:31:39.112		17.57	-28.15	41802.11	-7.55		

No planet occultations

6	E	2041-05-26T04:42:16.037		15.34	-29.51	41817.28	7.56		
5	E	2041-05-26T04:43:12.321		15.14	-29.63	42244.54	8.71		
4	E	2041-05-26T04:43:43.848		15.03	-29.69	42551.96	9.45		
alpha	E	2041-05-26T04:46:56.925		14.36	-30.08	44752.17	13.30		
beta	E	2041-05-26T04:48:00.744		14.13	-30.21	45645.61	14.45		
eta	E	2041-05-26T04:49:40.929		13.79	-30.41	47176.12	16.09		
gamma	E	2041-05-26T04:50:08.712		13.69	-30.47	47629.14	16.52		
delta	E	2041-05-26T04:50:48.622		13.55	-30.55	48300.35	17.11		
lambda	E	2041-05-26T04:52:25.629		13.21	-30.74	50026.71	18.46		
epsilon	E	2041-05-26T04:53:44.013		12.94	-30.89	51512.55	19.35		