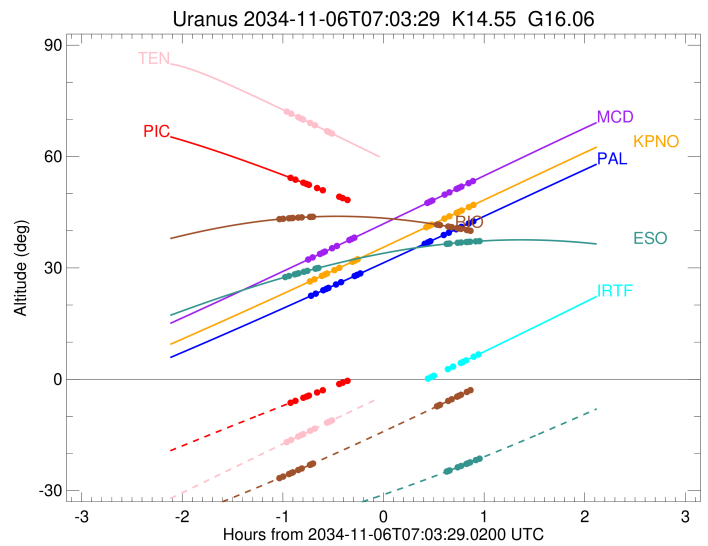
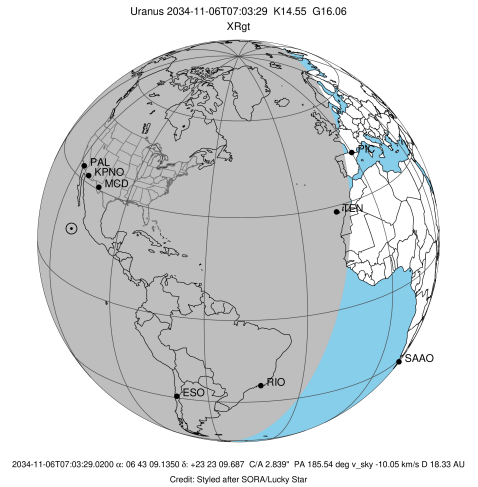


target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2034-11-06T06:57:19.450
 Event type : XRgt
 : No Uranus occs
 : Ring occs: geocentric, topocentric
 Observer code : PIC
 Location : Pic du Midi
 Latitude (deg) : 42.93656
 E. Longitude (deg) : 0.14231
 Altitude (km) : 2.890
 Gaia source ID : 3379730110486433920
 2Mass ID (if available) : 06430912+2323096
 ICRS Star Coord at Epoch: 06h 43m 09.13498s +23:23:09.68717s
 RUWE (>1.4 is poor) : 0.95
 K magnitude : 14.549
 G magnitude : 16.064
 RP magnitude : 15.535
 BP magnitude : 16.415
 DUPflag : 0
 Distance (au) : 18.332
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : -10.05
 Sun-Target sep (deg) : 123.56
 Sun-Moon sep (deg) : 71.36
 B (ring opening deg) : 66.41
 PA of pole (deg) : 73.88
 Pole direction: RA (deg): 257.31100
 Dec (deg): -15.17500
 C/A sky separation (") : 3.060
 C/A sky separation (km) : 40680.2
 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

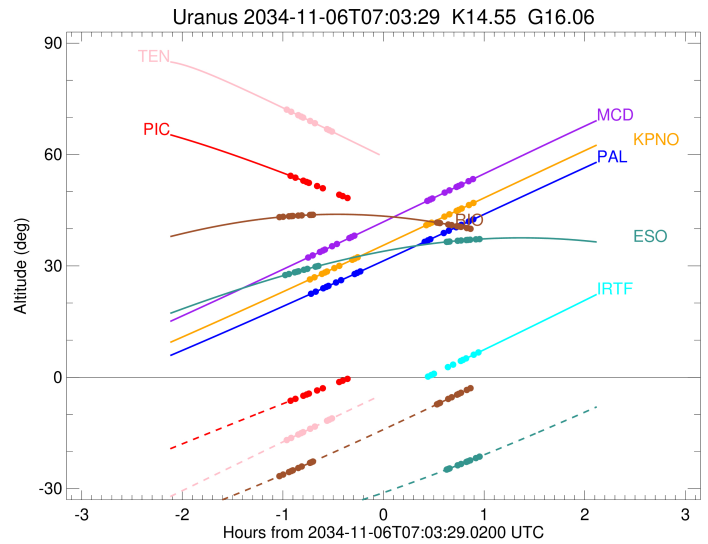
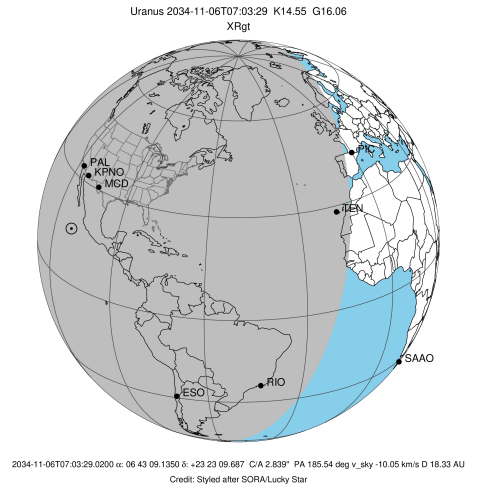


Ring	I/E	UTC	b?	alt	alt-sun	radius	r-dot	lat-geo	lat-geodetic
epsilon	I	2034-11-06T06:08:20.205		54.22	-6.28	51060.86	-6.53		
lambda	I	2034-11-06T06:11:00.009		53.76	-5.81	50026.71	-6.34		
delta	I	2034-11-06T06:15:43.341		52.94	-4.98x	48300.35	-5.84		
gamma	I	2034-11-06T06:17:40.700		52.60	-4.64x	47628.26	-5.62		
eta	I	2034-11-06T06:19:02.402		52.36	-4.40x	47176.12	-5.45		
beta	I	2034-11-06T06:23:56.424		51.50	-3.55x	45662.03	-4.83		
alpha	I	2034-11-06T06:27:14.701		50.92	-2.97x	44747.39	-4.39		
4	I	2034-11-06T06:37:21.576		49.13	-1.23x	42542.22	-2.84		
5	I	2034-11-06T06:38:45.724		48.88	-0.99x	42310.50	-2.63		
6	I	2034-11-06T06:42:29.013		48.21	-0.35x	41795.80	-1.99		

No planet occultations

6	E	2034-11-06T07:04:57.165		44.14	3.42x	41795.14	1.98		
5	E	2034-11-06T07:08:43.580		43.46	4.04x	42314.58	2.62		
4	E	2034-11-06T07:09:59.387		43.22	4.25x	42528.85	2.83		
alpha	E	2034-11-06T07:20:15.002		41.35	5.92x	44751.31	4.37		
beta	E	2034-11-06T07:23:30.908		40.75	6.45x	45646.02	4.81		
eta	E	2034-11-06T07:28:29.815		39.83	7.25x	47176.12	5.42		
gamma	E	2034-11-06T07:29:52.591		39.58	7.47x	47631.53	5.58		
delta	E	2034-11-06T07:31:50.097		39.22	7.78x	48300.35	5.80		
lambda	E	2034-11-06T07:36:35.356		38.35	8.52x	50026.71	6.29		
epsilon	E	2034-11-06T07:38:27.928		38.00	8.82x	50745.53	6.48		

target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2034-11-06T07:12:34.690
 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 : 3379730110486433920
 2Mass ID (if available) : 06430912+2323096
 ICRS Star Coord at Epoch: 06h 43m 09.13498s +23:23:09.68717s
 RUWE (>1.4 is poor) : 0.95
 K magnitude : 14.549
 G magnitude : 16.064
 RP magnitude : 15.535
 BP magnitude : 16.415
 DUPflag : 0
 Distance (au) : 18.332
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : -10.05
 Sun-Target sep (deg) : 123.56
 Sun-Moon sep (deg) : 71.59
 B (ring opening deg) : 66.41
 PA of pole (deg) : 73.88
 Pole direction: RA (deg): 257.31100
 Dec (deg): -15.17500
 C/A sky separation (") : 2.963
 C/A sky separation (km) : 39390.6
 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_itrff93_040916.bsp
 earth_720101_070426.bpc
 earth_200101_990628_predict.bpc
 pg3f0000r.bsp
 pg490000r.bsp
 naif0012.tls
 earth_flat_IAU.spk



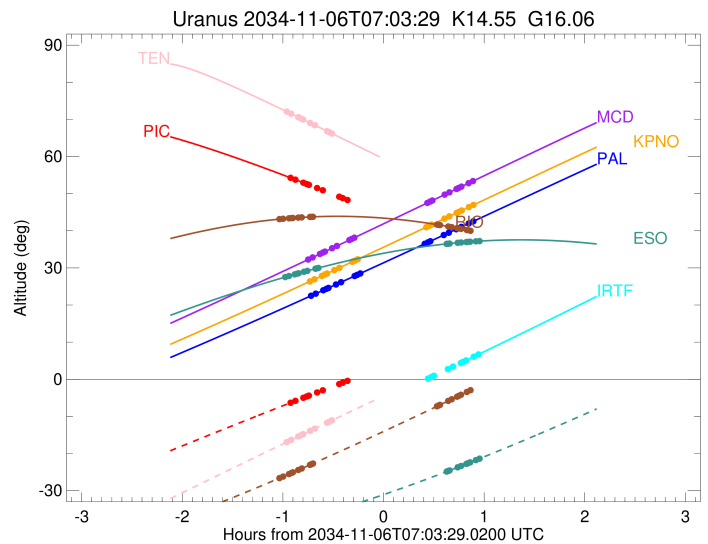
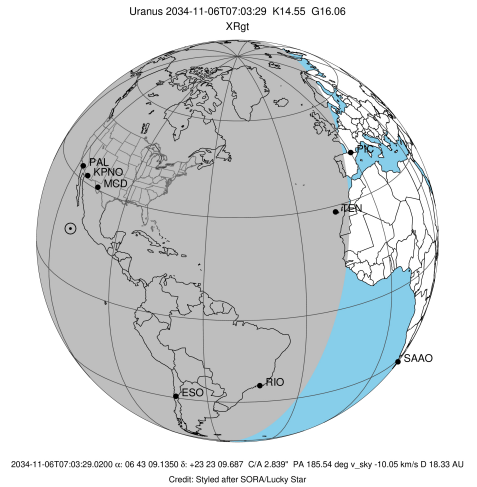
Ring	I/E	UTC	b?	alt	alt-sun	radius	r-dot	lat-geo	lat-geodetic
epsilon	I	2034-11-06T06:20:31.407		22.54	-66.59	51067.93	-6.77		
lambda	I	2034-11-06T06:23:06.191		23.06	-66.98	50026.71	-6.61		
delta	I	2034-11-06T06:27:35.801		23.98	-67.64	48300.35	-6.19		
gamma	I	2034-11-06T06:29:26.152		24.36	-67.90	47628.12	-6.00		
eta	I	2034-11-06T06:30:42.387		24.62	-68.08	47176.12	-5.86		
beta	I	2034-11-06T06:35:12.137		25.54	-68.70	45662.77	-5.34		
alpha	I	2034-11-06T06:38:09.353		26.14	-69.09	44746.60	-4.99		
4	I	2034-11-06T06:46:26.919		27.85	-70.10	42544.90	-3.83		
5	I	2034-11-06T06:47:29.867		28.06	-70.22	42308.05	-3.69		
6	I	2034-11-06T06:49:56.151		28.57	-70.49	41796.97	-3.30		

No planet occultations

6	E	2034-11-06T07:27:45.650		36.42	-72.83	41796.42	3.32		
5	E	2034-11-06T07:30:13.004		36.93	-72.84	42312.66	3.72		
4	E	2034-11-06T07:31:07.562		37.12	-72.84	42527.25	3.86		
alpha	E	2034-11-06T07:39:26.569		38.86	-72.74	44750.43	5.04		
beta	E	2034-11-06T07:42:18.580		39.46	-72.66	45645.00	5.41		
eta	E	2034-11-06T07:46:48.063		40.40	-72.48	47176.12	5.94		
gamma	E	2034-11-06T07:48:03.798		40.66	-72.42	47631.57	6.08		
delta	E	2034-11-06T07:49:51.980		41.04	-72.33	48300.35	6.28		
lambda	E	2034-11-06T07:54:17.371		41.97	-72.06	50026.71	6.72		
epsilon	E	2034-11-06T07:56:02.725		42.34	-71.94	50743.80	6.89		

```

target                : Uranus
target radius (km)   : 25559.00
C/A epoch            : 2034-11-06T07:12:12.830
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      : 3379730110486433920
2Mass ID (if available) : 06430912+2323096
ICRS Star Coord at Epoch: 06h 43m 09.13498s +23:23:09.68717s
RUWE (>1.4 is poor) : 0.95
K magnitude          : 14.549
G magnitude          : 16.064
RP magnitude         : 15.535
BP magnitude         : 16.415
DUPflag             : 0
Distance (au)       : 18.332
f0 (km)             : 0.000
g0 (km)             : 0.000
skyplane vel. (km/s) : -10.05
Sun-Target sep (deg) : 123.56
Sun-Moon sep (deg)  : 71.63
B (ring opening deg) : 66.41
PA of pole (deg)    : 73.88
Pole direction: RA (deg): 257.31100
Dec (deg): -15.17500
C/A sky separation (") : 2.941
C/A sky separation (km) : 39102.9
NAIF SPICE kernels  : RAJobs_U111+rgf15.spk
URKALLvl1.spk
urall11.bsp
IAU_URANUS_for_RINGFIT.tpc
vgr2.urall11.bsp
ural61.bsp
vgr2.ural61.bsp
peph.ural60.bsp
earthstns_itr93_040916.bsp
earth_720101_070426.bpc
earth_200101_990628_predict.bpc
pg3f0000r.bsp
pg490000r.bsp
naif0012.tls
earth_flat_IAU.spk
    
```

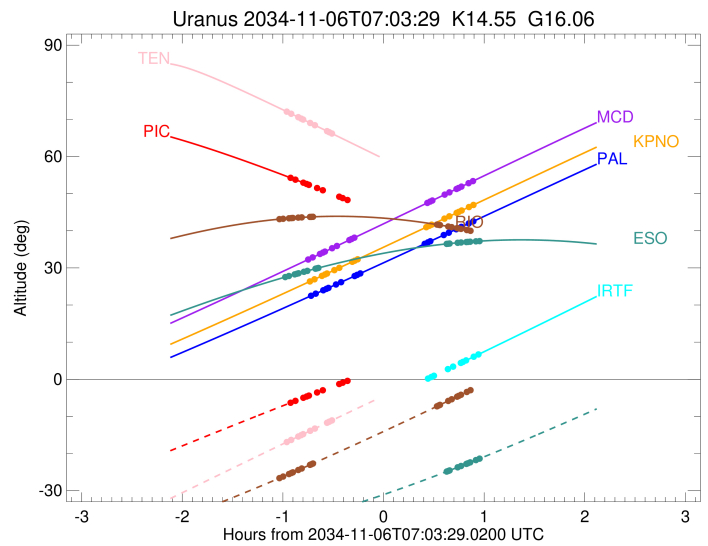
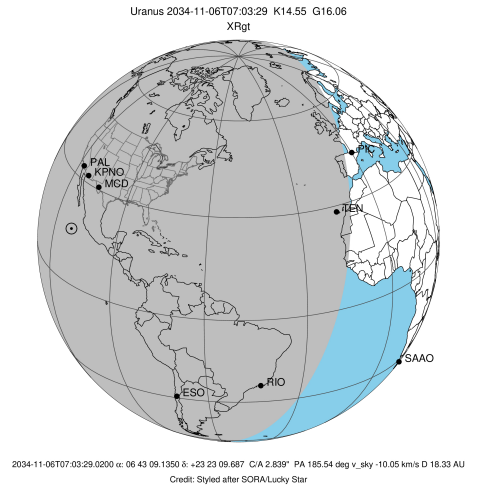


Ring	I/E	UTC	b?	alt	alt-sun	radius	r-dot	lat-geo	lat-geodetic
epsilon	I	2034-11-06T06:19:49.114		26.40	-70.53	51071.83	-6.88		
lambda	I	2034-11-06T06:22:22.081		26.93	-70.86	50026.71	-6.72		
delta	I	2034-11-06T06:26:47.020		27.85	-71.41	48300.35	-6.30		
gamma	I	2034-11-06T06:28:35.235		28.23	-71.63	47628.07	-6.12		
eta	I	2034-11-06T06:29:49.881		28.49	-71.77	47176.12	-5.99		
beta	I	2034-11-06T06:34:13.233		29.41	-72.25	45663.04	-5.49		
alpha	I	2034-11-06T06:37:05.561		30.01	-72.54	44746.31	-5.14		
4	I	2034-11-06T06:45:03.101		31.68	-73.24	42545.64	-4.04		
5	I	2034-11-06T06:46:03.097		31.89	-73.31	42307.35	-3.91		
6	I	2034-11-06T06:48:19.908		32.37	-73.47	41797.30	-3.55		

No planet occultations

6	E	2034-11-06T07:28:43.310		40.91	-73.67	41796.69	3.57		
5	E	2034-11-06T07:31:01.237		41.40	-73.52	42312.26	3.94		
4	E	2034-11-06T07:31:52.882		41.58	-73.47	42527.06	4.07		
alpha	E	2034-11-06T07:39:52.031		43.28	-72.83	44750.28	5.20		
beta	E	2034-11-06T07:42:39.230		43.88	-72.57	45644.86	5.55		
eta	E	2034-11-06T07:47:02.442		44.81	-72.13	47176.12	6.07		
gamma	E	2034-11-06T07:48:16.629		45.07	-71.99	47631.57	6.21		
delta	E	2034-11-06T07:50:02.737		45.45	-71.80	48300.35	6.40		
lambda	E	2034-11-06T07:54:23.619		46.38	-71.28	50026.71	6.83		
epsilon	E	2034-11-06T07:56:07.359		46.74	-71.07	50743.69	6.99		

target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2034-11-06T07:11:30.060
 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 : 3379730110486433920
 2Mass ID (if available) : 06430912+2323096
 ICRS Star Coord at Epoch: 06h 43m 09.13498s +23:23:09.68717s
 RUWE (>1.4 is poor) : 0.95
 K magnitude : 14.549
 G magnitude : 16.064
 RP magnitude : 15.535
 BP magnitude : 16.415
 DUPflag : 0
 Distance (au) : 18.332
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : -10.05
 Sun-Target sep (deg) : 123.56
 Sun-Moon sep (deg) : 71.69
 B (ring opening deg) : 66.41
 PA of pole (deg) : 73.88
 Pole direction: RA (deg): 257.31100
 Dec (deg): -15.17500
 C/A sky separation (") : 2.917
 C/A sky separation (km) : 38778.7
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk
 URKALLvl.spk
 ural11.bsp
 IAU_URANUS_for_RINGFIT.tpc
 vgr2.ural11.bsp
 ural61.bsp
 vgr2.ural61.bsp
 peph.ural60.bsp
 earthstns_itrff93_040916.bsp
 earth_720101_070426.bpc
 earth_200101_990628_predict.bpc
 pg3f0000r.bsp
 pg490000r.bsp
 naif0012.tls
 earth_flat_IAU.spk

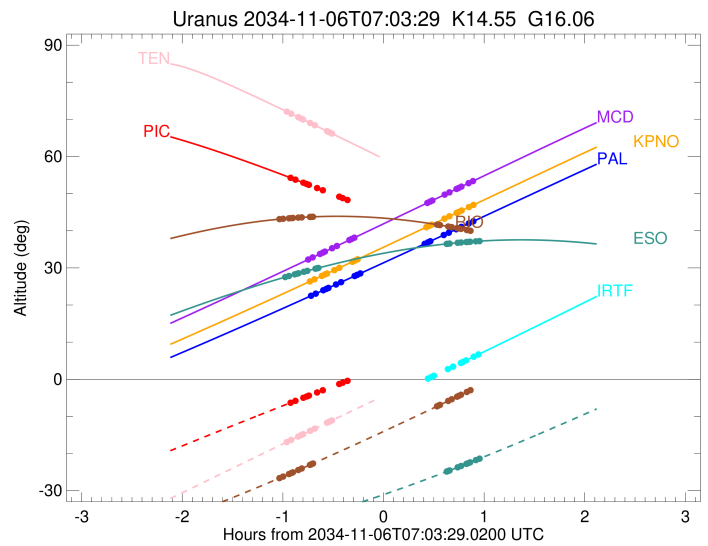
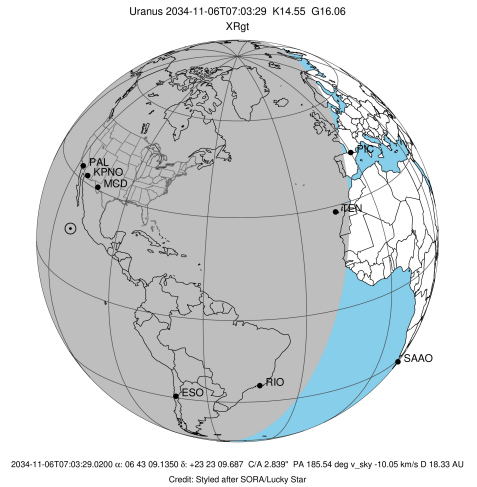


Ring	I/E	UTC	b?	alt	alt-sun	radius	r-dot	lat-geo	lat-geodetic
epsilon	I	2034-11-06T06:18:46.828		32.30	-74.74	51076.39	-7.00		
lambda	I	2034-11-06T06:21:17.716		32.84	-74.91	50026.71	-6.85		
delta	I	2034-11-06T06:25:37.391		33.76	-75.16	48300.35	-6.44		
gamma	I	2034-11-06T06:27:23.225		34.14	-75.24	47628.00	-6.26		
eta	I	2034-11-06T06:28:36.114		34.39	-75.29	47176.12	-6.14		
beta	I	2034-11-06T06:32:52.485		35.31	-75.43	45663.36	-5.65		
alpha	I	2034-11-06T06:35:39.586		35.90	-75.48	44745.98	-5.32		
4	I	2034-11-06T06:43:16.679		37.53	-75.49	42546.46	-4.27		
5	I	2034-11-06T06:44:13.814		37.74	-75.47	42306.54	-4.15		
6	I	2034-11-06T06:46:21.634		38.19	-75.43	41797.67	-3.81		

No planet occultations

6	E	2034-11-06T07:29:22.722		47.45	-71.59	41796.99	3.84		
5	E	2034-11-06T07:31:31.749		47.92	-71.29	42311.81	4.18		
4	E	2034-11-06T07:32:20.583		48.09	-71.17	42526.87	4.30		
alpha	E	2034-11-06T07:39:59.615		49.74	-70.01	44750.11	5.38		
beta	E	2034-11-06T07:42:41.731		50.33	-69.58	45644.70	5.72		
eta	E	2034-11-06T07:46:58.203		51.25	-68.88	47176.12	6.22		
gamma	E	2034-11-06T07:48:10.709		51.51	-68.68	47631.57	6.35		
delta	E	2034-11-06T07:49:54.554		51.89	-68.38	48300.35	6.53		
lambda	E	2034-11-06T07:54:10.477		52.81	-67.65	50026.71	6.95		
epsilon	E	2034-11-06T07:55:52.433		53.17	-67.36	50743.60	7.11		

target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2034-11-06T06:57:55.780
 Event type : XRgt
 : No Uranus occs
 : Ring occs: geocentric, topocentric
 Observer code : TEN
 Location : Teide Obs./Tenerife
 Latitude (deg) : 28.30050
 E. Longitude (deg) : 343.48909
 Altitude (km) : 2.395
 Gaia source ID : 3379730110486433920
 2Mass ID (if available) : 06430912+2323096
 ICRS Star Coord at Epoch: 06h 43m 09.13498s +23:23:09.68717s
 RUWE (>1.4 is poor) : 0.95
 K magnitude : 14.549
 G magnitude : 16.064
 RP magnitude : 15.535
 BP magnitude : 16.415
 DUPflag : 0
 Distance (au) : 18.332
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : -10.05
 Sun-Target sep (deg) : 123.56
 Sun-Moon sep (deg) : 71.52
 B (ring opening deg) : 66.41
 PA of pole (deg) : 73.88
 Pole direction: RA (deg): 257.31100
 Dec (deg): -15.17500
 C/A sky separation (") : 2.916
 C/A sky separation (km) : 38765.7
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk
 URKALLvl.spk
 ural11.bsp
 IAU_URANUS_for_RINGFIT.tpc
 vgr2.ural11.bsp
 ural61.bsp
 vgr2.ural61.bsp
 peph.ural60.bsp
 earthstns_itr93_040916.bsp
 earth_720101_070426.bpc
 earth_200101_990628_predict.bpc
 pg3f0000r.bsp
 pg490000r.bsp
 naif0012.tls
 earth_flat_IAU.spk

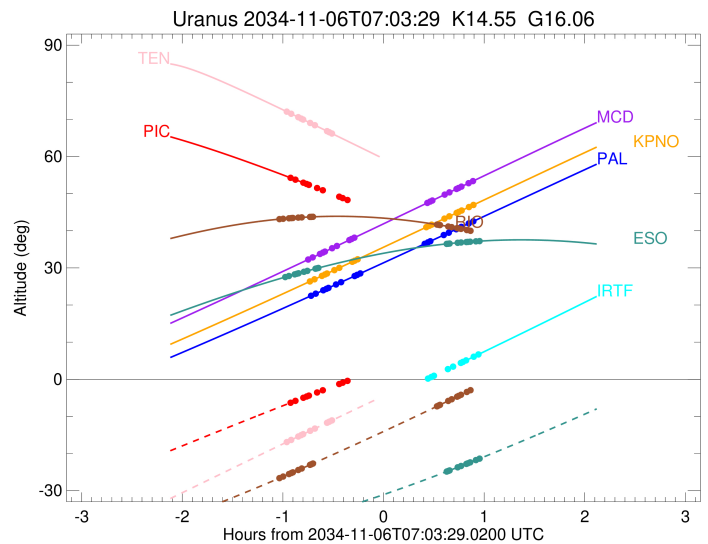
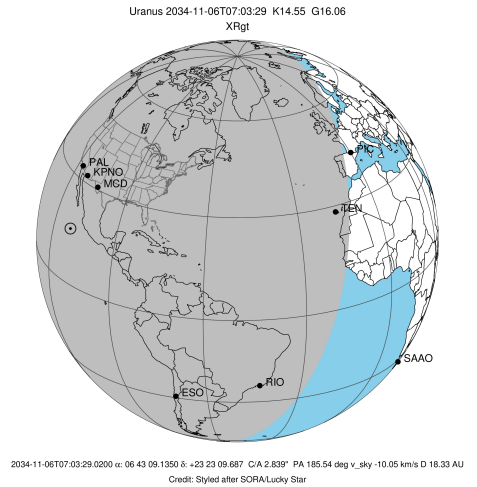


Ring	I/E	UTC	b?	alt	alt-sun	radius	r-dot	lat-geo	lat-geodetic
epsilon	I	2034-11-06T06:05:59.313		72.05	-16.87	51085.10	-7.16		
lambda	I	2034-11-06T06:08:28.109		71.51	-16.34	50026.71	-7.00		
delta	I	2034-11-06T06:12:42.209		70.59	-15.42	48300.35	-6.58		
gamma	I	2034-11-06T06:14:25.817		70.21	-15.04	47627.89	-6.40		
eta	I	2034-11-06T06:15:37.152		69.95	-14.78	47176.12	-6.27		
beta	I	2034-11-06T06:19:48.056		69.04	-13.88	45663.80	-5.77		
alpha	I	2034-11-06T06:22:31.799		68.44	-13.29	44745.53	-5.44		
4	I	2034-11-06T06:29:58.619		66.81	-11.68	42547.35	-4.37		
5	I	2034-11-06T06:30:54.955		66.60	-11.48	42305.68	-4.25		
6	I	2034-11-06T06:32:59.393		66.14	-11.03	41798.05	-3.91		

No planet occultations

6	E	2034-11-06T07:16:06.251		56.63	-1.85x	41796.78	3.90		
5	E	2034-11-06T07:18:13.623		56.16	-1.40x	42312.16	4.24		
4	E	2034-11-06T07:19:01.799		55.98	-1.23x	42527.02	4.36		
alpha	E	2034-11-06T07:26:36.732		54.30	0.36x	44750.31	5.41		
beta	E	2034-11-06T07:29:17.896		53.71	0.92x	45644.90	5.75		
eta	E	2034-11-06T07:33:33.284		52.77	1.80x	47176.12	6.24		
gamma	E	2034-11-06T07:34:45.574		52.50	2.05x	47631.57	6.37		
delta	E	2034-11-06T07:36:29.172		52.12	2.41x	48300.35	6.54		
lambda	E	2034-11-06T07:40:44.765		51.18	3.30x	50026.71	6.96		
epsilon	E	2034-11-06T07:42:26.724		50.81	3.65x	50743.81	7.11		

target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2034-11-06T07:14:44.290
 Event type : XRgt
 : No Uranus occs
 : Ring occs: geocentric, topocentric
 Observer code : IRTF
 Location : Mauna Kea/IRTF
 Latitude (deg) : 19.82622
 E. Longitude (deg) : 204.52800
 Altitude (km) : 4.168
 Gaia source ID : 3379730110486433920
 2Mass ID (if available) : 06430912+2323096
 ICRS Star Coord at Epoch: 06h 43m 09.13498s +23:23:09.68717s
 RUWE (>1.4 is poor) : 0.95
 K magnitude : 14.549
 G magnitude : 16.064
 RP magnitude : 15.535
 BP magnitude : 16.415
 DUPflag : 0
 Distance (au) : 18.332
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : -10.05
 Sun-Target sep (deg) : 123.56
 Sun-Moon sep (deg) : 71.10
 B (ring opening deg) : 66.41
 PA of pole (deg) : 73.88
 Pole direction: RA (deg): 257.31100
 Dec (deg): -15.17500
 C/A sky separation (") : 2.970
 C/A sky separation (km) : 39487.9
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk
 URKALLvl.spk
 ural11.bsp
 IAU_URANUS_for_RINGFIT.tpc
 vgr2.ural11.bsp
 ural61.bsp
 vgr2.ural61.bsp
 peph.ural60.bsp
 earthstns_itr93_040916.bsp
 earth_720101_070426.bpc
 earth_200101_990628_predict.bpc
 pg3f0000r.bsp
 pg490000r.bsp
 naif0012.tls
 earth_flat_IAU.spk

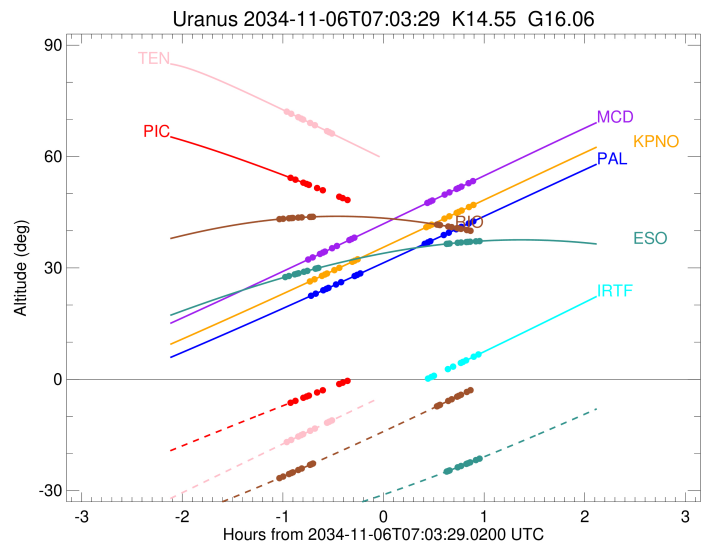
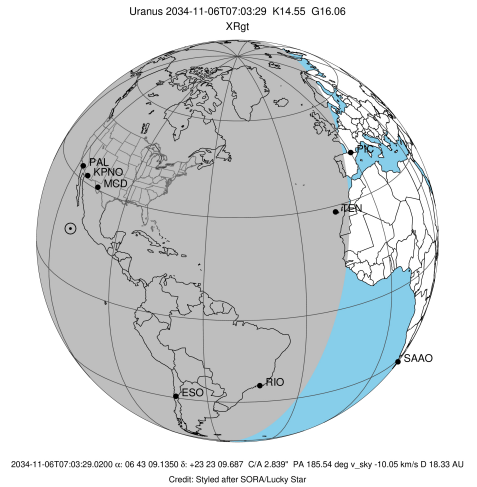


Ring	I/E	UTC	b?	alt	alt-sun	radius	r-dot	lat-geo	lat-geodetic
epsilon	I	2034-11-06T06:21:22.567	-14.11x	-36.78	51064.71	-6.55			
lambda	I	2034-11-06T06:24:02.117	-13.57x	-37.40	50026.71	-6.39			
delta	I	2034-11-06T06:28:41.070	-12.63x	-38.49	48300.35	-5.97			
gamma	I	2034-11-06T06:30:35.329	-12.25x	-38.94	47628.17	-5.79			
eta	I	2034-11-06T06:31:54.312	-11.98x	-39.25	47176.12	-5.66			
beta	I	2034-11-06T06:36:34.109	-11.03x	-40.34	45662.57	-5.15			
alpha	I	2034-11-06T06:39:38.160	-10.40x	-41.06	44746.79	-4.80			
4	I	2034-11-06T06:48:17.846	-8.61x	-43.09	42544.44	-3.64			
5	I	2034-11-06T06:49:23.675	-8.39x	-43.35	42308.48	-3.51			
6	I	2034-11-06T06:51:58.214	-7.85x	-43.96	41796.78	-3.12			

No planet occultations

6	E	2034-11-06T07:29:42.532	0.12x	-52.83	41796.39	3.14			
5	E	2034-11-06T07:32:17.763	0.67x	-53.44	42312.71	3.54			
4	E	2034-11-06T07:33:14.986	0.88x	-53.67	42527.27	3.68			
alpha	E	2034-11-06T07:41:54.793	2.74x	-55.71	44750.43	4.86			
beta	E	2034-11-06T07:44:52.995	3.38x	-56.41	45644.99	5.23			
eta	E	2034-11-06T07:49:31.566	4.39x	-57.50	47176.12	5.76			
gamma	E	2034-11-06T07:50:49.746	4.67x	-57.80	47631.57	5.90			
delta	E	2034-11-06T07:52:41.351	5.07	-58.24	48300.35	6.09			
lambda	E	2034-11-06T07:57:14.843	6.07	-59.32	50026.71	6.53			
epsilon	E	2034-11-06T07:59:03.306	6.46	-59.74	50743.76	6.69			

target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2034-11-06T07:01:19.410
 Event type : XRgt
 : No Uranus occs
 : Ring occs: geocentric, topocentric
 Observer code : RIO
 Location : Rio de Janeiro
 Latitude (deg) : -22.89506
 E. Longitude (deg) : 316.77708
 Altitude (km) : 0.033
 Gaia source ID : 3379730110486433920
 2Mass ID (if available) : 06430912+2323096
 ICRS Star Coord at Epoch: 06h 43m 09.13498s +23:23:09.68717s
 RUWE (>1.4 is poor) : 0.95
 K magnitude : 14.549
 G magnitude : 16.064
 RP magnitude : 15.535
 BP magnitude : 16.415
 DUPflag : 0
 Distance (au) : 18.332
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : -10.05
 Sun-Target sep (deg) : 123.56
 Sun-Moon sep (deg) : 71.45
 B (ring opening deg) : 66.41
 PA of pole (deg) : 73.88
 Pole direction: RA (deg): 257.31100
 Dec (deg): -15.17500
 C/A sky separation (") : 2.490
 C/A sky separation (km) : 33100.9
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk
 URKALLvl.spk
 ural11.bsp
 IAU_URANUS_for_RINGFIT.tpc
 vgr2.ural11.bsp
 ural61.bsp
 vgr2.ural61.bsp
 peph.ural60.bsp
 earthstns_itrff93_040916.bsp
 earth_720101_070426.bpc
 earth_200101_990628_predict.bpc
 pg3f0000r.bsp
 pg490000r.bsp
 naif0012.tls
 earth_flat_IAU.spk

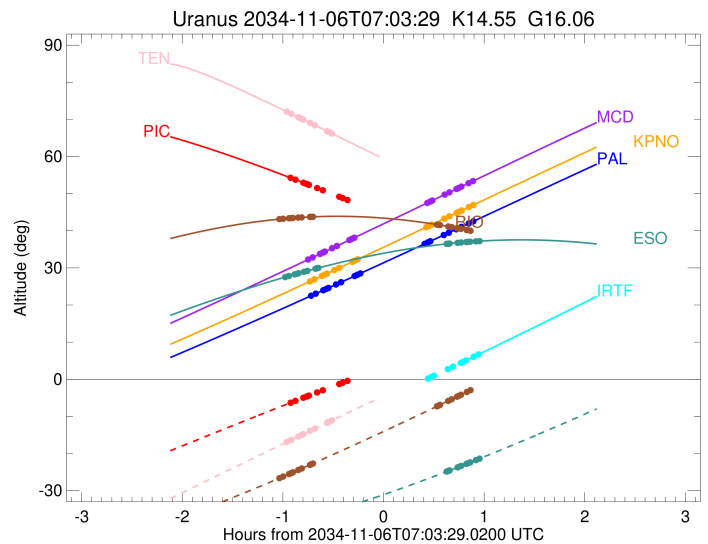
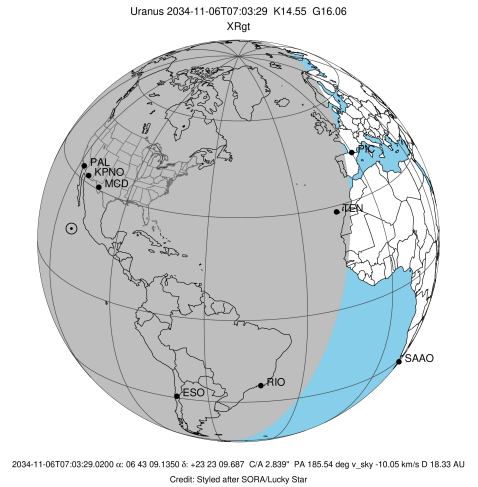


Ring	I/E	UTC	b?	alt	alt-sun	radius	r-dot	lat-geo	lat-geodetic
epsilon	I	2034-11-06T06:01:27.802		43.14	-26.63	51147.57	-8.49		
lambda	I	2034-11-06T06:03:40.061		43.23	-26.20	50026.71	-8.40		
delta	I	2034-11-06T06:07:08.600		43.37	-25.53	48300.35	-8.15		
gamma	I	2034-11-06T06:08:31.760		43.42	-25.26	47626.95	-8.04		
eta	I	2034-11-06T06:09:28.072		43.45	-25.07	47176.12	-7.97		
beta	I	2034-11-06T06:12:40.573		43.55	-24.44	45667.76	-7.69		
alpha	I	2034-11-06T06:14:42.568		43.61	-24.04	44740.51	-7.51		
4	I	2034-11-06T06:19:43.417		43.73	-23.04	42558.02	-6.98		
5	I	2034-11-06T06:20:22.463		43.74	-22.91	42293.24	-6.93		
6	I	2034-11-06T06:21:33.851		43.76	-22.68	41804.12	-6.77		

No planet occultations

6	E	2034-11-06T07:35:14.255		41.68	-7.31	41802.21	6.78		
5	E	2034-11-06T07:36:27.929		41.59	-7.05	42303.24	6.93		
4	E	2034-11-06T07:36:59.139		41.55	-6.94	42525.99	6.98		
alpha	E	2034-11-06T07:42:05.993		41.15	-5.83	44746.85	7.51		
beta	E	2034-11-06T07:44:04.559		40.99	-5.40	45642.77	7.69		
eta	E	2034-11-06T07:47:20.149		40.72	-4.69x	47176.12	7.97		
gamma	E	2034-11-06T07:48:16.994		40.63	-4.49x	47631.53	8.05		
delta	E	2034-11-06T07:49:39.531		40.51	-4.19x	48300.35	8.16		
lambda	E	2034-11-06T07:53:07.925		40.20	-3.43x	50026.71	8.41		
epsilon	E	2034-11-06T07:54:33.090		40.07	-3.12x	50746.80	8.50		

target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2034-11-06T07:05:53.570
 Event type : XRgt
 : No Uranus occs
 : Ring occs: geocentric, topocentric
 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 : 3379730110486433920
 2Mass ID (if available) : 06430912+2323096
 ICRS Star Coord at Epoch: 06h 43m 09.13498s +23:23:09.68717s
 RUWE (>1.4 is poor) : 0.95
 K magnitude : 14.549
 G magnitude : 16.064
 RP magnitude : 15.535
 BP magnitude : 16.415
 DUPflag : 0
 Distance (au) : 18.332
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : -10.05
 Sun-Target sep (deg) : 123.56
 Sun-Moon sep (deg) : 71.46
 B (ring opening deg) : 66.41
 PA of pole (deg) : 73.88
 Pole direction: RA (deg): 257.31100
 Dec (deg): -15.17500
 C/A sky separation (") : 2.445
 C/A sky separation (km) : 32504.0
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk
 URKALLvl.spk
 ural11.bsp
 IAU_URANUS_for_RINGFIT.tpc
 vgr2.ural11.bsp
 ural61.bsp
 vgr2.ural61.bsp
 peph.ural60.bsp
 earthstns_itrfr93_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	2034-11-06T06:04:54.839		27.53	-39.02	51150.94	-8.53		
lambda	I	2034-11-06T06:07:06.839		27.82	-38.77	50026.71	-8.45		
delta	I	2034-11-06T06:10:34.006		28.26	-38.37	48300.35	-8.21		
gamma	I	2034-11-06T06:11:56.493		28.44	-38.21	47626.90	-8.11		
eta	I	2034-11-06T06:12:52.290		28.55	-38.10	47176.12	-8.04		
beta	I	2034-11-06T06:16:02.705		28.95	-37.71	45667.98	-7.78		
alpha	I	2034-11-06T06:18:03.186		29.20	-37.47	44740.18	-7.62		
4	I	2034-11-06T06:22:58.806		29.79	-36.85	42558.68	-7.12		
5	I	2034-11-06T06:23:37.307		29.86	-36.76	42292.38	-7.08		
6	I	2034-11-06T06:24:46.942		30.00	-36.61	41804.56	-6.93		

No planet occultations

6	E	2034-11-06T07:41:01.764		36.47	-24.89	41802.94	6.98		
5	E	2034-11-06T07:42:13.107		36.52	-24.68	42301.98	7.13		
4	E	2034-11-06T07:42:43.727		36.55	-24.59	42526.07	7.17		
alpha	E	2034-11-06T07:47:43.276		36.77	-23.72	44746.34	7.67		
beta	E	2034-11-06T07:49:39.495		36.84	-23.37	45642.57	7.85		
eta	E	2034-11-06T07:52:51.531		36.96	-22.80	47176.12	8.11		
gamma	E	2034-11-06T07:53:47.411		37.00	-22.64	47631.51	8.19		
delta	E	2034-11-06T07:55:08.607		37.04	-22.40	48300.35	8.29		
lambda	E	2034-11-06T07:58:33.863		37.15	-21.78	50026.71	8.53		
epsilon	E	2034-11-06T07:59:57.979		37.19	-21.53	50748.03	8.61		