

target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2029-11-18T06:25:49.310
 Event type : XRgt
 : No Uranus occs
 : Ring occs: geocentric, topocentric
 Gaia source ID : 3418343442727736576
 2Mass ID (if available) : 05030933+2249254

ICRS Star Coord at Epoch: 05h 03m 09.33664s +22:49:25.31281s

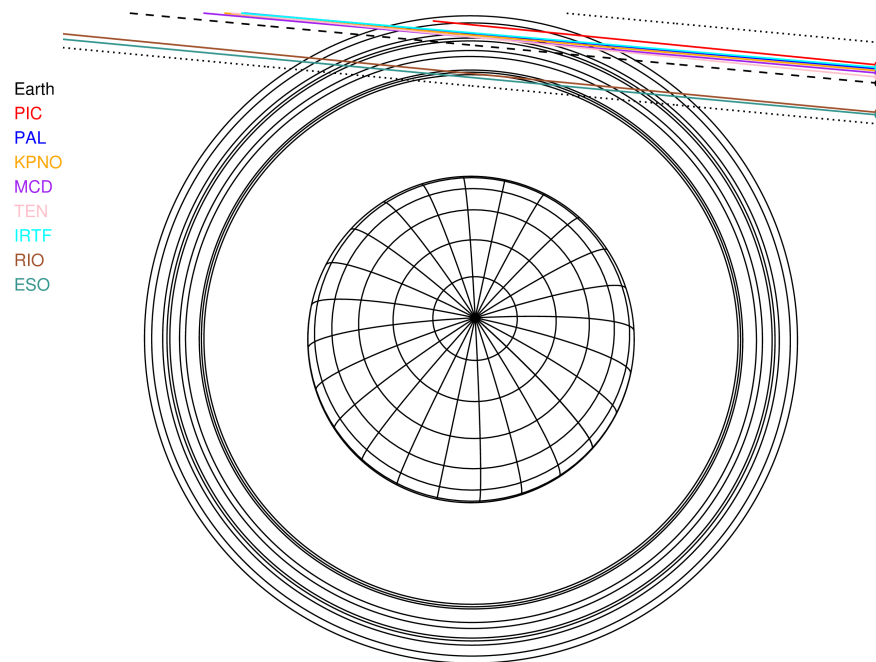
RUWE (>1.4 is poor) : 1.13
 K magnitude : 14.335
 G magnitude : 17.052
 RP magnitude : 16.341
 BP magnitude : 17.625
 DUPflag : 0
 Distance (au) : 18.303
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : -21.44
 Sun-Target sep (deg) : 158.86
 Sun-Moon sep (deg) : 52.75
 B (ring opening deg) : 82.22
 PA of pole (deg) : -10.91

#	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



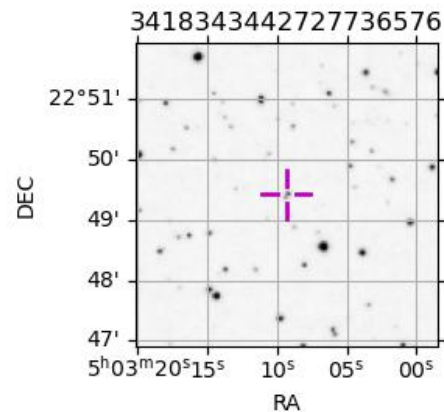
2029-11-18T06:25:49.3100 ex: 05 03 09.3366 s: +22 49 25.313 C/A 3.464° PA 174.65 deg v_sky -21.44 km/s D 18.30 AU
 Credit: Styled after SORA/Lucky Star

Uranus 2029-11-18T06:25:49 K14.34 G17.05 XRgt



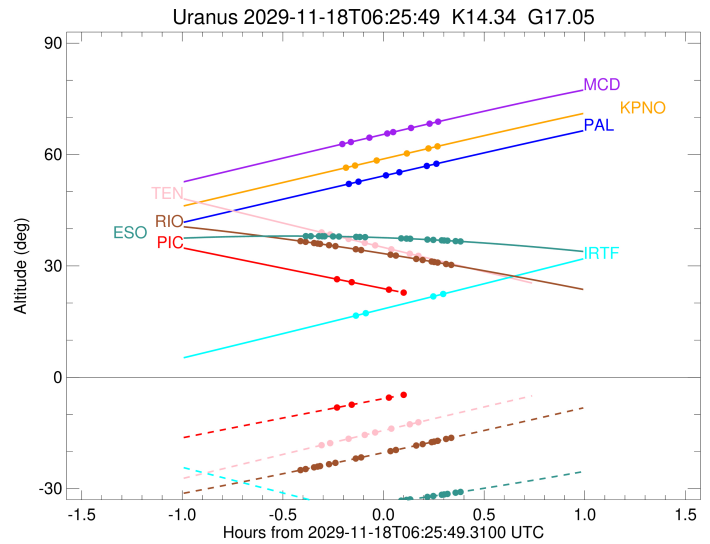
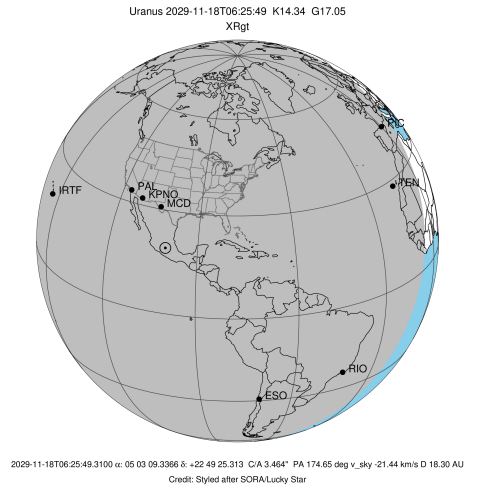
Observable events with sun below -5 deg and altitude above 5 deg unblocked by planet

Obs	Location	lat	Elon	Rings I	Planet	Rings E	Observed Events Interval	OEcode
PIC	Pic du Midi	42.9	0.1	++		+	NOV 18 06:11 - NOV 18 06:27	PnnRie
PAL	Palomar Mt (200")	33.4	243.1	+++		+++	NOV 18 06:15 - NOV 18 06:41	PnnRie
PMO	Purple Mtn Obs. Nanki	32.1	118.8					PnnRnn
KPNO	Kitt Peak Natl Obs	32.0	248.4	+++		+++	NOV 18 06:14 - NOV 18 06:41	PnnRie
MCD	McDonald Obs. 2.7m	30.7	256.0	++++		++++	NOV 18 06:13 - NOV 18 06:41	PnnRie
TEN	Teide Obs./Tenerife	28.3	343.5	++++		++++	NOV 18 06:07 - NOV 18 06:35	PnnRie
IRTF	Mauna Kea/IRTF	19.8	204.5	++		++	NOV 18 06:17 - NOV 18 06:43	PnnRie
KAV	Kavalur Observatory	12.6	78.8					PnnRnn
RIO	Rio de Janeiro	-22.9	316.8	+++++		+++++	NOV 18 06:00 - NOV 18 06:45	PnnRie
ESO	European Southern Obs	-29.3	289.3	+++++		+++++	NOV 18 06:02 - NOV 18 06:48	PnnRie
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



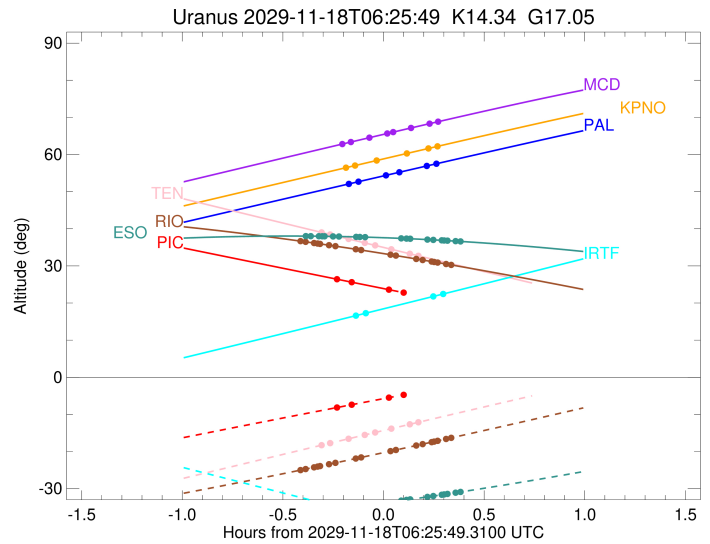
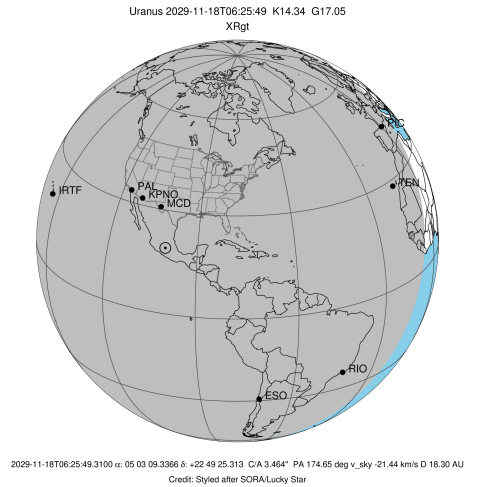
```

target                : Uranus
target radius (km)   : 25559.00
C/A epoch            : 2029-11-18T06:21:49.700
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      : 3418343442727736576
2Mass ID (if available) : 05030933+2249254
ICRS Star Coord at Epoch: 05h 03m 09.33664s +22:49:25.31281s
RUWE (>1.4 is poor) : 1.13
K magnitude         : 14.335
G magnitude         : 17.052
RP magnitude        : 16.341
BP magnitude        : 17.625
DUPflag            : 0
Distance (au)       : 18.303
f0 (km)            : 0.000
g0 (km)            : 0.000
skyplane vel. (km/s) : -21.44
Sun-Target sep (deg) : 158.86
Sun-Moon sep (deg)  : 53.43
B (ring opening deg) : 82.22
PA of pole (deg)    : -10.91
Pole direction: RA (deg): 257.31100
Dec (deg): -15.17500
C/A sky separation (") : 3.696
C/A sky separation (km) : 49057.8
NAIF SPICE kernels  : RAJobs_U111+rgf15.spk
URKALLvl1.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	2029-11-18T06:11:42.989		26.46	-8.20	51242.05	-5.37		
lambda	I	2029-11-18T06:16:25.343		25.60	-7.38	50026.71	-3.05		
No planet occultations									
lambda	E	2029-11-18T06:27:21.889		23.61	-5.50	50026.71	3.04		
epsilon	E	2029-11-18T06:31:26.844		22.87	-4.80x	51039.86	5.37		

target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2029-11-18T06:28:28.880
 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 : 3418343442727736576
 2Mass ID (if available) : 05030933+2249254
 ICRS Star Coord at Epoch: 05h 03m 09.33664s +22:49:25.31281s
 RUWE (>1.4 is poor) : 1.13
 K magnitude : 14.335
 G magnitude : 17.052
 RP magnitude : 16.341
 BP magnitude : 17.625
 DUPflag : 0
 Distance (au) : 18.303
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : -21.44
 Sun-Target sep (deg) : 158.86
 Sun-Moon sep (deg) : 53.05
 B (ring opening deg) : 82.22
 PA of pole (deg) : -10.91
 Pole direction: RA (deg): 257.31100
 Dec (deg): -15.17500
 C/A sky separation (") : 3.600
 C/A sky separation (km) : 47790.2
 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



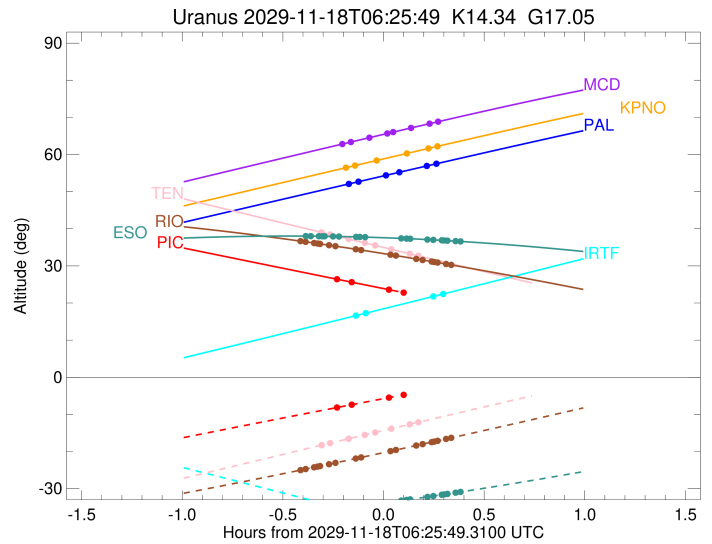
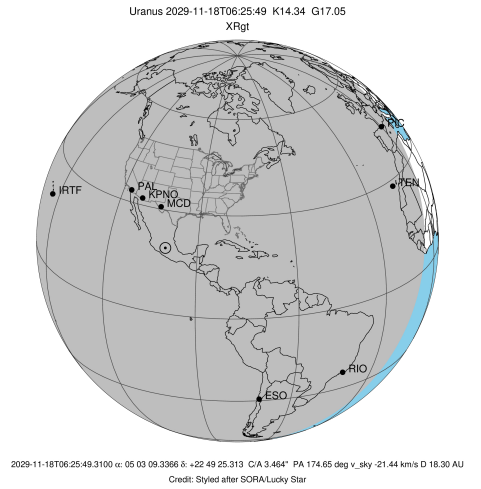
b: ring blocked by planet x: target alt < 5.0 deg or sun > -5.0 deg

Ring	I/E	UTC	b? alt	alt-sun	radius	r-dot	lat-geo	lat-geodetic
epsilon	I	2029-11-18T06:15:14.863	52.03	-67.85	51271.22	-7.20		
lambda	I	2029-11-18T06:18:24.475	52.69	-68.39	50026.71	-5.75		
delta	I	2029-11-18T06:26:46.452	54.44	-69.79	48300.35	-1.04		

No planet occultations

delta	E	2029-11-18T06:30:19.667	55.18	-70.36	48300.35	1.04		
lambda	E	2029-11-18T06:38:41.300	56.92	-71.63	50026.71	5.76		
epsilon	E	2029-11-18T06:41:13.416	57.44	-71.99	51002.55	7.21		

target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2029-11-18T06:28:13.020
 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 : 3418343442727736576
 2Mass ID (if available) : 05030933+2249254
 ICRS Star Coord at Epoch: 05h 03m 09.33664s +22:49:25.31281s
 RUWE (>1.4 is poor) : 1.13
 K magnitude : 14.335
 G magnitude : 17.052
 RP magnitude : 16.341
 BP magnitude : 17.625
 DUPflag : 0
 Distance (au) : 18.303
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : -21.44
 Sun-Target sep (deg) : 158.86
 Sun-Moon sep (deg) : 53.11
 B (ring opening deg) : 82.22
 PA of pole (deg) : -10.91
 Pole direction: RA (deg): 257.31100
 Dec (deg): -15.17500
 C/A sky separation (") : 3.578
 C/A sky separation (km) : 47503.1
 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



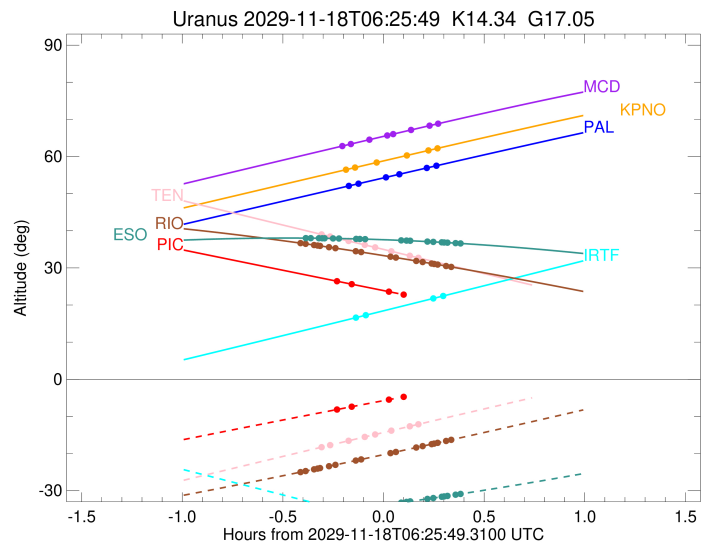
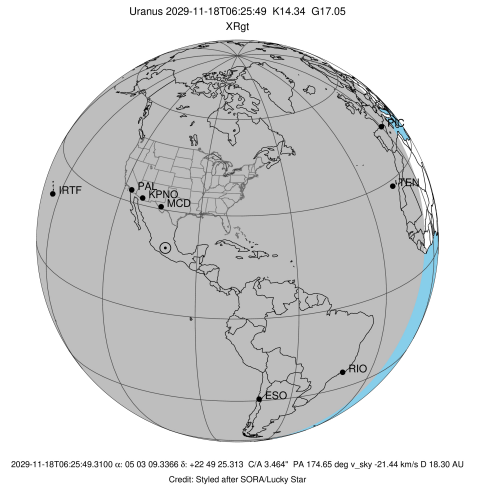
b: ring blocked by planet x: target alt < 5.0 deg or sun > -5.0 deg

Ring	I/E	UTC	b?	alt	alt-sun	radius	r-dot	lat-geo	lat-geodetic
epsilon	I	2029-11-18T06:14:23.065		56.40	-72.08	51277.79	-7.55		
lambda	I	2029-11-18T06:17:22.771		57.04	-72.55	50026.71	-6.20		
delta	I	2029-11-18T06:23:52.412		58.41	-73.54	48300.35	-2.60		

No planet occultations

delta	E	2029-11-18T06:32:41.842		60.27	-74.76	48300.35	2.60		
lambda	E	2029-11-18T06:39:11.168		61.63	-75.54	50026.71	6.21		
epsilon	E	2029-11-18T06:41:33.447		62.13	-75.81	50996.39	7.56		

target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2029-11-18T06:27:45.670
 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 : 3418343442727736576
 2Mass ID (if available) : 05030933+2249254
 ICRS Star Coord at Epoch: 05h 03m 09.33664s +22:49:25.31281s
 RUWE (>1.4 is poor) : 1.13
 K magnitude : 14.335
 G magnitude : 17.052
 RP magnitude : 16.341
 BP magnitude : 17.625
 DUPflag : 0
 Distance (au) : 18.303
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : -21.44
 Sun-Target sep (deg) : 158.86
 Sun-Moon sep (deg) : 53.20
 B (ring opening deg) : 82.22
 PA of pole (deg) : -10.91
 Pole direction: RA (deg): 257.31100
 Dec (deg): -15.17500
 C/A sky separation (") : 3.554
 C/A sky separation (km) : 47178.1
 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



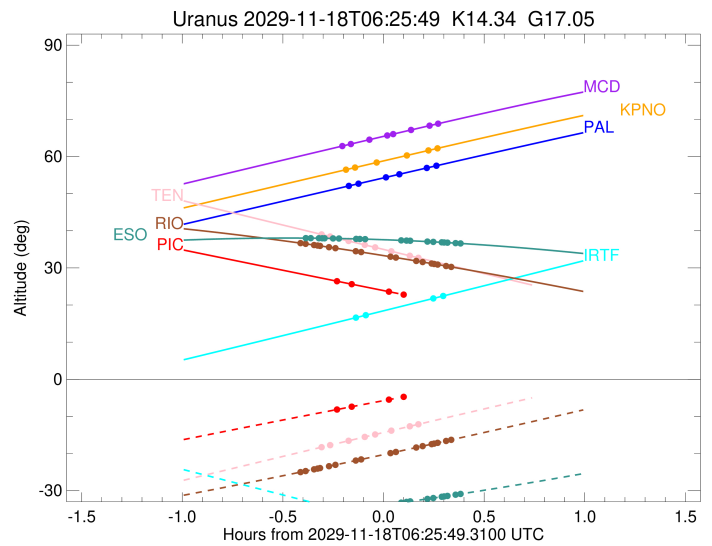
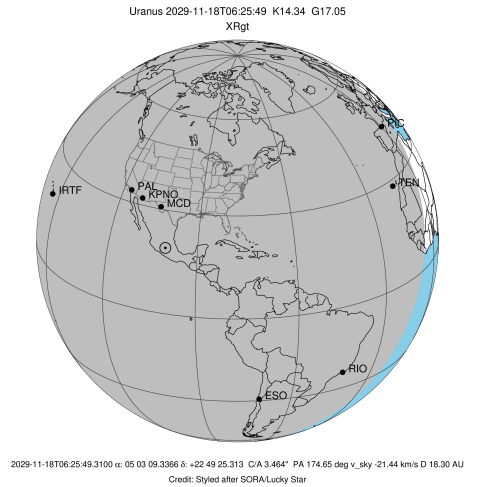
b: ring blocked by planet x: target alt < 5.0 deg or sun > -5.0 deg

Ring	I/E	UTC	b? alt	alt-sun	radius	r-dot	lat-geo	lat-geodetic
epsilon	I	2029-11-18T06:13:17.367	62.77	-77.13	51284.95	-7.93		
lambda	I	2029-11-18T06:16:07.721	63.37	-77.44	50026.71	-6.67		
delta	I	2029-11-18T06:21:41.254	64.56	-77.95	48300.35	-3.63		
gamma	I	2029-11-18T06:28:43.249	66.04	-78.44	47627.20	-0.03		

No planet occultations

gamma	E	2029-11-18T06:26:56.862	65.67	-78.34	47627.21	0.03		
delta	E	2029-11-18T06:33:58.145	67.15	-78.68	48300.35	3.63		
lambda	E	2029-11-18T06:39:31.415	68.31	-78.79	50026.71	6.68		
epsilon	E	2029-11-18T06:41:44.432	68.77	-78.80	50989.88	7.94		

target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2029-11-18T06:21:43.320
 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 : 3418343442727736576
 2Mass ID (if available) : 05030933+2249254
 ICRS Star Coord at Epoch: 05h 03m 09.33664s +22:49:25.31281s
 RUWE (>1.4 is poor) : 1.13
 K magnitude : 14.335
 G magnitude : 17.052
 RP magnitude : 16.341
 BP magnitude : 17.625
 DUPflag : 0
 Distance (au) : 18.303
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : -21.44
 Sun-Target sep (deg) : 158.86
 Sun-Moon sep (deg) : 53.58
 B (ring opening deg) : 82.22
 PA of pole (deg) : -10.91
 Pole direction: RA (deg): 257.31100
 Dec (deg): -15.17500
 C/A sky separation (") : 3.552
 C/A sky separation (km) : 47149.1
 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



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

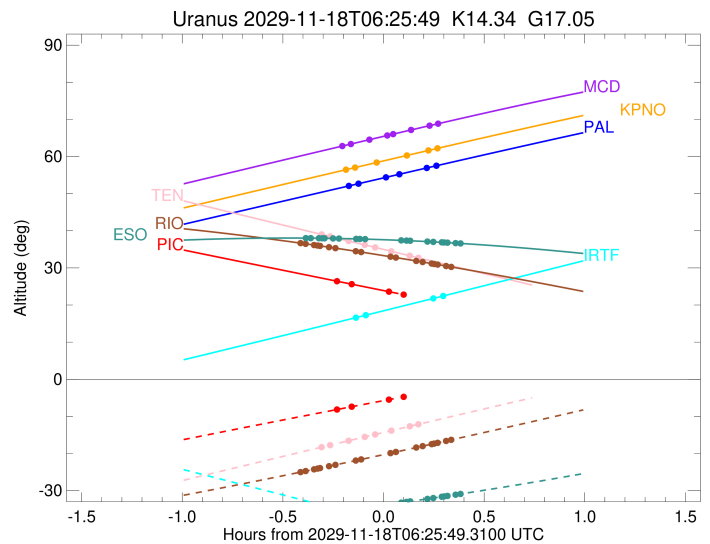
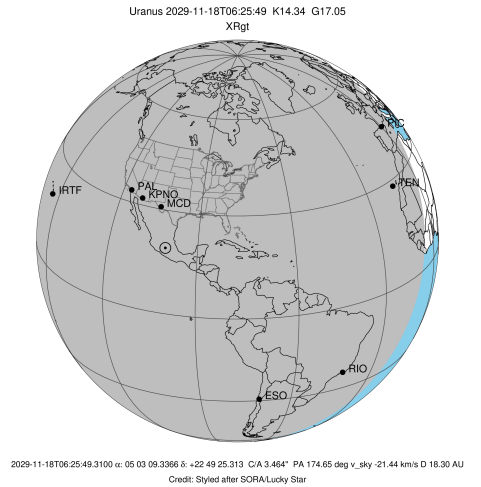
Ring	I/E	UTC	b? alt	alt-sun	radius	r-dot	lat-geo	lat-geodetic
epsilon	I	2029-11-18T06:07:05.971	39.07	-18.35	51289.45	-7.93		
lambda	I	2029-11-18T06:09:56.964	38.45	-17.74	50026.71	-6.67		
delta	I	2029-11-18T06:15:28.774	37.24	-16.55	48300.35	-3.68		
gamma	I	2029-11-18T06:20:34.762	36.12	-15.46	47625.09	-0.72		

No planet occultations

gamma	E	2029-11-18T06:22:59.870	35.60	-14.95	47625.43	0.72		
delta	E	2029-11-18T06:28:05.528	34.49	-13.86	48300.35	3.68		
lambda	E	2029-11-18T06:33:37.732	33.28	-12.68	50026.71	6.66		
epsilon	E	2029-11-18T06:35:51.567	32.79	-12.21	50993.00	7.91		

```

target                : Uranus
target radius (km)   : 25559.00
C/A epoch            : 2029-11-18T06:30:32.530
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       : 3418343442727736576
2Mass ID (if available) : 05030933+2249254
ICRS Star Coord at Epoch: 05h 03m 09.33664s +22:49:25.31281s
RUWE (>1.4 is poor) : 1.13
K magnitude          : 14.335
G magnitude          : 17.052
RP magnitude         : 16.341
BP magnitude         : 17.625
DUPflag             : 0
Distance (au)        : 18.303
f0 (km)              : 0.000
g0 (km)              : 0.000
skyplane vel. (km/s) : -21.44
Sun-Target sep (deg) : 158.86
Sun-Moon sep (deg)   : 52.47
B (ring opening deg) : 82.22
PA of pole (deg)     : -10.91
Pole direction: RA (deg): 257.31100
Dec (deg): -15.17500
C/A sky separation (") : 3.606
C/A sky separation (km) : 47866.4
NAIF SPICE kernels   : RAJobs_U111+rgf15.spk
URKALLvl1.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
    
```

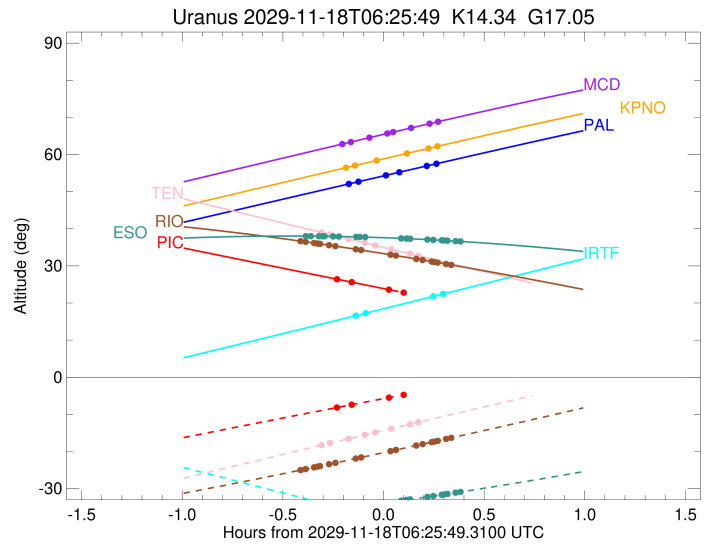
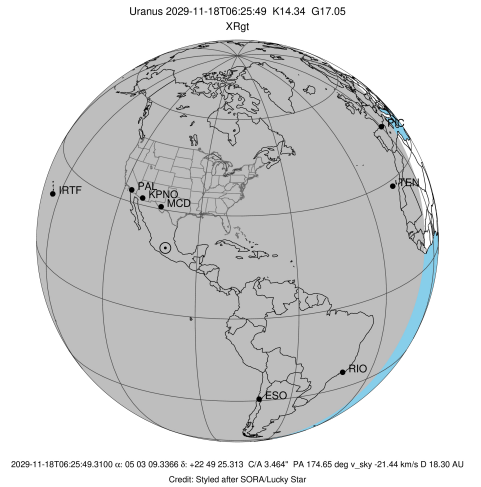


Ring	I/E	UTC	b?	alt	alt-sun	radius	r-dot	lat-geo	lat-geodetic
epsilon	I	2029-11-18T06:17:20.845		16.54	-36.14	51268.51	-7.03		
lambda	I	2029-11-18T06:20:35.217		17.27	-36.89	50026.71	-5.57		

No planet occultations

lambda	E	2029-11-18T06:40:37.934		21.76	-41.55	50026.71	5.58		
epsilon	E	2029-11-18T06:43:14.276		22.35	-42.16	51003.30	7.05		

target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2029-11-18T06:23:28.780
 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 : 3418343442727736576
 2Mass ID (if available) : 05030933+2249254
 ICRS Star Coord at Epoch: 05h 03m 09.33664s +22:49:25.31281s
 RUWE (>1.4 is poor) : 1.13
 K magnitude : 14.335
 G magnitude : 17.052
 RP magnitude : 16.341
 BP magnitude : 17.625
 DUPflag : 0
 Distance (au) : 18.303
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : -21.44
 Sun-Target sep (deg) : 158.86
 Sun-Moon sep (deg) : 53.43
 B (ring opening deg) : 82.22
 PA of pole (deg) : -10.91
 Pole direction: RA (deg): 257.31100
 Dec (deg): -15.17500
 C/A sky separation (") : 3.123
 C/A sky separation (km) : 41463.1
 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

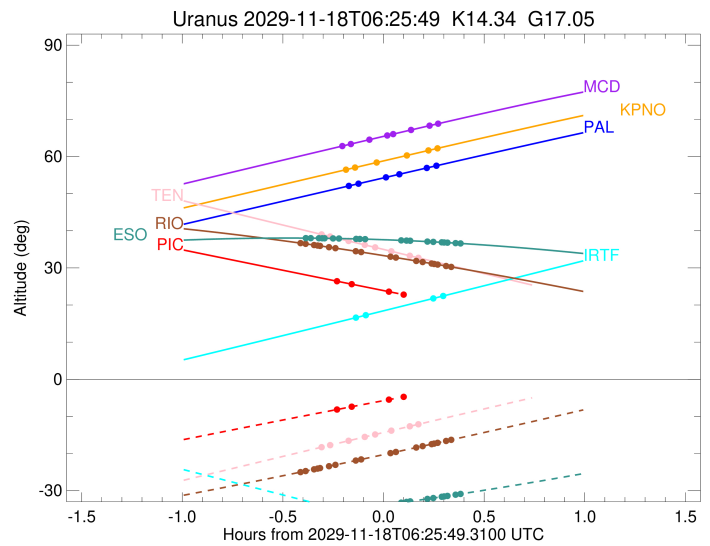
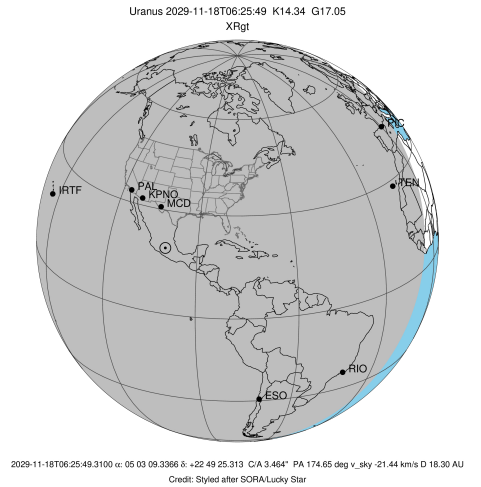


Ring	I/E	UTC	b?	alt	alt-sun	radius	r-dot	lat-geo	lat-geodetic
epsilon	I	2029-11-18T06:00:47.879		36.71	-25.07	51374.15	-12.54		
lambda	I	2029-11-18T06:02:37.320		36.48	-24.73	50026.71	-11.96		
delta	I	2029-11-18T06:05:08.318		36.16	-24.26	48300.35	-10.89		
gamma	I	2029-11-18T06:06:11.916		36.02	-24.06	47622.89	-10.41		
eta	I	2029-11-18T06:06:55.550		35.92	-23.92	47176.12	-10.07		
beta	I	2029-11-18T06:09:39.005		35.56	-23.41	45641.19	-8.70		
alpha	I	2029-11-18T06:11:27.729		35.32	-23.06	44749.18	-7.72		
4	I	2029-11-18T06:17:49.315		34.45	-21.85	42527.07	-3.83		
5	I	2029-11-18T06:19:42.004		34.19	-21.49	42163.58	-2.58		

No planet occultations

5	E	2029-11-18T06:27:20.213		33.10	-20.01	42157.04	2.58		
4	E	2029-11-18T06:29:14.571		32.82	-19.64	42526.30	3.83		
alpha	E	2029-11-18T06:35:37.023		31.87	-18.38	44751.10	7.71		
beta	E	2029-11-18T06:37:26.197		31.59	-18.02	45645.80	8.69		
eta	E	2029-11-18T06:40:09.315		31.18	-17.49	47176.12	10.05		
gamma	E	2029-11-18T06:40:53.486		31.06	-17.34	47627.86	10.40		
delta	E	2029-11-18T06:41:56.697		30.90	-17.13	48300.35	10.88		
lambda	E	2029-11-18T06:44:27.931		30.51	-16.63	50026.71	11.94		
epsilon	E	2029-11-18T06:45:40.369		30.32	-16.39	50908.45	12.52		

target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2029-11-18T06:25:40.140
 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 : 3418343442727736576
 2Mass ID (if available) : 05030933+2249254
 ICRS Star Coord at Epoch: 05h 03m 09.33664s +22:49:25.31281s
 RUWE (>1.4 is poor) : 1.13
 K magnitude : 14.335
 G magnitude : 17.052
 RP magnitude : 16.341
 BP magnitude : 17.625
 DUPflag : 0
 Distance (au) : 18.303
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : -21.44
 Sun-Target sep (deg) : 158.86
 Sun-Moon sep (deg) : 53.25
 B (ring opening deg) : 82.22
 PA of pole (deg) : -10.91
 Pole direction: RA (deg): 257.31100
 Dec (deg): -15.17500
 C/A sky separation (") : 3.078
 C/A sky separation (km) : 40862.0
 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_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	2029-11-18T06:02:22.645		38.03	-36.53	51379.78	-12.91		
lambda	I	2029-11-18T06:04:09.176		38.02	-36.35	50026.71	-12.36		
delta	I	2029-11-18T06:06:34.556		37.99	-36.09	48300.35	-11.37		
gamma	I	2029-11-18T06:07:35.347		37.98	-35.98	47622.80	-10.92		
eta	I	2029-11-18T06:08:16.852		37.98	-35.91	47176.12	-10.60		
beta	I	2029-11-18T06:10:50.589		37.94	-35.63	45641.27	-9.35		
alpha	I	2029-11-18T06:12:30.802		37.92	-35.44	44748.68	-8.47		
4	I	2029-11-18T06:17:51.553		37.81	-34.84	42527.81	-5.30		
5	I	2029-11-18T06:19:05.065		37.78	-34.69	42166.91	-4.50		
6	I	2029-11-18T06:20:34.852		37.74	-34.52	41805.43	-3.51		

No planet occultations

6	E	2029-11-18T06:30:49.653		37.42	-33.27	41798.15	3.51		
5	E	2029-11-18T06:32:19.994		37.37	-33.08	42155.63	4.50		
4	E	2029-11-18T06:33:35.132		37.32	-32.92	42526.83	5.30		
alpha	E	2029-11-18T06:38:56.454		37.09	-32.22	44750.70	8.47		
beta	E	2029-11-18T06:40:37.023		37.01	-32.00	45646.27	9.35		
eta	E	2029-11-18T06:43:10.224		36.89	-31.66	47176.12	10.60		
gamma	E	2029-11-18T06:43:52.208		36.85	-31.56	47628.01	10.92		
delta	E	2029-11-18T06:44:52.524		36.80	-31.43	48300.35	11.37		
lambda	E	2029-11-18T06:47:17.910		36.67	-31.10	50026.71	12.36		
epsilon	E	2029-11-18T06:48:27.357		36.61	-30.94	50900.73	12.91		