

target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2034-04-27T20:26:12.490
 Event type : PgtRgt
 : Uranus occs: geocentric, topocentric
 : Ring occs: geocentric, topocentric
 Gaia source ID : 3425436430895071616
 2Mass ID (if available) : 06111024+2341011

Uranus 2034-04-27T20:26:12 K14.72 G17.39 PgtRgt

ICRS Star Coord at Epoch: 06h 11m 10.25974s +23:41:01.07193s

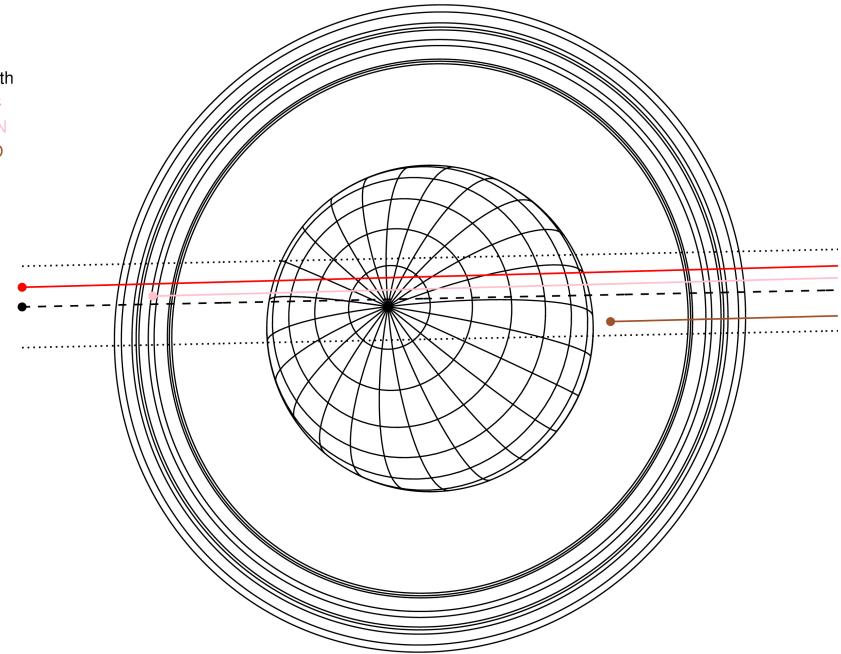
RUWE (>1.4 is poor) : 0.99
 K magnitude : 14.723
 G magnitude : 17.394
 RP magnitude : 16.569
 BP magnitude : 18.154
 DUPflag : 0
 Distance (au) : 19.486
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : 23.31
 Sun-Target sep (deg) : 55.38
 Sun-Moon sep (deg) : 62.47
 B (ring opening deg) : 73.12
 PA of pole (deg) : 62.54

Uranus 2034-04-27T20:26:12 K14.72 G17.39
 PgtRgt



2034-04-27T20:26:12.4900 ex: 06 11 10.2597 s: +23 41 01.072 C/A 0.339° PA 181.18 deg v_sky +23.31 km/s D 19.49 AU
 Credit: Styled after SORA/Lucky Star

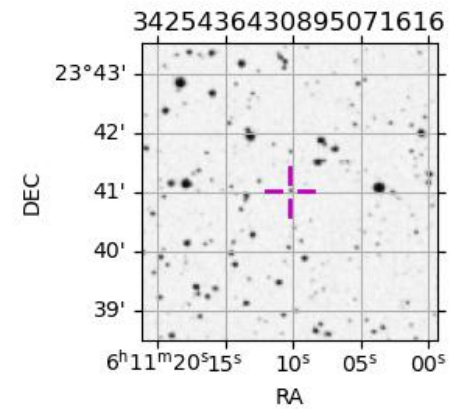
Earth
 PIC
 TEN
 RIO



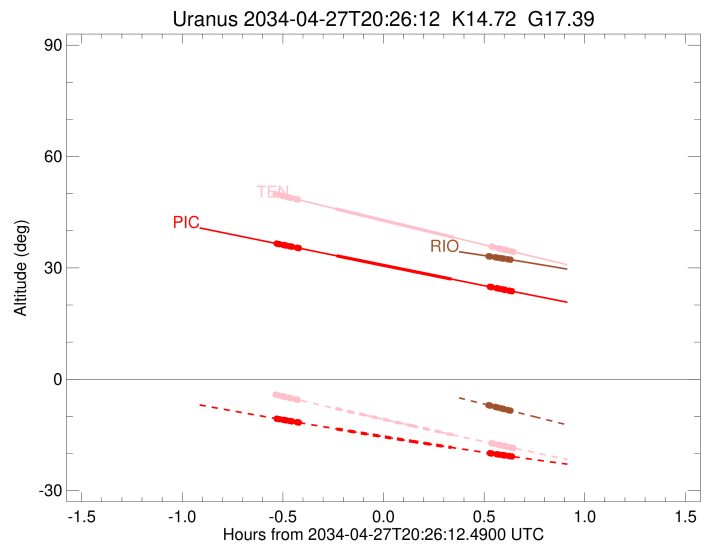
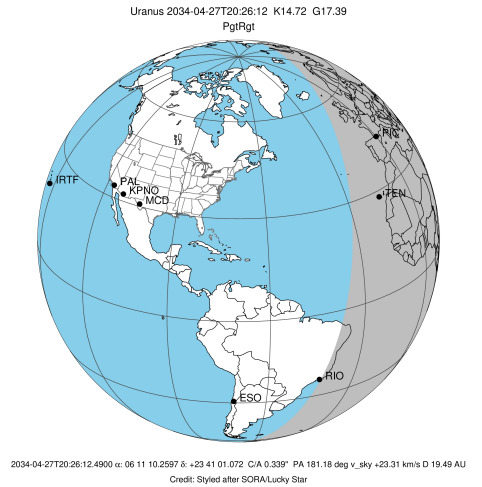
#	a(km)	ring
1	41837.2	6
2	42235.0	5
3	42571.2	4
4	44718.5	alpha
5	45661.1	beta
6	47176.1	eta
7	47626.3	gamma
8	48300.3	delta
9	50026.7	lambda
10	51149.4	epsilon

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	+++++	+ +	+++++	APR 27 19:54 - APR 27 21:04	PieRie
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	++++	+ +	+++++	APR 27 19:58 - APR 27 21:05	PieRie
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			+++++	APR 27 20:57 - APR 27 21:04	PnnRne
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

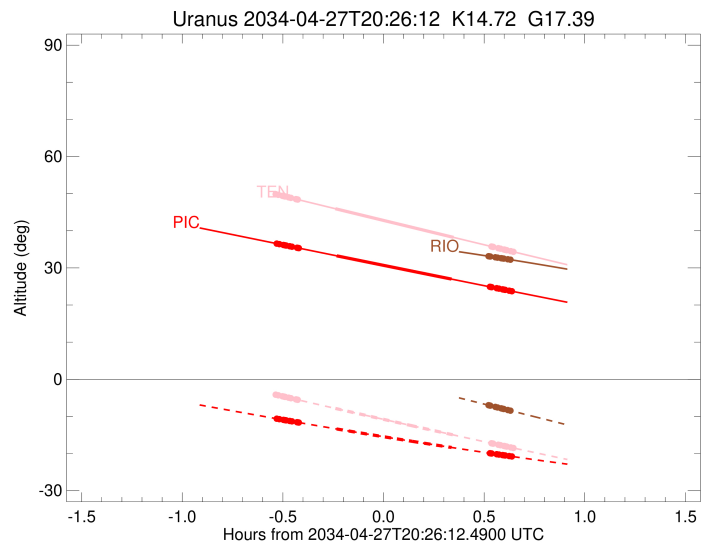
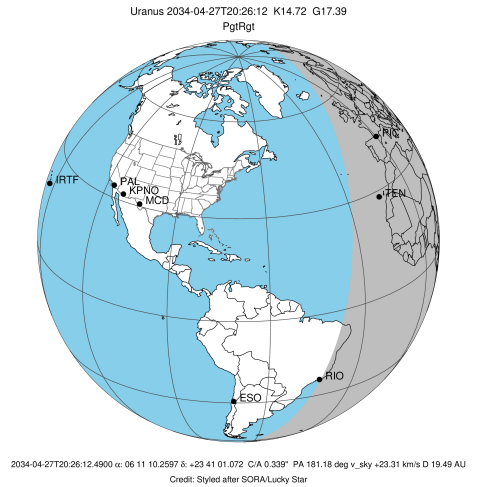


target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2034-04-27T20:29:15.690
 Event type : PgtRgt
 : Uranus occs: geocentric, topocentric
 : Ring occs: geocentric, topocentric
 Observer code : PIC
 Location : Pic du Midi
 Latitude (deg) : 42.93656
 E. Longitude (deg) : 0.14231
 Altitude (km) : 2.890
 Gaia source ID : 3425436430895071616
 2Mass ID (if available) : 06111024+2341011
 ICRS Star Coord at Epoch: 06h 11m 10.25974s +23:41:01.07193s
 RUWE (>1.4 is poor) : 0.99
 K magnitude : 14.723
 G magnitude : 17.394
 RP magnitude : 16.569
 BP magnitude : 18.154
 DUPflag : 0
 Distance (au) : 19.486
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : 23.31
 Sun-Target sep (deg) : 55.38
 Sun-Moon sep (deg) : 62.61
 B (ring opening deg) : 73.12
 PA of pole (deg) : 62.54
 Pole direction: RA (deg): 257.31100
 Dec (deg): -15.17500
 C/A sky separation (") : 0.575
 C/A sky separation (km) : 8119.8
 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_itr93_040916.bsp
 earth_720101_070426.bpc
 earth_200101_990628_predict.bpc
 pg3f0000r.bsp
 pg490000r.bsp
 naif0012.tls
 earth_flat_IAU.spk



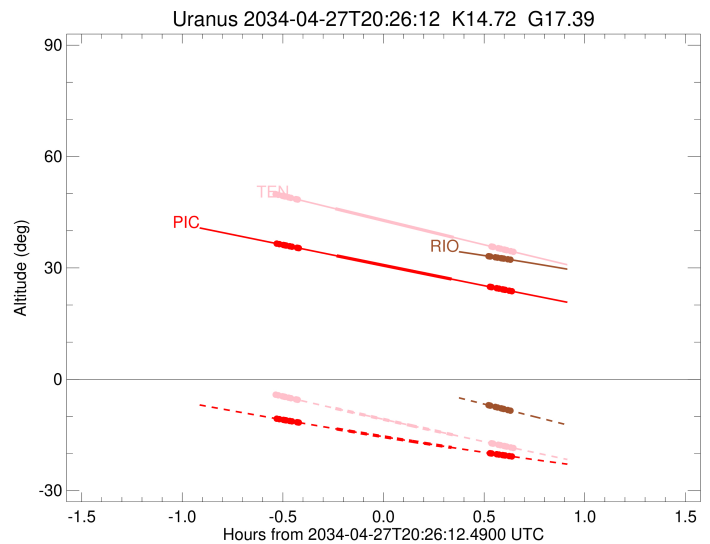
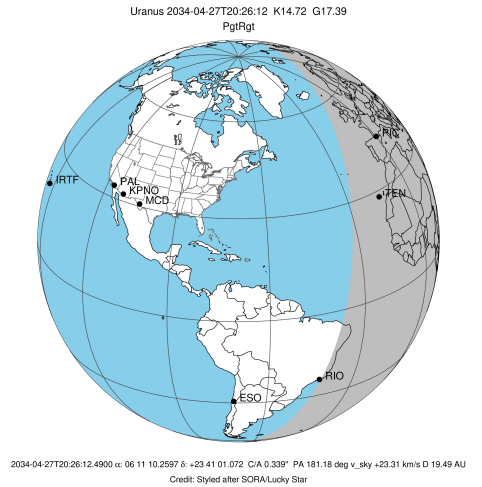
Ring	I/E	UTC	b?	alt	alt-sun	radius	r-dot	lat-geo	lat-geodetic
epsilon	I	2034-04-27T19:54:32.065		36.51	-10.65	50935.23	-23.65		
lambda	I	2034-04-27T19:55:10.534		36.40	-10.75	50026.71	-23.61		
delta	I	2034-04-27T19:56:23.682		36.17	-10.94	48300.35	-23.59		
gamma	I	2034-04-27T19:56:52.051		36.09	-11.01	47631.28	-23.58		
eta	I	2034-04-27T19:57:11.356		36.03	-11.06	47176.12	-23.57		
beta	I	2034-04-27T19:58:16.242		35.83	-11.23	45646.57	-23.55		
alpha	I	2034-04-27T19:58:56.796		35.70	-11.34	44696.06	-23.54		
4	I	2034-04-27T20:00:25.119		35.43	-11.57	42616.49	-23.50		
5	I	2034-04-27T20:00:43.183		35.38	-11.62	42179.91	-23.47		
6	I	2034-04-27T20:00:57.054		35.33	-11.65	41853.35	-23.48		
Uranus	I	2034-04-27T20:12:14.045		33.26	-13.39	25038.73		16.61	17.35
Uranus	E	2034-04-27T20:46:28.483		26.99	-18.37	25311.78		-11.27	-11.79
6	E	2034-04-27T20:57:55.554		24.90	-19.93	41837.34	23.57		
5	E	2034-04-27T20:58:13.594		24.85	-19.97	42263.68	23.57		
4	E	2034-04-27T20:58:24.386		24.82	-19.99	42530.34	23.59		
alpha	E	2034-04-27T20:59:58.308		24.53	-20.20	44748.59	23.64		
beta	E	2034-04-27T21:00:37.421		24.42	-20.28	45669.89	23.65		
eta	E	2034-04-27T21:01:41.018		24.22	-20.42	47176.12	23.68		
gamma	E	2034-04-27T21:01:59.847		24.17	-20.46	47622.15	23.69		
delta	E	2034-04-27T21:02:28.466		24.08	-20.53	48300.35	23.70		
lambda	E	2034-04-27T21:03:41.258		23.86	-20.68	50026.71	23.73		
epsilon	E	2034-04-27T21:04:41.561		23.68	-20.82	51458.30	23.77		

target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2034-04-27T20:29:23.120
 Event type : PgtRgt
 : Uranus occs: geocentric, topocentric
 : 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 : 3425436430895071616
 2Mass ID (if available) : 06111024+2341011
 ICRS Star Coord at Epoch: 06h 11m 10.25974s +23:41:01.07193s
 RUWE (>1.4 is poor) : 0.99
 K magnitude : 14.723
 G magnitude : 17.394
 RP magnitude : 16.569
 BP magnitude : 18.154
 DUPflag : 0
 Distance (au) : 19.486
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : 23.31
 Sun-Target sep (deg) : 55.38
 Sun-Moon sep (deg) : 62.74
 B (ring opening deg) : 73.12
 PA of pole (deg) : 62.54
 Pole direction: RA (deg): 257.31100
 Dec (deg): -15.17500
 C/A sky separation (") : 0.440
 C/A sky separation (km) : 6212.3
 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	2034-04-27T19:54:13.802		49.83	-4.19x	50922.23	-23.64		
lambda	I	2034-04-27T19:54:51.718		49.69	-4.33x	50026.71	-23.62		
delta	I	2034-04-27T19:56:04.840		49.42	-4.58x	48300.35	-23.60		
gamma	I	2034-04-27T19:56:33.194		49.31	-4.68x	47631.20	-23.60		
eta	I	2034-04-27T19:56:52.480		49.24	-4.75x	47176.12	-23.59		
beta	I	2034-04-27T19:57:57.268		49.00	-4.97x	45647.18	-23.58		
alpha	I	2034-04-27T19:58:37.834		48.86	-5.11	44694.97	-23.58		
4	I	2034-04-27T20:00:05.957		48.53	-5.42	42616.32	-23.55		
5	I	2034-04-27T20:00:23.843		48.47	-5.48	42182.68	-23.53		
6	I	2034-04-27T20:00:37.873		48.41	-5.53	41851.49	-23.54		
Uranus	I	2034-04-27T20:11:50.304		45.95	-7.85	25056.08		16.32	17.05
Uranus	E	2034-04-27T20:47:04.118		38.23	-15.00	25270.12		-12.21	-12.77
6	E	2034-04-27T20:58:23.442		35.76	-17.24	41835.38	23.64		
5	E	2034-04-27T20:58:41.660		35.69	-17.30	42267.09	23.64		
4	E	2034-04-27T20:58:52.232		35.66	-17.33	42529.50	23.65		
alpha	E	2034-04-27T21:00:25.947		35.32	-17.64	44747.89	23.68		
beta	E	2034-04-27T21:01:05.062		35.18	-17.76	45670.65	23.69		
eta	E	2034-04-27T21:02:08.547		34.95	-17.97	47176.12	23.71		
gamma	E	2034-04-27T21:02:27.352		34.88	-18.03	47622.01	23.71		
delta	E	2034-04-27T21:02:55.952		34.77	-18.13	48300.35	23.72		
lambda	E	2034-04-27T21:04:08.704		34.51	-18.36	50026.71	23.74		
epsilon	E	2034-04-27T21:05:08.571		34.29	-18.56	51448.20	23.77		

target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2034-04-27T20:28:09.100
 Event type : PgtRgt
 : Uranus occs: geocentric, topocentric
 : 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 : 3425436430895071616
 2Mass ID (if available) : 06111024+2341011
 ICRS Star Coord at Epoch: 06h 11m 10.25974s +23:41:01.07193s
 RUWE (>1.4 is poor) : 0.99
 K magnitude : 14.723
 G magnitude : 17.394
 RP magnitude : 16.569
 BP magnitude : 18.154
 DUPflag : 0
 Distance (au) : 19.486
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : 23.31
 Sun-Target sep (deg) : 55.38
 Sun-Moon sep (deg) : 62.78
 B (ring opening deg) : 73.12
 PA of pole (deg) : 62.54
 Pole direction: RA (deg): 257.31100
 Dec (deg): -15.17500
 C/A sky separation (") : 0.027
 C/A sky separation (km) : 386.8
 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_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	2034-04-27T19:52:23.853	40.57	7.49x	50885.75	-23.68		
lambda	I	2034-04-27T19:53:00.129	40.52	7.35x	50026.71	-23.68		
delta	I	2034-04-27T19:54:13.032	40.42	7.09x	48300.35	-23.68		
gamma	I	2034-04-27T19:54:41.300	40.38	6.99x	47630.93	-23.68		
eta	I	2034-04-27T19:55:00.506	40.35	6.92x	47176.12	-23.68		
beta	I	2034-04-27T19:56:04.953	40.26	6.68x	45649.12	-23.68		
alpha	I	2034-04-27T19:56:45.542	40.20	6.53x	44692.01	-23.68		
4	I	2034-04-27T19:58:13.174	40.07	6.21x	42615.25	-23.68		
5	I	2034-04-27T19:58:30.528	40.04	6.15x	42191.51	-23.68		
6	I	2034-04-27T19:58:45.085	40.02	6.10x	41845.81	-23.68		
Uranus	I	2034-04-27T20:09:52.391	38.96	3.65x	25137.87		14.86	15.53
Uranus	E	2034-04-27T20:46:25.422	34.66	-4.49x	25151.80		-14.60	-15.26
6	E	2034-04-27T20:57:31.126	33.15	-6.98	41829.33	23.74		
5	E	2034-04-27T20:57:49.942	33.10	-7.05	42277.17	23.74		
4	E	2034-04-27T20:57:59.941	33.08	-7.09	42527.44	23.75		
alpha	E	2034-04-27T20:59:33.261	32.86	-7.44	44745.36	23.76		
beta	E	2034-04-27T21:00:12.478	32.77	-7.59	45672.89	23.75		
eta	E	2034-04-27T21:01:15.721	32.62	-7.83	47176.12	23.76		
gamma	E	2034-04-27T21:01:34.474	32.57	-7.90	47621.65	23.76		
delta	E	2034-04-27T21:02:03.041	32.50	-8.01	48300.35	23.76		
lambda	E	2034-04-27T21:03:15.700	32.33	-8.28	50026.71	23.76		
epsilon	E	2034-04-27T21:04:14.082	32.19	-8.50	51413.99	23.76		