

target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2034-04-12T21:20:21.290
 Event type : PgtRgt
 : Uranus occs: geocentric, topocentric
 : Ring occs: geocentric, topocentric
 Gaia source ID : 3425389564211532544
 2Mass ID (if available) : 06085540+2341371

Uranus 2034-04-12T21:20:21 K14.85 G17.10 PgtRgt

ICRS Star Coord at Epoch: 06h 08m 55.40664s +23:41:37.05593s

RUWE (>1.4 is poor) : 0.98
 K magnitude : 14.853
 G magnitude : 17.099
 RP magnitude : 16.447
 BP magnitude : 17.611
 DUPflag : 0
 Distance (au) : 19.263
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : 16.81
 Sun-Target sep (deg) : 69.48
 Sun-Moon sep (deg) : 147.95
 B (ring opening deg) : 73.57
 PA of pole (deg) : 61.48

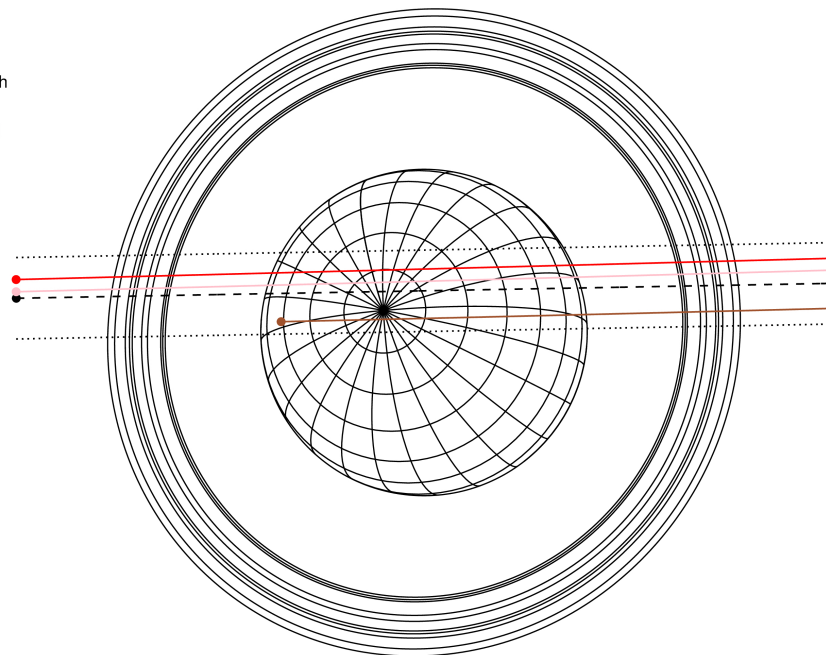
Uranus 2034-04-12T21:20:21 K14.85 G17.10
 PgtRgt



2034-04-12T21:20:21.2900 ex: 06 08 55.4066 s: +23 41 37.056 C/A 0.474° PA 181.04 deg v_sky +16.81 km/s D 19.26 AU
 Credit: Styled after SORA/Lucky Star

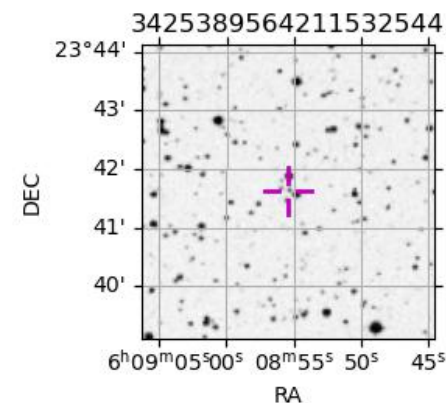
#	a(km)	ring
1	41837.2	6
2	42235.0	5
3	42571.2	4
4	44718.5	alpha
5	45661.1	beta
6	47176.1	eta
7	47626.3	gamma
8	48300.3	delta
9	50026.7	lambda
10	51149.4	epsilon

Earth
 PIC
 TEN
 RIO



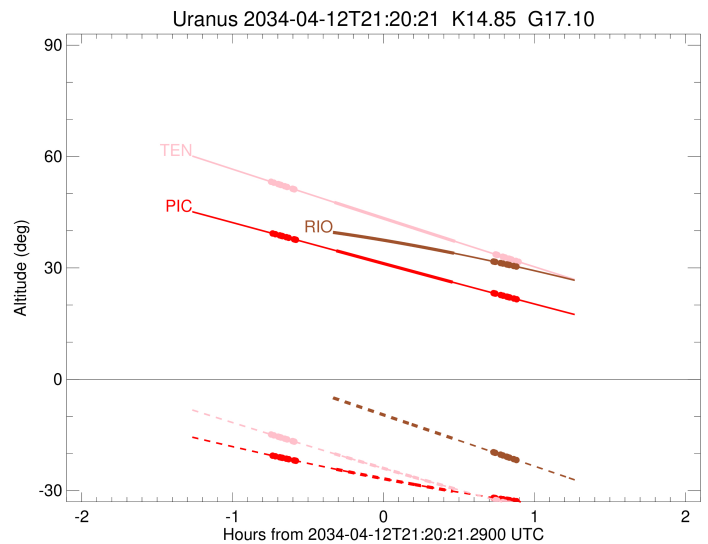
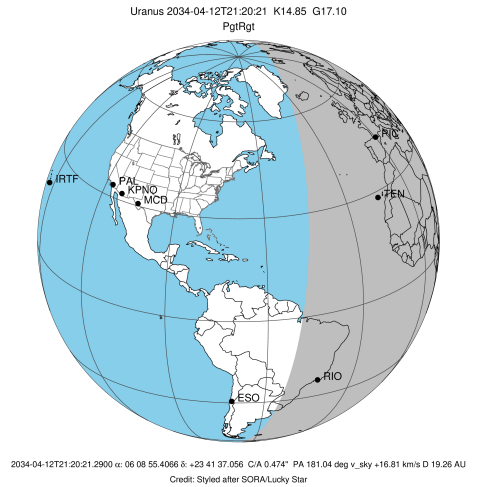
Observable events with sun below -5 deg and altitude above 5 deg unblocked by planet

Obs	Location	lat	Elon	Rings I	Planet	Rings E	Observed Events Interval	OEcode
PIC	Pic du Midi	42.9	0.1	+++++	+ +	+++++	APR 12 20:36 - APR 12 22:13	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 12 20:35 - APR 12 22:14	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 12 21:48 - APR 12 22:13	PneRne
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



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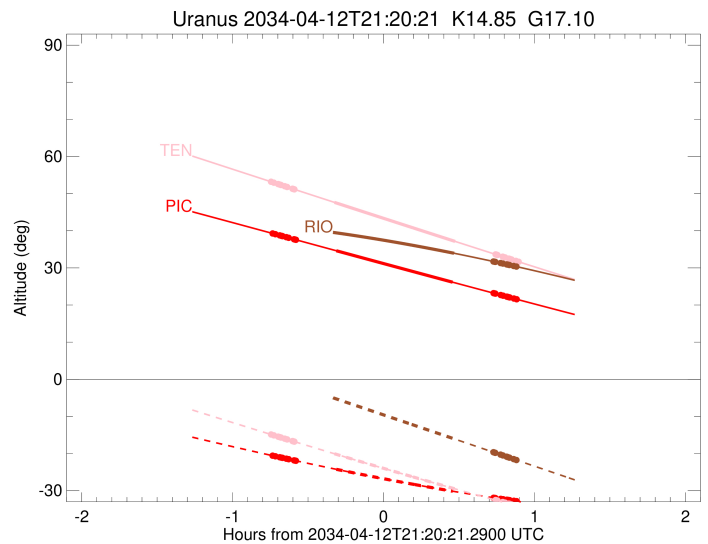
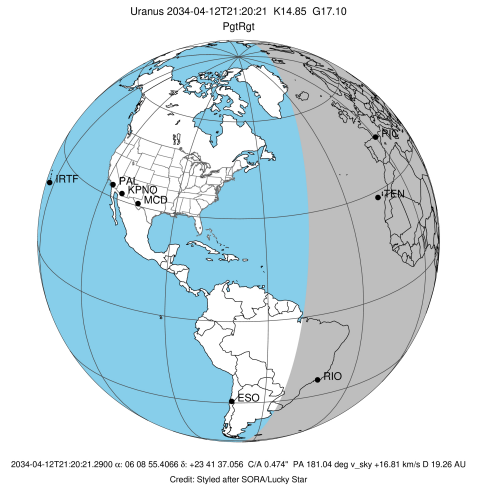
target                : Uranus
target radius (km)   : 25559.00
C/A epoch            : 2034-04-12T21:24:33.320
Event type           : PgtRgt
: Uranus occs: geocentric, topocentric
: Ring occs: geocentric, topocentric
Observer code        : PIC
Location             : Pic du Midi
Latitude (deg)       : 42.93656
E. Longitude (deg)  : 0.14231
Altitude (km)        : 2.890
Gaia source ID       : 3425389564211532544
2Mass ID (if available) : 06085540+2341371
ICRS Star Coord at Epoch: 06h 08m 55.40664s +23:41:37.05593s
RUWE (>1.4 is poor) : 0.98
K magnitude           : 14.853
G magnitude           : 17.099
RP magnitude          : 16.447
BP magnitude          : 17.611
DUPflag              : 0
Distance (au)        : 19.263
f0 (km)              : 0.000
g0 (km)              : 0.000
skyplane vel. (km/s) : 16.81
Sun-Target sep (deg) : 69.48
Sun-Moon sep (deg)  : 147.74
B (ring opening deg) : 73.57
PA of pole (deg)    : 61.48
Pole direction: RA (deg): 257.31100
Dec (deg): -15.17500
C/A sky separation (") : 0.711
C/A sky separation (km) : 9930.0
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_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	2034-04-12T20:36:36.032		39.22	-20.63	50837.33	-16.82		
lambda	I	2034-04-12T20:37:24.278		39.07	-20.75	50026.71	-16.80		
delta	I	2034-04-12T20:39:07.130		38.76	-21.01	48300.35	-16.77		
gamma	I	2034-04-12T20:39:47.100		38.64	-21.11	47630.12	-16.76		
eta	I	2034-04-12T20:40:14.188		38.55	-21.17	47176.12	-16.76		
beta	I	2034-04-12T20:41:45.033		38.27	-21.40	45654.86	-16.73		
alpha	I	2034-04-12T20:42:43.107		38.10	-21.54	44686.28	-16.72		
4	I	2034-04-12T20:44:47.346		37.71	-21.85	42605.96	-16.67		
5	I	2034-04-12T20:45:09.918		37.65	-21.90	42226.95	-16.65		
6	I	2034-04-12T20:45:34.070		37.57	-21.96	41825.04	-16.66		
Uranus	I	2034-04-12T21:01:35.706		34.62	-24.26	25027.35		16.32	17.04
Uranus	E	2034-04-12T21:47:49.328		26.15	-30.15	25360.63		-9.78	-10.24
6	E	2034-04-12T22:04:07.732		23.20	-31.93	41866.89	16.79		
5	E	2034-04-12T22:04:27.862		23.14	-31.96	42205.24	16.79		
4	E	2034-04-12T22:04:48.165		23.08	-32.00	42553.58	16.81		
alpha	E	2034-04-12T22:06:58.560		22.69	-32.22	44752.12	16.86		
beta	E	2034-04-12T22:07:52.471		22.52	-32.31	45658.66	16.88		
eta	E	2034-04-12T22:09:22.254		22.26	-32.46	47176.12	16.91		
gamma	E	2034-04-12T22:09:48.747		22.18	-32.50	47624.26	16.92		
delta	E	2034-04-12T22:10:28.692		22.06	-32.57	48300.35	16.93		
lambda	E	2034-04-12T22:12:10.563		21.75	-32.73	50026.71	16.96		
epsilon	E	2034-04-12T22:13:39.499		21.49	-32.88	51536.23	16.99		

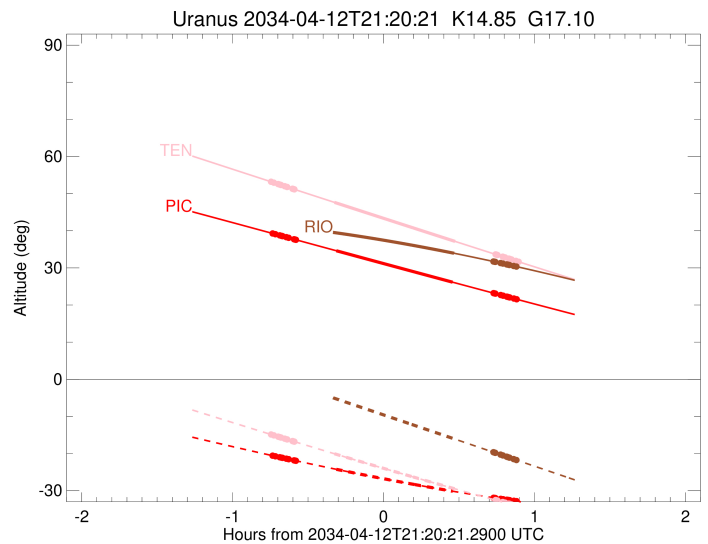
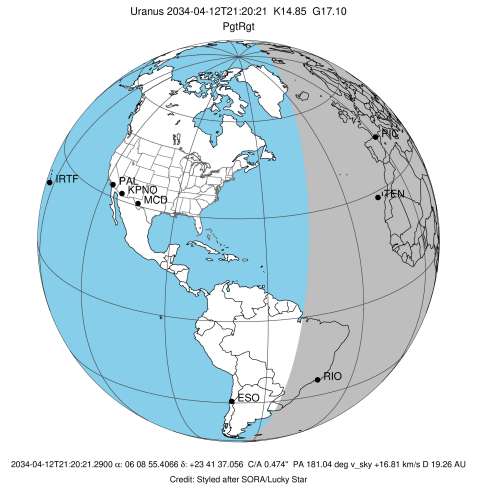
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target                : Uranus
target radius (km)   : 25559.00
C/A epoch            : 2034-04-12T21:24:42.910
Event type           : PgtRgt
: Uranus occs: geocentric, topocentric
: Ring occs: geocentric, topocentric
Observer code        : TEN
Location             : Teide Obs./Tenerife
Latitude (deg)       : 28.30050
E. Longitude (deg)   : 343.48909
Altitude (km)        : 2.395
Gaia source ID       : 3425389564211532544
2Mass ID (if available) : 06085540+2341371
ICRS Star Coord at Epoch: 06h 08m 55.40664s +23:41:37.05593s
RUWE (>1.4 is poor) : 0.98
K magnitude           : 14.853
G magnitude           : 17.099
RP magnitude          : 16.447
BP magnitude          : 17.611
DUPflag              : 0
Distance (au)        : 19.263
f0 (km)              : 0.000
g0 (km)              : 0.000
skyplane vel. (km/s) : 16.81
Sun-Target sep (deg) : 69.48
Sun-Moon sep (deg)   : 147.77
B (ring opening deg) : 73.57
PA of pole (deg)     : 61.48
Pole direction: RA (deg): 257.31100
Dec (deg): -15.17500
C/A sky separation (") : 0.574
C/A sky separation (km) : 8021.7
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	2034-04-12T20:35:59.332		53.13	-14.94	50827.60	-16.81		
lambda	I	2034-04-12T20:36:47.027		52.96	-15.11	50026.71	-16.79		
delta	I	2034-04-12T20:38:29.898		52.58	-15.47	48300.35	-16.77		
gamma	I	2034-04-12T20:39:09.870		52.43	-15.60	47629.96	-16.77		
eta	I	2034-04-12T20:39:36.939		52.33	-15.70	47176.12	-16.76		
beta	I	2034-04-12T20:41:07.664		52.00	-16.01	45655.69	-16.75		
alpha	I	2034-04-12T20:42:05.748		51.79	-16.21	44685.85	-16.74		
4	I	2034-04-12T20:44:09.824		51.33	-16.64	42604.57	-16.71		
5	I	2034-04-12T20:44:31.993		51.25	-16.72	42230.71	-16.70		
6	I	2034-04-12T20:44:56.415		51.16	-16.80	41823.12	-16.70		
Uranus	I	2034-04-12T21:00:49.453		47.66	-20.06	25040.59		16.10	16.82
Uranus	E	2034-04-12T21:48:50.358		37.13	-29.54	25318.56		-10.79	-11.29
6	E	2034-04-12T22:04:55.980		33.63	-32.55	41865.44	16.84		
5	E	2034-04-12T22:05:16.343		33.56	-32.61	42208.71	16.84		
4	E	2034-04-12T22:05:36.279		33.49	-32.67	42551.69	16.86		
alpha	E	2034-04-12T22:07:46.481		33.02	-33.07	44752.28	16.89		
beta	E	2034-04-12T22:08:40.348		32.82	-33.23	45659.51	16.90		
eta	E	2034-04-12T22:10:09.980		32.50	-33.50	47176.12	16.93		
gamma	E	2034-04-12T22:10:36.441		32.40	-33.58	47624.06	16.93		
delta	E	2034-04-12T22:11:16.374		32.26	-33.70	48300.35	16.94		
lambda	E	2034-04-12T22:12:58.223		31.89	-34.01	50026.71	16.96		
epsilon	E	2034-04-12T22:14:26.894		31.57	-34.28	51531.34	16.98		

target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2034-04-12T21:22:59.220
 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 : 3425389564211532544
 2Mass ID (if available) : 06085540+2341371
 ICRS Star Coord at Epoch: 06h 08m 55.40664s +23:41:37.05593s
 RUWE (>1.4 is poor) : 0.98
 K magnitude : 14.853
 G magnitude : 17.099
 RP magnitude : 16.447
 BP magnitude : 17.611
 DUPflag : 0
 Distance (au) : 19.263
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : 16.81
 Sun-Target sep (deg) : 69.48
 Sun-Moon sep (deg) : 147.84
 B (ring opening deg) : 73.57
 PA of pole (deg) : 61.48
 Pole direction: RA (deg): 257.31100
 Dec (deg): -15.17500
 C/A sky separation (") : 0.158
 C/A sky separation (km) : 2202.1
 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



Ring	I/E	UTC	b?	alt	alt-sun	radius	r-dot	lat-geo	lat-geodetic
epsilon	I	2034-04-12T20:33:06.857		41.76	1.20x	50801.94	-16.89		
lambda	I	2034-04-12T20:33:52.770		41.71	1.02x	50026.71	-16.88		
delta	I	2034-04-12T20:35:35.017		41.59	0.64x	48300.35	-16.88		
gamma	I	2034-04-12T20:36:14.750		41.55	0.49x	47629.48	-16.88		
eta	I	2034-04-12T20:36:41.602		41.52	0.38x	47176.12	-16.88		
beta	I	2034-04-12T20:38:11.490		41.41	0.04x	45658.17	-16.88		
alpha	I	2034-04-12T20:39:09.308		41.34	-0.17x	44684.95	-16.88		
4	I	2034-04-12T20:41:12.487		41.19	-0.64x	42600.10	-16.88		
5	I	2034-04-12T20:41:33.415		41.16	-0.72x	42241.70	-16.88		
6	I	2034-04-12T20:41:58.538		41.13	-0.82x	41817.72	-16.88		
Uranus	I	2034-04-12T20:57:35.021		39.82	-4.38x	25112.69		14.88	15.55
Uranus	E	2034-04-12T21:48:25.564		33.94	-16.05	25192.98		-13.41	-14.02
6	E	2034-04-12T22:04:04.869		31.72	-19.65	41860.56	16.98		
5	E	2034-04-12T22:04:26.024		31.67	-19.74	42219.79	16.97		
4	E	2034-04-12T22:04:44.880		31.63	-19.81	42546.10	16.98		
alpha	E	2034-04-12T22:06:54.521		31.30	-20.31	44752.40	16.99		
beta	E	2034-04-12T22:07:48.254		31.17	-20.51	45662.16	16.99		
eta	E	2034-04-12T22:09:17.335		30.95	-20.86	47176.12	16.99		
gamma	E	2034-04-12T22:09:43.660		30.88	-20.96	47623.46	16.99		
delta	E	2034-04-12T22:10:23.488		30.78	-21.11	48300.35	17.00		
lambda	E	2034-04-12T22:12:05.052		30.53	-21.50	50026.71	17.00		
epsilon	E	2034-04-12T22:13:32.440		30.30	-21.84	51512.46	17.01		