

target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2024-07-29T15:10:02.430
 Event type : PgtRgt
 : Uranus occs: geocentric, topocentric
 : Ring occs: geocentric, topocentric
 Gaia source ID : 57147018071663488
 2Mass ID (if available) : 03364661+1905598

ICRS Star Coord at Epoch: 03h 36m 46.61141s +19:05:59.83192s

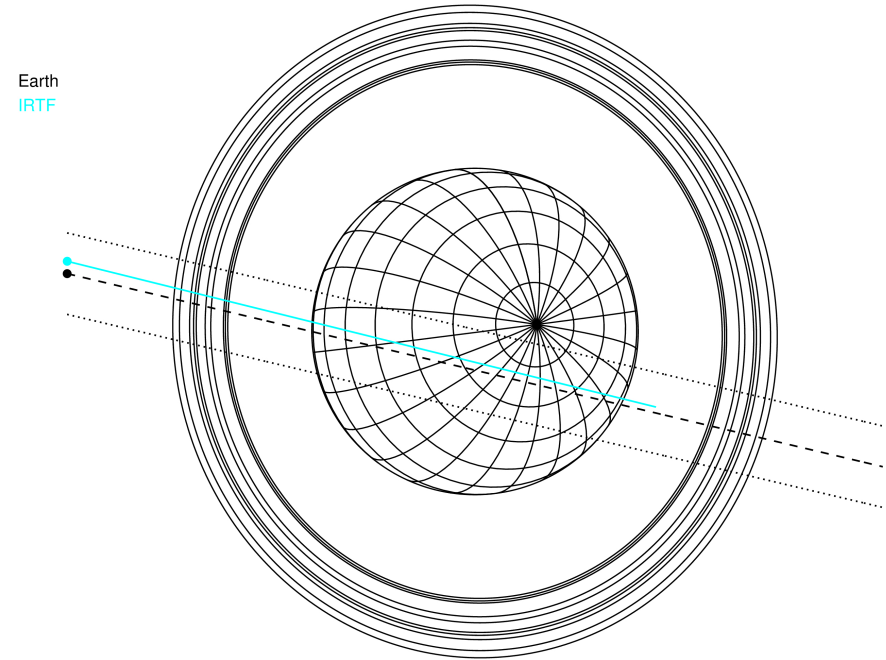
RUWE (>1.4 is poor) : 1.01
 K magnitude : 13.432
 G magnitude : 16.806
 RP magnitude : 15.737
 BP magnitude : 17.973
 DUPflag : 0
 Distance (au) : 19.900
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : 16.44
 Sun-Target sep (deg) : 70.21
 Sun-Moon sep (deg) : 4.04
 B (ring opening deg) : 67.58
 PA of pole (deg) : -83.51

#	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



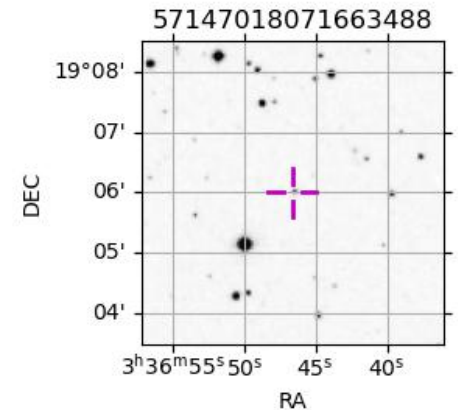
2024-07-29T15:10:02.4300 ex: 03 36 46.6114 s: +19 05 59.832 C/A 0.406° PA 346.69 deg v_sky +16.44 km/s D 19.90 AU
 Credit: Styled after SORA/Lucky Star

Uranus 2024-07-29T15:10:02 K13.43 G16.81 PgtRgt



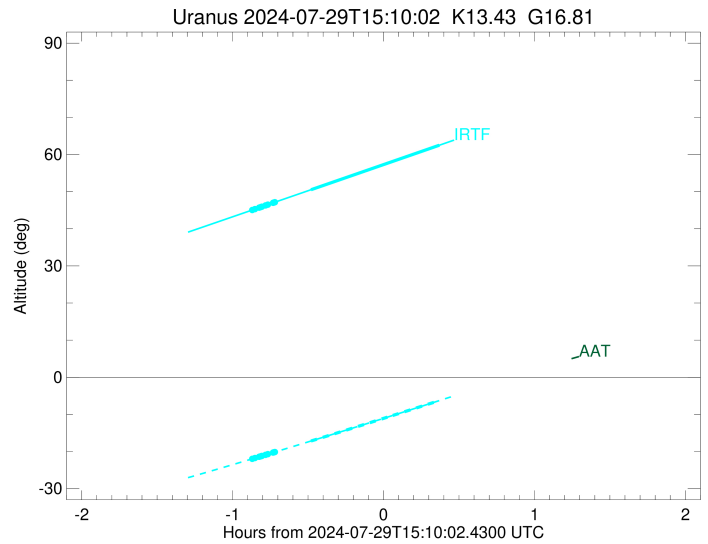
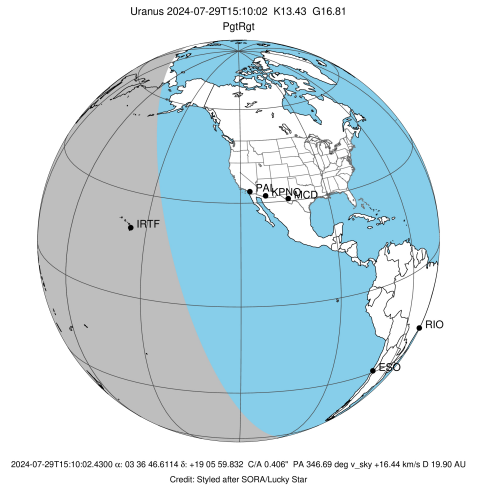
Observable events with sun below -5 deg and altitude above 5 deg unblocked by planet

Obs	Location	lat	Elon	Rings I	Planet	Rings E	Observed Events Interval	OEncode
PIC	Pic du Midi	42.9	0.1					PnnRnn
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					PnnRnn
IRTF	Mauna Kea/IRTF	19.8	204.5	+++++	+		JUL 29 14:17 - JUL 29 15:32	PieRin
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



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target                : Uranus
target radius (km)    : 25559.00
C/A epoch              : 2024-07-29T15:06:38.430
Event type             : PgtRgt
: Uranus occs: geocentric, topocentric
: 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        : 57147018071663488
2Mass ID (if available) : 03364661+1905598
ICRS Star Coord at Epoch: 03h 36m 46.61141s +19:05:59.83192s
RUWE (>1.4 is poor)  : 1.01
K magnitude           : 13.432
G magnitude           : 16.806
RP magnitude          : 15.737
BP magnitude          : 17.973
DUPflag               : 0
Distance (au)         : 19.900
f0 (km)               : 0.000
g0 (km)               : 0.000
skyplane vel. (km/s)  : 16.44
Sun-Target sep (deg)  : 70.21
Sun-Moon sep (deg)    : 3.90
B (ring opening deg)  : 67.58
PA of pole (deg)      : -83.51
Pole direction: RA (deg): 257.31100
Dec (deg): -15.17500
C/A sky separation (") : 0.325
C/A sky separation (km) : 4684.3
NAIF SPICE kernels    : RAJobs_U111+rgf15.spk
URKALLvl.spk
urall1.bsp
IAU_URANUS_for_RINGFIT.tpc
vgr2.urall1.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
    
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Ring	I/E	UTC	b?	alt	alt-sun	radius	r-dot	lat-geo	lat-geodetic
epsilon	I	2024-07-29T14:17:38.444		45.00	-22.02	51396.91	-17.30		
lambda	I	2024-07-29T14:18:57.730		45.31	-21.75	50026.71	-17.28		
delta	I	2024-07-29T14:20:37.673		45.70	-21.41	48300.35	-17.27		
gamma	I	2024-07-29T14:21:16.971		45.85	-21.28	47621.78	-17.26		
eta	I	2024-07-29T14:21:42.787		45.95	-21.19	47176.12	-17.26		
beta	I	2024-07-29T14:23:10.689		46.30	-20.89	45660.11	-17.25		
alpha	I	2024-07-29T14:24:03.525		46.50	-20.71	44752.29	-17.25		
4	I	2024-07-29T14:26:09.646		46.99	-20.28	42569.03	-17.23		
5	I	2024-07-29T14:26:24.774		47.05	-20.23	42302.85	-17.22		
6	I	2024-07-29T14:26:54.721		47.17	-20.13	41796.24	-17.23		
Uranus	I	2024-07-29T14:41:11.786		50.52	-17.18	25072.66		-22.09	-23.02
Uranus	E	2024-07-29T15:32:16.178		62.52	-6.28	25189.51		19.06	19.89
6	E	2024-07-29T15:47:04.429		66.00	-3.04x	41879.72	17.10		
5	E	2024-07-29T15:47:21.212		66.07	-2.98x	42159.30	17.09		
4	E	2024-07-29T15:47:45.666		66.17	-2.89x	42583.40	17.10		
alpha	E	2024-07-29T15:49:47.967		66.65	-2.44x	44684.87	17.11		
beta	E	2024-07-29T15:50:45.513		66.87	-2.23x	45666.30	17.11		
eta	E	2024-07-29T15:52:13.772		67.22	-1.90x	47176.12	17.12		
gamma	E	2024-07-29T15:52:40.294		67.32	-1.80x	47630.10	17.12		
delta	E	2024-07-29T15:53:19.447		67.48	-1.66x	48300.35	17.12		
lambda	E	2024-07-29T15:55:00.277		67.87	-1.29x	50026.71	17.12		
epsilon	E	2024-07-29T15:55:54.828		68.09	-1.09x	50960.86	17.14		