

target : Uranus  
 target radius (km) : 25559.00  
 C/A epoch : 2028-08-06T13:16:24.200  
 Event type : XRgt  
 : No Uranus occs  
 : Ring occs: geocentric, topocentric  
 Gaia source ID : 3413045033631278464  
 2Mass ID (if available) : 04463227+2219071

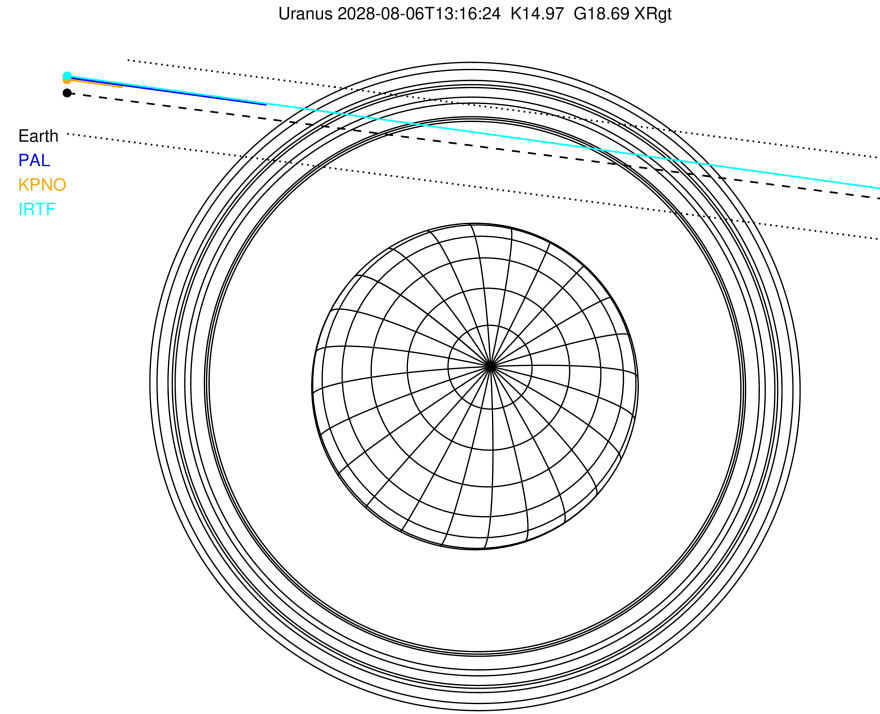
ICRS Star Coord at Epoch: 04h 46m 32.31372s +22:19:07.10139s

RUWE (>1.4 is poor) : 0.94  
 K magnitude : 14.973  
 G magnitude : 18.690  
 RP magnitude : 17.600  
 BP magnitude : 19.837  
 DUPflag : 0  
 Distance (au) : 19.785  
 f0 (km) : 0.000  
 g0 (km) : 0.000  
 skyplane vel. (km/s) : 20.70  
 Sun-Target sep (deg) : 61.15  
 Sun-Moon sep (deg) : 105.47  
 B (ring opening deg) : 81.06  
 PA of pole (deg) : -37.92

#	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

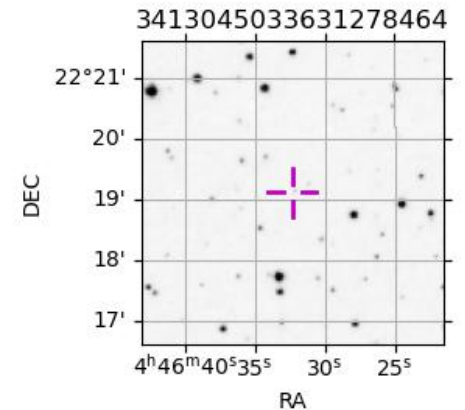


2028-08-06T13:16:24.2000 cc: 04 46 32.31372 s: +22 19 07.101 C/A 2.607" PA 172.60 deg v\_sky +20.70 km/s D 19.79 AU  
 Credit: Styled after SORA/Lucky Star



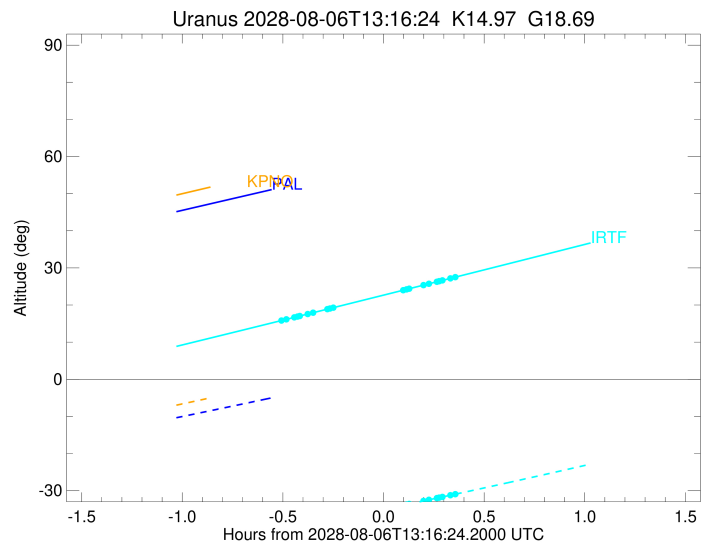
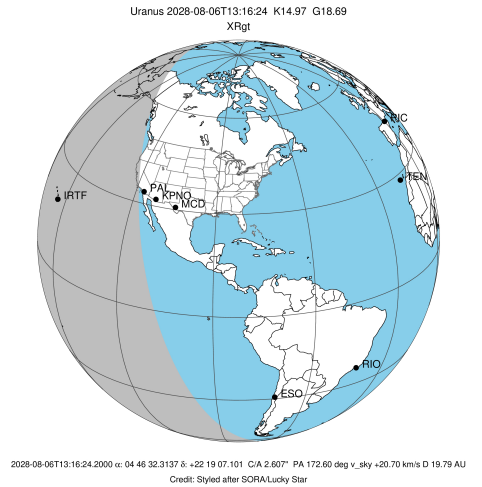
Observable events with sun below -5 deg and altitude above 5 deg unblocked by planet

Obs	Location	lat	Elon	Rings I	Planet	Rings E	Observed Events Interval	OEcode
PIC	Pic du Midi	42.9	0.1					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	+++++		+++++	AUG 06 12:45 - AUG 06 13:38	PnnRie
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            : 2028-08-06T13:12:11.990
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      : 3413045033631278464
2Mass ID (if available) : 04463227+2219071
ICRS Star Coord at Epoch: 04h 46m 32.31372s +22:19:07.10139s
RUWE (>1.4 is poor) : 0.94
K magnitude         : 14.973
G magnitude         : 18.690
RP magnitude        : 17.600
BP magnitude        : 19.837
DUPflag            : 0
Distance (au)       : 19.785
f0 (km)            : 0.000
g0 (km)            : 0.000
skyplane vel. (km/s) : 20.70
Sun-Target sep (deg) : 61.15
Sun-Moon sep (deg)  : 106.02
B (ring opening deg) : 81.06
PA of pole (deg)    : -37.92
Pole direction: RA (deg): 257.31100
Dec (deg): -15.17500
C/A sky separation (") : 2.748
C/A sky separation (km) : 39430.1
NAIF SPICE kernels  : RAJobs_U111+rgf15.spk
URKALLvl1.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	2028-08-06T12:45:39.222		15.75	-40.45	51414.00	-13.21		
lambda	I	2028-08-06T12:47:27.337		16.15	-40.15	50026.71	-12.54		
delta	I	2028-08-06T12:49:49.508		16.68	-39.74	48300.35	-11.73		
gamma	I	2028-08-06T12:50:47.487		16.90	-39.58	47630.75	-11.37		
eta	I	2028-08-06T12:51:27.935		17.05	-39.46	47176.12	-11.11		
beta	I	2028-08-06T12:53:50.650		17.58	-39.05	45658.62	-10.14		
alpha	I	2028-08-06T12:55:23.831		17.93	-38.79	44746.66	-9.44		
4	I	2028-08-06T12:59:36.392		18.88	-38.05	42612.37	-7.37		
5	I	2028-08-06T13:00:18.363		19.03	-37.93	42314.28	-7.00		
6	I	2028-08-06T13:01:23.084		19.28	-37.73	41877.32	-6.42		

No planet occultations

6	E	2028-08-06T13:22:20.268		24.00	-33.91	41877.94	6.41		
5	E	2028-08-06T13:23:22.379		24.24	-33.71	42288.10	6.99		
4	E	2028-08-06T13:24:04.713		24.40	-33.58	42589.20	7.35		
alpha	E	2028-08-06T13:28:18.004		25.35	-32.78	44719.54	9.41		
beta	E	2028-08-06T13:29:56.332		25.73	-32.47	45676.88	10.11		
eta	E	2028-08-06T13:32:17.825		26.26	-32.02	47176.12	11.06		
gamma	E	2028-08-06T13:32:58.438		26.41	-31.89	47630.66	11.32		
delta	E	2028-08-06T13:33:56.683		26.63	-31.70	48300.35	11.67		
lambda	E	2028-08-06T13:36:19.536		27.18	-31.24	50026.71	12.48		
epsilon	E	2028-08-06T13:38:14.883		27.61	-30.87	51501.04	13.14		