

u103_palomar_508cm_2200nm_predicted_ring_event_times.txt produced Mon Apr 5 12:59:12 2021 using
rfrench@Achilles.fios-router.home:/Volumes/PromisePegasus28TB_backup/dione_raid2/Research/uranus/PDART2014/programs/pro_occinfo2geom_plots_pds4_v7.pro

Bundle ID: uranus_occ_u103_palomar_508cm

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Event: u103
Planet: Uranus
Reference: French, R. G. et al. Icarus 119, 269-284 (1996)
Title: Earth-Based Detection of Uranus\200\231 Lambda Ring
Computations from: 1992-07-11T07:41:04.5307Z to 1992-07-11T08:47:51.1807Z
Observatory name: Palomar Observatory
Observatory code file directory: /Volumes/dione_raid2/Research/kernels/
Observatory code file: ObsCodes_pck00010_20200709_Elon+ocobs_v9BJ.obs
Observatory code: 675
Observatory abbreviation: palomar
Entry from observatory code file:
    675 G +243 08 14.86 +33 21 14.8      1696 Palomar Mountain      pck00010.tpc
Telescope: 508cm
Instrument: Generic InSb High Speed Photometer
Mean wavelength (nm): 2200nm
Observatory latitude (deg): 33.354111111
Observatory E longitude (deg): 243.137461111
Observatory altitude (km): 1.696000000
Ellipsoid source: /Volumes/dione_raid2/Research/kernels/pck00010.tpc
Observatory reference frame: ITRF93
Earth equatorial radius (km): 6378.136600000
Earth 1/flattening: 298.257006177
Topocentric position vector: -2410.356622789 -4758.781262269 3487.762207224
Leapsecond kernel file: /Volumes/dione_raid2/Research/kernels/naif0012.tls
Star catalog directory: /Volumes/dione_raid2/Research/RINGFIT/stars/data/
Star catalog file: ustarsALLd.v3.merged.sortedA.csv
Star catalog ID: 22794421
Star number: 28
Star name: U103
Star source catalog: UCAC2
Star RA (deg): 287.398335900
Star Dec (deg): -22.911413700
Star epoch: 2000-01-01T00:00:00.0000Z
Star parallax (mas): 0.000000000
Star pm RA (mas/yr): -2.200000000
Star pm Dec (mas/yr): -7.000000000
Star catalog positions in frame: J2000
Star frame for calculations: J2000
Heliocentric frame for calculations: J2000
Ringfit savefile directory: /Volumes/dione_raid2/Research/RINGFIT/tests/Uranus/Ur017L/savefiles/
Ringfit savefile for star/time offsets: ringfit_v1.8.Ur017L-RF-V0204.sav
Ringfit output file directory: /Volumes/dione_raid2/Research/RINGFIT/tests/Uranus/Ur017L/outfiles/
Ringfit output file: ringfit_v1.8.Ur017L-RF-V0204.out
Star offsets dRA,dDec (mas): -6.689287744 13.182224691
Time offset for this obstr./event (sec): 0.000000000
Kernel directory: /Volumes/dione_raid2/Research/kernels/
    ../../../../kernels/urall1.bsp
    ../../../../kernels/vgr2.urall1.bsp
    ../../../../kernels/earthstns_itrf93_040916.bsp
    ../../../../kernels/earth_720101_031229.bpc
    ../../../../kernels/pg3f0000r.bsp
    ../../../../kernels/pg490000r.bsp
    ../../../../kernels/naif0012.tls
    /Volumes/dione_raid2/Research/RINGFIT/tests/Uranus/Ur017L/savefiles/../../kernels/RAJobs_U111+rgf9.spk
    /Volumes/dione_raid2/Research/RINGFIT/tests/Uranus/Ur017L/savefiles/../../kernels/URKALLv1.spk
    /Volumes/dione_raid2/Research/kernels/uranus_ringframes_rfrench20201201_v1.tf
    /Volumes/dione_raid2/Research/kernels/pck00010.tpc

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Predicted Ring/Atmosphere Occultation Events

Ring	I/E	UTC (Earth)	UTC (@ring)	R (model)	R-dot	Anomaly	Sin B	Ulon Alt (deg)	Sun (deg)
epsilon	I	1992-07-11T08:06:57.69Z	1992-07-11T05:32:52.35Z	51425.50	-13.521	133.191	-0.87111	64.023	33.319 -34.492
lambda	I	1992-07-11T08:08:45.45Z	1992-07-11T05:34:40.11Z	50026.01	-12.431	333.395	-0.87111	66.776	33.266 -34.465
delta	I	1992-07-11T08:11:13.82Z	1992-07-11T05:37:08.47Z	48300.46	-10.789	93.278	-0.87111	70.813	33.189 -34.422
gamma	I	1992-07-11T08:12:18.04Z	1992-07-11T05:38:12.68Z	47631.53	-10.026	198.897	-0.87111	72.647	33.153 -34.401
eta	I	1992-07-11T08:13:04.80Z	1992-07-11T05:38:59.45Z	47176.11	-9.453	40.206	-0.87111	74.014	33.127 -34.386
beta	I	1992-07-11T08:16:10.80Z	1992-07-11T05:42:05.44Z	45641.10	-7.002	359.168	-0.87115	79.699	33.015 -34.317
alpha	I	1992-07-11T08:18:44.78Z	1992-07-11T05:44:39.41Z	44730.50	-4.795	110.453	-0.87123	84.659	32.915 -34.253
alpha	E	1992-07-11T08:29:20.36Z	1992-07-11T05:55:14.96Z	44741.28	4.849	131.783	-0.87123	106.004	32.437 -33.920
beta	E	1992-07-11T08:31:52.50Z	1992-07-11T05:57:47.09Z	45643.86	7.008	30.354	-0.87115	110.905	32.307 -33.823
eta	E	1992-07-11T08:34:58.27Z	1992-07-11T06:00:52.85Z	47176.21	9.454	82.749	-0.87111	116.579	32.140 -33.697
gamma	E	1992-07-11T08:35:44.74Z	1992-07-11T06:01:39.32Z	47628.81	10.027	244.156	-0.87111	117.938	32.097 -33.664
delta	E	1992-07-11T08:36:49.29Z	1992-07-11T06:02:43.86Z	48300.67	10.798	142.220	-0.87111	119.780	32.036 -33.617
lambda	E	1992-07-11T08:39:17.69Z	1992-07-11T06:05:12.26Z	50026.01	12.437	30.403	-0.87111	123.816	31.891 -33.505
epsilon	E	1992-07-11T08:41:13.92Z	1992-07-11T06:07:08.48Z	51539.52	13.601	195.922	-0.87111	126.777	31.774 -33.413

Event geometry at 1992-07-11T08:21:53.0000Z

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Ring opening angle B (deg): -60.58792
Position angle of pole P (deg): 279.85340
Observer-planet distance (km): 2771.705927 x 10^6
Light travel time (sec): 9245.415797

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