

u23_mcdonald_270cm_2200nm_predicted_ring_event_times.txt produced Mon Apr 5 00:27:58 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_u23_mcdonald_270cm

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Event: u23
Planet: Uranus
Reference: French et al. 1988 Icarus 73, 349-378
Title: Uranian ring orbits from earth-based and Voyager occultation observations.
Computations from: 1985-05-04T06:02:00.0000Z to 1985-05-04T06:15:00.0000Z
Observatory name: McDonald Observatory
Observatory code file directory: /Volumes/dione_raid2/Research/kernels/
Observatory code file: ObsCodes_pck00010_20200709_Elon+occobs_v9BJ.obs
Observatory code: 711
Observatory abbreviation: mcdonald
Entry from observatory code file:
    711 G +255 58 42.60 +30 40 17.3          2103 McDonald Observatory, Fort Davis          pck00010.tpc
Telescope: 270cm
Instrument: Generic InSb High Speed Photometer
Mean wavelength (nm): 2200nm
Observatory latitude (deg): 30.671472222
Observatory E longitude (deg): 255.978500000
Observatory altitude (km): 2.103000000
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: -1330.748254058 -5328.820339318 3235.692051442
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: 22735323
Star number: 83
Star name: U23
Star source catalog: UCAC2
Star RA (deg): 256.378486200
Star Dec (deg): -22.873890300
Star epoch: 2000-01-01T00:00:00.0000Z
Star parallax (mas): 0.000000000
Star pm RA (mas/yr): -2.500000000
Star pm Dec (mas/yr): -11.700000000
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): 97.893847636 33.583458821
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)
six	E	1985-05-04T06:02:42.50Z	1985-05-04T03:31:07.74Z	41807.21	12.956	44.986	-0.99084	227.519	19.759	-41.832
five	E	1985-05-04T06:03:09.47Z	1985-05-04T03:31:34.71Z	42162.82	13.053	25.844	-0.99088	227.080	19.829	-41.858
four	E	1985-05-04T06:03:39.66Z	1985-05-04T03:32:04.90Z	42557.92	13.156	287.126	-0.99084	226.588	19.907	-41.888
alpha	E	1985-05-04T06:06:22.56Z	1985-05-04T03:34:47.81Z	44741.89	13.670	226.839	-0.99084	224.084	20.326	-42.044
beta	E	1985-05-04T06:07:28.93Z	1985-05-04T03:35:54.19Z	45655.64	13.859	73.845	-0.99085	223.135	20.496	-42.105
eta	E	1985-05-04T06:09:17.52Z	1985-05-04T03:37:42.78Z	47176.25	14.144	261.174	-0.99086	221.661	20.773	-42.202
gamma	E	1985-05-04T06:09:49.27Z	1985-05-04T03:38:14.53Z	47626.45	14.222	270.357	-0.99086	221.248	20.853	-42.230
delta	E	1985-05-04T06:10:36.46Z	1985-05-04T03:39:01.72Z	48300.28	14.335	53.736	-0.99086	220.649	20.972	-42.271
lambda	E	1985-05-04T06:12:35.73Z	1985-05-04T03:41:01.00Z	50026.01	14.599	34.211	-0.99086	219.206	21.273	-42.370
epsilon	E	1985-05-04T06:13:53.90Z	1985-05-04T03:42:19.17Z	51173.47	14.758	266.154	-0.99086	218.314	21.469	-42.432

Event geometry at 1985-05-04T06:02:00.0000Z

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Ring opening angle B (deg): -82.24815
Position angle of pole P (deg): 6.68814
Observer-planet distance (km): 2726.524766 x 10^6
Light travel time (sec): 9094.707667

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