

u36_sso_390cm_2200nm_predicted_ring_event_times.txt produced Mon Apr 12 20:15:22 2021 using
rfrench@Achilles.local:/Volumes/PromisePegasus28TB_backup/dione RAID2/Research/uranus/PDART2014/programs/pro_occinfo2geom_plots_pds4_v7.pro

Bundle ID: uranus_occ_u36_sso_390cm

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Event: u36
Planet: Uranus
Reference: J. L. Elliot and 13 colleagues. BAAS 19, 884 (1987)
Title: A four-day occultation by Uranus and its rings
Computations from: 1987-04-02T13:43:03.6370Z to 1987-04-02T17:15:35.7370Z
Observatory name: Siding Spring Observatory
Observatory code file directory: /Volumes/dione RAID2/Research/kernels/
Observatory code file: ObsCodes_pck00010_20200709_Elon+ocobs_v9BJ. obs
Observatory code: 413
Observatory abbreviation: sso
Entry from observatory code file:
    413 G +149 03 57.89 -31 16 37.4      1164 Siding Spring Observatory      pck00010.tpc
Telescope: 390cm
Instrument: Generic InSb High Speed Photometer
Mean wavelength (nm): 2200nm
Observatory latitude (deg): -31.277055556
Observatory E longitude (deg): 149.066080556
Observatory altitude (km): 1.164000000
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: -4680.887217216 2805.218233092 -3292.789439636
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: 333-124092
Star number: 114
Star name: U36
Star source catalog: UCAC4
Star RA (deg): 266.624681200
Star Dec (deg): -23.538897000
Star epoch: 2000-01-01T00:00:00.0000Z
Star parallax (mas): 0.000000000
Star pm RA (mas/yr): -3.200000000
Star pm Dec (mas/yr): -8.100000000
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): 17.783060768 75.423918081
Time offset for this obstr./event (sec): 0.000000000
Kernel directory: /Volumes/dione RAID2/Research/kernels/
    ../../../../kernels/ura111.bsp
    ../../../../kernels/vgr2_ura111.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)
eta	E	1987-04-02T13:49:03.15Z	1987-04-02T11:11:48.15Z	47176.08	0.888	19.057	-0.97769	164.005	20.309	-63.233
gamma	E	1987-04-02T13:57:23.73Z	1987-04-02T11:20:08.77Z	47624.55	0.904	68.669	-0.97769	164.008	22.033	-63.481
delta	E	1987-04-02T14:09:42.15Z	1987-04-02T11:32:27.27Z	48300.58	0.927	242.501	-0.97769	164.020	24.588	-63.586
lambda	E	1987-04-02T14:39:49.39Z	1987-04-02T12:02:34.67Z	50026.01	0.982	29.985	-0.97769	164.088	30.898	-62.528
epsilon	E	1987-04-02T14:52:16.61Z	1987-04-02T12:15:01.96Z	50767.89	1.004	339.928	-0.97769	164.131	33.528	-61.583

Event geometry at 1987-04-02T13:43:04.0000Z

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Ring opening angle B (deg): -77.87531
Position angle of pole P (deg): 311.95670
Observer-planet distance (km): 2828.185999 x 10^6
Light travel time (sec): 9433.813037

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