

u138_hst_fos_540nm_predicted_ring_event_times.txt produced Mon Apr 5 17:57:51 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_u138_hst_fos

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Event: u138
Planet: Uranus
Reference: Unpublished
Title: Unpublished
Computations from: 1996-04-10T10:49:48.5500Z to 1996-04-10T12:16:33.2603Z
Observatory name: Hubble Space Telescope
Observatory code file directory: /Volumes/dione_raid2/Research/kernels/
Observatory code file: ObsCodes_pck00010_20200709_Elon+ocobs_v9BJ.obs
Observatory code: HST
Observatory abbreviation: hst
Telescope: fos
Instrument: Fain Object Spectrograph
Mean wavelength (nm): 540nm
Ellipsoid source: /Volumes/dione_raid2/Research/kernels/pck00010.tpc
Observatory reference frame: ITRF93
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: 24243463
Star number: 52
Star name: U138
Star source catalog: UCAC2
Star RA (deg): 306.777945600
Star Dec (deg): -19.730232800
Star epoch: 2000-01-01T00:00:00.0000Z
Star parallax (mas): 0.000000000
Star pm RA (mas/yr): 8.200000000
Star pm Dec (mas/yr): 0.200000000
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): 45.982061485 0.219639037
Time offset for this obst./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
/Volumes/dione_raid2/Research/kernels/ObsCodes_pck00010_20200709_Elon+ocobs_v9BJ.obs

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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 | 1996-04-10T11:05:48.39Z | 1996-04-10T08:19:43.85Z | 51526.18 | -16.330 | 201.672 | -0.67877 | 198.975 | -0.000 |
| lambda | I | 1996-04-10T11:07:18.02Z | 1996-04-10T08:21:13.49Z | 50026.01 | -17.144 | 248.668 | -0.67877 | 199.638 | -0.000 |
| six | E | 1996-04-10T12:04:08.13Z | 1996-04-10T09:18:04.14Z | 41821.32 | 14.589 | 292.042 | -0.67823 | 346.484 | -0.000 |
| five | E | 1996-04-10T12:04:41.77Z | 1996-04-10T09:18:37.78Z | 42228.43 | 14.290 | 274.655 | -0.67929 | 346.849 | -0.000 |
| four | E | 1996-04-10T12:05:05.07Z | 1996-04-10T09:19:01.09Z | 42587.39 | 14.112 | 110.868 | -0.67877 | 347.149 | -0.000 |
| alpha | E | 1996-04-10T12:07:42.31Z | 1996-04-10T09:21:38.36Z | 44723.10 | 12.898 | 262.476 | -0.67866 | 348.897 | -0.000 |
| beta | E | 1996-04-10T12:08:54.91Z | 1996-04-10T09:22:50.97Z | 45641.32 | 12.375 | 8.495 | -0.67875 | 349.615 | -0.000 |
| eta | E | 1996-04-10T12:11:03.68Z | 1996-04-10T09:24:59.76Z | 47176.07 | 11.517 | 357.788 | -0.67877 | 350.771 | -0.000 |
| gamma | E | 1996-04-10T12:11:43.43Z | 1996-04-10T09:25:39.51Z | 47629.42 | 11.278 | 236.635 | -0.67876 | 351.101 | -0.000 |
| delta | E | 1996-04-10T12:12:43.86Z | 1996-04-10T09:26:39.95Z | 48300.73 | 10.937 | 191.860 | -0.67876 | 351.579 | -0.000 |
| lambda | E | 1996-04-10T12:15:27.66Z | 1996-04-10T09:29:23.77Z | 50026.01 | 10.171 | 41.703 | -0.67877 | 352.742 | -0.000 |

Event geometry at 1996-04-10T11:35:36.0000Z

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Ring opening angle B (deg): -42.74738
Position angle of pole P (deg): 267.29897
Observer-planet distance (km): 2987.131598 x 10^6
Light travel time (sec): 9963.998488

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