

u9_lco_250cm_2200nm_predicted_ring_event_times.txt produced Sun Apr 4 14:32:59 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_u9_lco_250cm

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Event: u9
Planet: Uranus
Reference: Nicholson et al. (1981) Astron J. 86, 597
Title: The Uranus occultation of 10 June 1979. I. The rings
Computations from: 1979-06-10T01:35:13.6550Z to 1979-06-10T02:54:00.8400Z
Observatory name: Las Campanas Observatory
Observatory code file directory: /Volumes/dione_raid2/Research/kernels/
Observatory code file: ObsCodes_pck00010_20200709_Elon+ocobs_v9BJ.obs
Observatory code: 304
Observatory abbreviation: lco
Entry from observatory code file:
  304 G +289 17 52.80 -29 00 12.8          2270 Las Campanas Observatory          pck00010.tpc
Telescope: 250cm
Instrument: Generic InSb High Speed Photometer
Mean wavelength (nm): 2200nm
Observatory latitude (deg): -29.003555556
Observatory E longitude (deg): 289.298000000
Observatory altitude (km): 2.270000000
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: 1845.617303240 -5270.845524126 -3075.346302194
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: 25547691
Star number: 108
Star name: U9
Star source catalog: UCAC2
Star RA (deg): 225.692571800
Star Dec (deg): -16.887355900
Star epoch: 2000-01-01T00:00:00.0000Z
Star parallax (mas): 0.000000000
Star pm RA (mas/yr): -14.900000000
Star pm Dec (mas/yr): -4.600000000
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): -231.522907051 -21.439857817
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	1979-06-10T01:35:17.33Z	1979-06-09T23:07:08.73Z	51337.96	-21.282	118.076	-0.86246	12.137	71.969	-47.872
lambda	I	1979-06-10T01:36:18.99Z	1979-06-09T23:08:10.39Z	50026.01	-21.271	123.307	-0.86246	12.341	72.142	-48.097
delta	I	1979-06-10T01:37:40.14Z	1979-06-09T23:09:31.53Z	48300.34	-21.257	292.517	-0.86246	12.627	72.368	-48.392
gamma	I	1979-06-10T01:38:11.72Z	1979-06-09T23:10:03.11Z	47629.09	-21.250	240.801	-0.86246	12.744	72.455	-48.507
eta	I	1979-06-10T01:38:33.04Z	1979-06-09T23:10:24.43Z	47176.07	-21.246	354.805	-0.86246	12.825	72.514	-48.585
beta	I	1979-06-10T01:39:44.64Z	1979-06-09T23:11:36.04Z	45657.48	-21.231	280.746	-0.86242	13.107	72.709	-48.845
alpha	I	1979-06-10T01:40:30.15Z	1979-06-09T23:12:21.54Z	44695.10	-21.222	46.082	-0.86233	13.295	72.833	-49.011
four	E	1979-06-10T02:47:16.19Z	1979-06-10T00:19:07.53Z	42559.22	21.202	74.591	-0.86224	175.121	77.365	-63.587
alpha	E	1979-06-10T02:48:59.64Z	1979-06-10T00:20:50.98Z	44748.58	21.227	208.268	-0.86233	175.585	77.256	-63.961
beta	E	1979-06-10T02:49:42.74Z	1979-06-10T00:21:34.07Z	45658.89	21.236	83.307	-0.86242	175.765	77.207	-64.117
eta	E	1979-06-10T02:50:54.28Z	1979-06-10T00:22:45.61Z	47176.38	21.250	157.938	-0.86246	176.048	77.122	-64.376
gamma	E	1979-06-10T02:51:15.28Z	1979-06-10T00:23:06.61Z	47622.66	21.255	44.094	-0.86246	176.128	77.096	-64.452
delta	E	1979-06-10T02:51:47.16Z	1979-06-10T00:23:38.49Z	48300.48	21.261	96.049	-0.86246	176.246	77.055	-64.567
lambda	E	1979-06-10T02:53:08.28Z	1979-06-10T00:24:59.61Z	50026.01	21.277	287.418	-0.86246	176.532	76.948	-64.860
epsilon	E	1979-06-10T02:53:56.78Z	1979-06-10T00:25:48.11Z	51058.15	21.285	282.560	-0.86246	176.694	76.881	-65.035

Event geometry at 1979-06-10T02:15:06.0000Z

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Ring opening angle B (deg): -59.59409
Position angle of pole P (deg): 91.32323
Observer-planet distance (km): 2664.782318 x 10^6
Light travel time (sec): 8888.757028

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