

u137_irtf_320cm_2200nm_predicted_ring_event_times.txt produced Mon Apr 5 14:42:50 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_u137_irtf_320cm

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Event: u137
Planet: Uranus
Reference: Unpublished
Title: Unpublished
Computations from: 1996-03-16T14:30:12.2830Z to 1996-03-16T15:43:02.3011Z
Observatory name: IRTF
Observatory code file directory: /Volumes/dione RAID2/Research/kernels/
Observatory code file: ObsCodes_pck00010_20200709_Elon+ocobs_v9BJ. obs
Observatory code: 568
Observatory abbreviation: irtf
Entry from observatory code file:
  568 G +204 31 40.08 +19 49 34.0          4212 Mauna Kea          pck00010.tpc
Telescope: 320cm
Instrument: Generic InSb High Speed Photometer
Mean wavelength (nm): 2200nm
Observatory latitude (deg): 19.826111111
Observatory E longitude (deg): 204.527800000
Observatory altitude (km): 4.212000000
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: -5464.341062821 -2493.446346975 2151.026113131
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: 141-413386
Star number: 50
Star name: U137
Star source catalog: UCAC3
Star RA (deg): 305.946097400
Star Dec (deg): -19.906506400
Star epoch: 2000-01-01T00:00:00.0000Z
Star parallax (mas): 0.000000000
Star pm RA (mas/yr): -80.600000000
Star pm Dec (mas/yr): 86.400000000
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): 29.160505237 49.462419837
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	1996-03-16T14:46:53.40Z	1996-03-16T11:57:42.56Z	51476.21	-35.533	216.107	-0.68882	179.539	14.824 -24.792
lambda	I	1996-03-16T14:47:34.23Z	1996-03-16T11:58:23.40Z	50026.01	-35.517	264.997	-0.68882	179.349	14.966 -24.634
delta	I	1996-03-16T14:48:22.83Z	1996-03-16T11:59:12.01Z	48300.31	-35.495	61.970	-0.68882	179.108	15.134 -24.445
gamma	I	1996-03-16T14:48:41.77Z	1996-03-16T11:59:30.95Z	47628.15	-35.486	108.184	-0.68882	179.009	15.200 -24.371
eta	I	1996-03-16T14:48:54.49Z	1996-03-16T11:59:43.67Z	47176.33	-35.480	231.025	-0.68882	178.941	15.244 -24.322
beta	I	1996-03-16T14:49:37.11Z	1996-03-16T12:00:26.30Z	45668.75	-35.461	248.129	-0.68876	178.705	15.391 -24.156
alpha	I	1996-03-16T14:50:02.81Z	1996-03-16T12:00:52.00Z	44746.99	-35.439	146.513	-0.68889	178.550	15.480 -24.056
four	I	1996-03-16T14:51:05.02Z	1996-03-16T12:01:54.22Z	42526.29	-35.385	6.508	-0.68919	178.152	15.695 -23.814
five	I	1996-03-16T14:51:10.74Z	1996-03-16T12:01:59.95Z	42314.66	-35.370	172.397	-0.68947	178.111	15.715 -23.792
six	I	1996-03-16T14:51:24.99Z	1996-03-16T12:02:14.20Z	41878.88	-35.427	192.322	-0.68811	178.040	15.764 -23.737
Atmosphere	I	1996-03-16T14:53:56.32Z							16.285 -23.149
Atmosphere	E	1996-03-16T15:28:15.01Z							23.221 -15.110
six	E	1996-03-16T15:30:00.48Z	1996-03-16T12:40:50.07Z	41799.84	35.318	28.270	-0.68811	14.063	23.565 -14.700
five	E	1996-03-16T15:30:12.93Z	1996-03-16T12:41:02.51Z	42155.64	35.259	8.195	-0.68947	13.980	23.606 -14.651
four	E	1996-03-16T15:30:25.41Z	1996-03-16T12:41:15.00Z	42613.25	35.278	202.183	-0.68919	13.897	23.647 -14.602
alpha	E	1996-03-16T15:31:23.59Z	1996-03-16T12:42:13.19Z	44686.47	35.324	341.430	-0.68889	13.531	23.837 -14.374
beta	E	1996-03-16T15:31:50.88Z	1996-03-16T12:42:40.49Z	45658.69	35.344	82.739	-0.68876	13.371	23.926 -14.268
eta	E	1996-03-16T15:32:33.92Z	1996-03-16T12:43:23.53Z	47176.16	35.360	65.159	-0.68882	13.132	24.067 -14.099
gamma	E	1996-03-16T15:32:46.56Z	1996-03-16T12:43:36.18Z	47623.65	35.365	302.189	-0.68882	13.065	24.108 -14.050
delta	E	1996-03-16T15:33:05.70Z	1996-03-16T12:43:55.32Z	48300.52	35.372	255.775	-0.68882	12.966	24.170 -13.975
lambda	E	1996-03-16T15:33:54.47Z	1996-03-16T12:44:44.10Z	50026.01	35.390	98.323	-0.68882	12.724	24.329 -13.784
epsilon	E	1996-03-16T15:34:18.66Z	1996-03-16T12:45:08.29Z	50882.11	35.397	49.137	-0.68882	12.611	24.408 -13.689

Event geometry at 1996-03-16T15:11:05.0000Z

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Ring opening angle B (deg): -43.53680
Position angle of pole P (deg): 267.71418
Observer-planet distance (km): 3043.029460 x 10^6
Light travel time (sec): 10150.453686

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