

u28_irtf_320cm_2200nm_predicted_ring_event_times.txt produced Mon Apr 5 01:47:51 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_u28_irtf_320cm

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Event: u28
Planet: Uranus
Reference: Unpublished
Title: Unpublished
Computations from: 1986-04-26T13:11:41.0000Z to 1986-04-26T15:41:01.0000Z
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: 22517254
Star number: 91
Star name: U28
Star source catalog: UCAC2
Star RA (deg): 261.491215000
Star Dec (deg): -23.293062500
Star epoch: 2000-01-01T00:00:00.0000Z
Star parallax (mas): 0.000000000
Star pm RA (mas/yr): 10.600000000
Star pm Dec (mas/yr): 5.900000000
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): 105.286788346 3.518734683
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_irtf93_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	1986-04-26T13:25:44.11Z	1986-04-26T10:52:29.55Z	51239.78	-12.214	256.692	-0.98761	335.951 46.878	-33.380
lambda	I	1986-04-26T13:27:23.83Z	1986-04-26T10:54:09.28Z	50026.01	-12.124	343.656	-0.98761	335.194 46.886	-33.050
delta	I	1986-04-26T13:29:46.95Z	1986-04-26T10:56:32.40Z	48300.42	-11.986	275.899	-0.98762	334.041 46.891	-32.573
gamma	I	1986-04-26T13:30:43.11Z	1986-04-26T10:57:28.57Z	47628.84	-11.926	116.157	-0.98761	333.565 46.890	-32.385
eta	I	1986-04-26T13:31:21.13Z	1986-04-26T10:58:06.59Z	47176.22	-11.885	85.756	-0.98761	333.235 46.889	-32.258
beta	I	1986-04-26T13:33:27.66Z	1986-04-26T11:00:13.13Z	45681.37	-11.737	177.135	-0.98761	332.091 46.882	-31.834
alpha	I	1986-04-26T13:34:50.20Z	1986-04-26T11:01:35.67Z	44716.76	-11.633	273.162	-0.98757	331.303 46.874	-31.556
four	I	1986-04-26T13:37:52.67Z	1986-04-26T11:04:38.16Z	42616.59	-11.380	181.685	-0.98764	329.433 46.848	-30.941
five	I	1986-04-26T13:38:24.26Z	1986-04-26T11:05:09.75Z	42258.08	-11.330	253.245	-0.98754	329.087 46.842	-30.834
six	I	1986-04-26T13:38:59.47Z	1986-04-26T11:05:44.96Z	41859.02	-11.276	239.273	-0.98776	328.713 46.834	-30.714
Atmosphere	I	1986-04-26T14:08:04.97Z						45.897	-24.682
Atmosphere	E	1986-04-26T14:31:48.11Z						44.318	-19.600
six	E	1986-04-26T15:00:16.22Z	1986-04-26T12:27:02.04Z	41865.15	11.274	130.883	-0.98776	220.482 41.568	-13.369
five	E	1986-04-26T15:00:54.33Z	1986-04-26T12:27:40.14Z	42300.05	11.331	144.065	-0.98754	220.065 41.497	-13.229
four	E	1986-04-26T15:01:17.23Z	1986-04-26T12:28:03.05Z	42557.20	11.367	71.901	-0.98764	219.816 41.454	-13.144
alpha	E	1986-04-26T15:04:27.62Z	1986-04-26T12:31:13.45Z	44750.51	11.632	159.596	-0.98757	217.870 41.093	-12.442
beta	E	1986-04-26T15:05:44.89Z	1986-04-26T12:32:30.72Z	45651.80	11.728	62.053	-0.98761	217.133 40.943	-12.156
eta	E	1986-04-26T15:07:54.04Z	1986-04-26T12:34:39.88Z	47176.10	11.878	328.365	-0.98761	215.965 40.690	-11.678
gamma	E	1986-04-26T15:08:31.45Z	1986-04-26T12:35:17.29Z	47621.16	11.918	358.116	-0.98761	215.641 40.616	-11.539
delta	E	1986-04-26T15:09:28.33Z	1986-04-26T12:36:14.18Z	48300.71	11.978	156.887	-0.98762	215.160 40.502	-11.329
lambda	E	1986-04-26T15:11:51.54Z	1986-04-26T12:38:37.40Z	50026.01	12.116	222.374	-0.98761	214.007 40.213	-10.797
epsilon	E	1986-04-26T15:13:46.81Z	1986-04-26T12:40:32.68Z	51428.59	12.218	133.772	-0.98761	213.135 39.976	-10.369

Event geometry at 1986-04-26T14:19:56.0000Z

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Ring opening angle B (deg): -80.97284
Position angle of pole P (deg): 333.36085
Observer-planet distance (km): 2756.290822 x 10^6
Light travel time (sec): 9193.996542

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