

u84_irtf_320cm_2200nm_predicted_ring_event_times.txt produced Mon Apr 5 09:55:45 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_u84_irtf_320cm

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Event: u84
Planet: Uranus
Reference: Unpublished
Title: Unpublished
Computations from: 1991-06-28T09:29:59.6440Z to 1991-06-28T11:29:59.6440Z
Observatory name: IRTF
Observatory code file directory: /Volumes/dione_raid2/Research/kernels/
Observatory code file: ObsCodes_pck00010_20200709_Elon+occobs_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: 22563790
Star number: 105
Star name: U84
Star source catalog: UCAC2
Star RA (deg): 283.269580000
Star Dec (deg): -23.261738400
Star epoch: 2000-01-01T00:00:00.0000Z
Star parallax (mas): 0.000000000
Star pm RA (mas/yr): 8.300000000
Star pm Dec (mas/yr): -17.600000000
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): 29.798165041 -10.484498760
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	1991-06-28T10:16:05.69Z	1991-06-28T07:42:31.61Z	51555.27	-15.621	179.166	-0.90059	313.463	46.097 -46.827
lambda	I	1991-06-28T10:17:46.05Z	1991-06-28T07:44:11.97Z	50026.01	-14.826	56.148	-0.90059	311.198	46.173 -46.845
delta	I	1991-06-28T10:19:46.54Z	1991-06-28T07:46:12.46Z	48300.50	-13.785	258.929	-0.90059	308.295	46.260 -46.863
gamma	I	1991-06-28T10:20:36.64Z	1991-06-28T07:47:02.56Z	47621.41	-13.313	17.640	-0.90060	307.027	46.294 -46.868
eta	I	1991-06-28T10:21:10.48Z	1991-06-28T07:47:36.39Z	47176.31	-12.978	238.412	-0.90059	306.151	46.317 -46.871
beta	I	1991-06-28T10:23:13.05Z	1991-06-28T07:49:38.96Z	45660.60	-11.712	271.798	-0.90062	302.838	46.396 -46.879
alpha	I	1991-06-28T10:24:37.61Z	1991-06-28T07:51:03.51Z	44709.45	-10.778	74.290	-0.90061	300.432	46.447 -46.882
four	I	1991-06-28T10:28:26.10Z	1991-06-28T07:54:52.00Z	42564.55	-7.920	278.484	-0.90049	293.432	46.571 -46.874
five	I	1991-06-28T10:28:59.87Z	1991-06-28T07:55:25.77Z	42304.44	-7.436	210.144	-0.90073	292.300	46.588 -46.871
six	I	1991-06-28T10:30:12.69Z	1991-06-28T07:56:38.59Z	41798.30	-6.433	23.482	-0.90054	289.899	46.623 -46.863
six	E	1991-06-28T10:44:23.20Z	1991-06-28T08:10:49.08Z	41795.02	6.454	353.774	-0.90054	260.241	46.878 -46.624
five	E	1991-06-28T10:45:38.50Z	1991-06-28T08:12:04.38Z	42315.13	7.488	175.599	-0.90073	257.769	46.887 -46.590
four	E	1991-06-28T10:46:15.75Z	1991-06-28T08:12:41.62Z	42592.80	7.992	241.589	-0.90049	256.585	46.890 -46.572
alpha	E	1991-06-28T10:49:58.56Z	1991-06-28T08:16:24.43Z	44687.53	10.758	23.571	-0.90061	249.752	46.902 -46.455
beta	E	1991-06-28T10:51:26.34Z	1991-06-28T08:17:52.21Z	45677.51	11.743	216.192	-0.90062	247.245	46.901 -46.404
eta	E	1991-06-28T10:53:27.33Z	1991-06-28T08:19:53.20Z	47176.39	12.994	176.223	-0.90059	243.973	46.895 -46.329
gamma	E	1991-06-28T10:54:01.28Z	1991-06-28T08:20:27.14Z	47622.81	13.329	313.660	-0.90060	243.094	46.892 -46.307
delta	E	1991-06-28T10:54:51.27Z	1991-06-28T08:21:17.13Z	48300.73	13.801	192.396	-0.90059	241.828	46.887 -46.273
lambda	E	1991-06-28T10:56:51.73Z	1991-06-28T08:23:17.59Z	50026.01	14.840	343.856	-0.90059	238.925	46.872 -46.189
epsilon	E	1991-06-28T10:58:11.57Z	1991-06-28T08:24:37.42Z	51236.26	15.482	102.767	-0.90059	237.112	46.859 -46.131

Event geometry at 1991-06-28T10:39:03.0000Z

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Ring opening angle B (deg): -64.23615
Position angle of pole P (deg): 283.60778
Observer-planet distance (km): 2762.308046 x 10^6
Light travel time (sec): 9214.067839

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