

u65_irtf_320cm_2200nm_predicted_ring_event_times.txt produced Mon Apr 12 20:20:49 2021 using
rfrench@Achilles.local:/Volumes/PromisePegasus28TB_backup/dione_raid2/Research/uranus/PDART2014/programs/pro_occinfo2geom_plots_pds4_v7.pro

Bundle ID: uranus_occ_u65_irtf_320cm

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Event: u65
Planet: Uranus
Reference: Unpublished
Title: Unpublished
Computations from: 1990-06-21T10:00:00.2990Z to 1990-06-21T11:30:00.2990Z
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: 133-382807
Star number: 100
Star name: U65
Star source catalog: UCAC3
Star RA (deg): 278.789237700
Star Dec (deg): -23.520825600
Star epoch: 2000-01-01T00:00:00.0000Z
Star parallax (mas): 0.000000000
Star pm RA (mas/yr): -4.200000000
Star pm Dec (mas/yr): -1.300000000
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): 12.564494847 25.717034027
Time offset for this obstr./event (sec): 0.000000000
Kernel directory: /Volumes/dione_raid2/Research/kernels/
    ../../../../kernels/ura111.bsp
    ../../../../kernels/vgr2_ura111.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	1990-06-21T10:17:53.36Z	1990-06-21T07:44:49.70Z	50762.99	-19.694	342.077	-0.92795	329.235	45.498	-46.711
lambda	I	1990-06-21T10:18:30.92Z	1990-06-21T07:45:27.26Z	50026.01	-19.542	261.780	-0.92795	328.627	45.532	-46.716
delta	I	1990-06-21T10:20:00.06Z	1990-06-21T07:46:56.40Z	48300.73	-19.156	194.109	-0.92795	327.109	45.612	-46.725
gamma	I	1990-06-21T10:20:35.64Z	1990-06-21T07:47:31.98Z	47621.90	-18.989	329.363	-0.92795	326.472	45.642	-46.727
eta	I	1990-06-21T10:20:59.18Z	1990-06-21T07:47:55.51Z	47176.36	-18.874	211.916	-0.92795	326.041	45.663	-46.729
beta	I	1990-06-21T10:22:21.29Z	1990-06-21T07:49:17.62Z	45643.99	-18.450	328.941	-0.92795	324.473	45.731	-46.733
alpha	I	1990-06-21T10:23:10.02Z	1990-06-21T07:50:06.36Z	44752.09	-18.179	190.330	-0.92785	323.493	45.771	-46.733
four	I	1990-06-21T10:25:09.74Z	1990-06-21T07:52:06.07Z	42615.55	-17.429	192.397	-0.92816	320.898	45.865	-46.732
five	I	1990-06-21T10:25:27.72Z	1990-06-21T07:52:24.05Z	42306.08	-17.320	152.223	-0.92760	320.496	45.879	-46.731
six	I	1990-06-21T10:25:57.36Z	1990-06-21T07:52:53.69Z	41794.78	-17.108	0.849	-0.92759	319.803	45.901	-46.730
six	E	1990-06-21T11:06:27.66Z	1990-06-21T08:33:23.95Z	41836.50	17.139	271.031	-0.92759	230.068	46.605	-45.489
five	E	1990-06-21T11:06:48.65Z	1990-06-21T08:33:44.94Z	42196.34	17.282	61.221	-0.92760	229.578	46.602	-45.469
four	E	1990-06-21T11:07:12.06Z	1990-06-21T08:34:08.35Z	42579.51	17.427	100.478	-0.92816	229.055	46.597	-45.446
alpha	E	1990-06-21T11:09:11.62Z	1990-06-21T08:36:07.91Z	44720.56	18.182	93.219	-0.92785	226.463	46.572	-45.328
beta	E	1990-06-21T11:10:03.91Z	1990-06-21T08:37:00.20Z	45674.24	18.470	229.813	-0.92795	225.411	46.559	-45.275
eta	E	1990-06-21T11:11:24.29Z	1990-06-21T08:38:20.58Z	47176.28	18.883	109.695	-0.92795	223.874	46.538	-45.191
gamma	E	1990-06-21T11:11:48.26Z	1990-06-21T08:38:44.55Z	47630.17	19.003	226.253	-0.92795	223.435	46.531	-45.165
delta	E	1990-06-21T11:12:23.39Z	1990-06-21T08:39:19.68Z	48300.45	19.165	89.743	-0.92795	222.807	46.520	-45.128
lambda	E	1990-06-21T11:13:52.51Z	1990-06-21T08:40:48.80Z	50026.01	19.555	154.383	-0.92795	221.288	46.491	-45.031
epsilon	E	1990-06-21T11:15:01.87Z	1990-06-21T08:41:58.16Z	51391.78	19.829	232.964	-0.92795	220.177	46.466	-44.953

Event geometry at 1990-06-21T10:47:16.0000Z

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Ring opening angle B (deg): -68.11740
Position angle of pole P (deg): 288.53037
Observer-planet distance (km): 2753.186993 x 10^6
Light travel time (sec): 9183.643283
    
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