

u0_kao_91cm_734nm_predicted_ring_event_times.txt produced Sun Apr 4 13:26:21 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_u0_kao_91cm

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Event: u0
Planet: Uranus
Reference: Elliot, J. L. et al. Nature 267, 328-330 (1977)
Title: The rings of Uranus
Computations from: 1977-03-10T20:05:40.0000Z to 1977-03-10T21:59:00.0000Z
Observatory name: Kuiper Airborne Observatory
Observatory code file directory: /Volumes/dione_raid2/Research/kernels/
Observatory code file: ObsCodes_pck00010_20200709_Elon+ocobs_v9BJ.obs
Observatory code: KAS
Observatory abbreviation: kao
Telescope: 91cm
Instrument: Generic Visual High Speed Photometer
Mean wavelength (nm): 734nm
Ellipsoid source: /Volumes/dione_raid2/Research/kernels/pck00010.tpc
Observatory reference frame: ITRF93
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: 71567
Star number: 12
Star name: U0
Star source catalog: Hipparcos
Star RA (deg): 219.549212900
Star Dec (deg): -14.954739330
Star epoch: 1991-04-02T13:30:00.0000Z
Star parallax (mas): 1.770000000
Star pm RA (mas/yr): -52.610000000
Star pm Dec (mas/yr): -12.210000000
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): 7.289377558 -5.948861066
Time offset for this obst./event (sec): 0.000000000
Kernel directory: /Volumes/dione_raid2/Research/kernels/
  ../../../../kernels/ura111.bsp
  ../../../../kernels/vgr2.ura111.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_U11+rgf9.spk
/Volumes/dione_raid2/Research/RINGFIT/tests/Uranus/Ur017L/savefiles/../../kernels/URKALLv1.spk
/Volumes/dione_raid2/Research/kernels/uranus_ringframes_rfrench20201201_v1.tif
/Volumes/dione_raid2/Research/kernels/pck00010.tpc
/Volumes/dione_raid2/Research/kernels/ObsCodes_pck00010_20200709_Elon+ocobs_v9BJ.obs

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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	1977-03-10T20:11:46.42Z	1977-03-10T17:42:40.39Z	51555.27	-12.805	179.244	-0.80470	33.750	50.980	-28.338
	lambda	I	1977-03-10T20:13:46.35Z	1977-03-10T17:44:40.33Z	50026.01	-12.691	275.855	-0.80470	34.704	51.115	-28.152
	delta	I	1977-03-10T20:16:03.06Z	1977-03-10T17:46:57.05Z	48300.39	-12.549	280.605	-0.80471	35.865	51.264	-27.938
	gamma	I	1977-03-10T20:16:56.85Z	1977-03-10T17:47:50.85Z	47627.01	-12.486	264.354	-0.80471	36.345	51.322	-27.853
	eta	I	1977-03-10T20:17:33.01Z	1977-03-10T17:48:27.01Z	47176.17	-12.444	65.682	-0.80470	36.675	51.360	-27.795
	beta	I	1977-03-10T20:19:33.71Z	1977-03-10T17:50:27.73Z	45681.26	-12.295	173.275	-0.80473	37.829	51.485	-27.602
	alpha	I	1977-03-10T20:20:53.86Z	1977-03-10T17:51:47.88Z	44704.91	-12.187	66.153	-0.80456	38.630	51.566	-27.472
	four	I	1977-03-10T20:23:51.74Z	1977-03-10T17:54:45.79Z	42568.39	-11.914	273.627	-0.80437	40.546	51.739	-27.180
	five	I	1977-03-10T20:24:13.15Z	1977-03-10T17:55:07.20Z	42285.18	-11.858	231.320	-0.80524	40.830	51.759	-27.145
	six	I	1977-03-10T20:24:48.27Z	1977-03-10T17:55:42.32Z	41877.13	-11.807	159.395	-0.80453	41.228	51.792	-27.087
Atmosphere	I		1977-03-10T20:52:42.56Z							52.967	-24.111
Atmosphere	E		1977-03-10T21:19:05.92Z							53.316	-20.967
	six	E	1977-03-10T21:41:48.41Z	1977-03-10T19:12:42.95Z	41839.57	11.822	266.921	-0.80453	148.909	53.004	-18.056
	five	E	1977-03-10T21:42:18.69Z	1977-03-10T19:13:13.23Z	42159.85	11.865	339.574	-0.80524	149.238	52.991	-17.989
	four	E	1977-03-10T21:42:47.02Z	1977-03-10T19:13:41.57Z	42529.44	11.926	22.522	-0.80437	149.585	52.978	-17.926
	alpha	E	1977-03-10T21:45:51.73Z	1977-03-10T19:16:46.30Z	44752.63	12.211	178.984	-0.80456	151.586	52.889	-17.517
	beta	E	1977-03-10T21:47:06.03Z	1977-03-10T19:18:00.61Z	45655.13	12.316	287.665	-0.80473	152.331	52.851	-17.352
	eta	E	1977-03-10T21:49:08.69Z	1977-03-10T19:20:03.28Z	47176.39	12.472	182.396	-0.80470	153.506	52.784	-17.077
	gamma	E	1977-03-10T21:49:44.34Z	1977-03-10T19:20:38.93Z	47621.54	12.516	21.730	-0.80471	153.833	52.763	-16.997
	delta	E	1977-03-10T21:50:38.41Z	1977-03-10T19:21:33.01Z	48300.22	12.584	38.943	-0.80471	154.318	52.732	-16.876
	lambda	E	1977-03-10T21:52:54.67Z	1977-03-10T19:23:49.28Z	50026.01	12.744	36.532	-0.80470	155.481	52.648	-16.569
	epsilon	E	1977-03-10T21:54:05.85Z	1977-03-10T19:25:00.47Z	50935.40	12.812	301.450	-0.80470	156.056	52.603	-16.408

Event geometry at 1977-03-10T21:05:54.0000Z

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Ring opening angle B (deg): -53.58164
Position angle of pole P (deg): 95.40855
Observer-planet distance (km): 2681.779666 x 10^6
Light travel time (sec): 8945.454079

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