

u149_irtf_320cm_2200nm_predicted_ring_event_times.txt produced Mon Apr 5 19:18:16 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_u149_irtf_320cm

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Event: u149
Planet: Uranus
Reference: Icarus 153, 236a\200\223247 (2001)
Title: Uranus after Solstice: Results from the 1998 November 6 Occultation
Computations from: 1998-11-06T04:38:18.4919Z to 1998-11-06T05:52:29.2668Z
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/ustarsALLd.v3.merged.sortedA.csv
Star catalog file: 20462044-1838345
Star catalog ID: 62
Star number: U149
Star name: 2MASS
Star source catalog: 311.585179000
Star RA (deg): -18.642933000
Star Dec (deg): 2000-01-01T00:00:00.0000Z
Star epoch: 0.000000000
Star parallax (mas): 0.000000000
Star pm RA (mas/yr): 0.000000000
Star pm Dec (mas/yr): 0.000000000
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): 27.522308438 -45.037005610
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)
Atmosphere	E		1998-11-06T05:08:20.53Z							
six	E		1998-11-06T05:11:31.64Z	1998-11-06T02:25:43.84Z	41845.52	13.039	258.823	-0.61800	28.725	-19.749
five	E		1998-11-06T05:11:56.40Z	1998-11-06T02:26:08.59Z	42168.66	13.050	325.791	-0.61833	28.521	-20.484
four	E		1998-11-06T05:12:28.71Z	1998-11-06T02:26:40.89Z	42600.01	13.085	230.633	-0.61809	28.255	-20.580
alpha	E		1998-11-06T05:15:06.84Z	1998-11-06T02:29:19.02Z	44695.46	13.217	46.915	-0.61785	28.255	-20.705
beta	E		1998-11-06T05:16:18.42Z	1998-11-06T02:30:30.59Z	45652.11	13.272	296.955	-0.61771	27.041	-21.315
eta	E		1998-11-06T05:18:12.62Z	1998-11-06T02:32:24.79Z	47176.33	13.350	131.190	-0.61766	26.528	-21.592
gamma	E		1998-11-06T05:18:46.11Z	1998-11-06T02:32:58.28Z	47624.10	13.371	63.354	-0.61765	25.754	-22.033
delta	E		1998-11-06T05:19:36.60Z	1998-11-06T02:33:48.76Z	48300.29	13.402	57.958	-0.61765	25.537	-22.162
lambda	E		1998-11-06T05:21:45.01Z	1998-11-06T02:35:57.17Z	50026.01	13.475	128.610	-0.61765	25.217	-22.357
epsilon	E		1998-11-06T05:23:38.13Z	1998-11-06T02:37:50.27Z	51553.51	13.534	185.352	-0.61765	24.443	-22.854
									23.803	-23.291

Event geometry at 1998-11-06T04:38:18.0000Z

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Ring opening angle B (deg): -38.14472
Position angle of pole P (deg): 265.05175
Observer-planet distance (km): 2982.382603 x 10^6
Light travel time (sec): 9948.157545

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