

Watch list for Triton and Pluto occultations, 2004-2007.

Leslie Young, SwRI, 05 Mar 2004

Star positions are from The Second U.S. Naval Observatory CCD Astrograph Catalog (UCAC2), Zacharias et al 2004 (Astron. J., 127, 3043-3059), and include proper motions to the nearest year.

The Pluto ephemeris uses DE406/LE-406 and PLU006. The Triton ephemeris uses DE406/LE-406 and NEP016.6. Ephemerides were generated at 72 minute intervals from the JPL/Solar Systems Dynamics Horizons webpage (<http://ssd.jpl.nasa.gov/cgi-bin/eph>); ra and dec were linearly interpolated to find the time of closest approach and the miss distance. The results of this independent search closely agree with the updated prediction of the MIT occultation group.

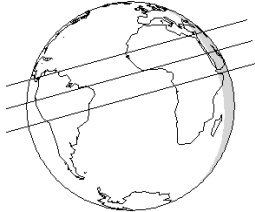
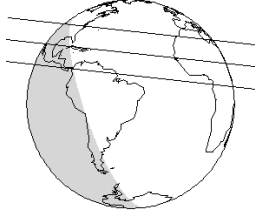
SNR (Signal to Noise) is for the PHOT (Portable High-speed Occultation Telescope) system in development at Southwest Research, Boulder CO and Lowell Observatory, Flagstaff AZ.

Star designations (Tr304, Tr306) are from McDonald and Elliot 2002. Triton Stellar Occultation Candidates: 2000 - 2009. ApJ, 119:936-944, McDonald and Elliot 2000, Pluto-Charon Stellar Occultation Candidates: 2000-2009, ApJ 119, 1999-2007, or McDonald and Elliot 2000, Erratum: Pluto-Charon Stellar Occultation Candidates: 2000-2009 [Astron. J. 119, 1999 (2000)], ApJ 120, 1599-1602.



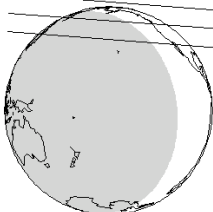
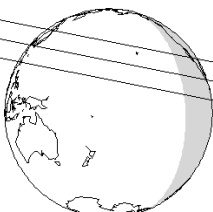
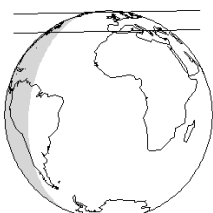
Maps are from <http://occult.mit.edu/research/occultations>.

K magnitudes, if available, are from the 2MASS catalog, Cutri et al 2003, The 2MASS All-Sky Catalog of Point Sources, University of Massachusetts and Infrared Processing and Analysis Center, (IPAC/California Institute of Technology)

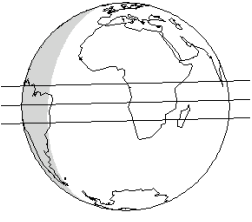
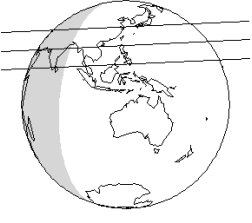
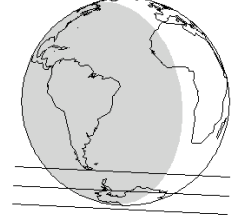
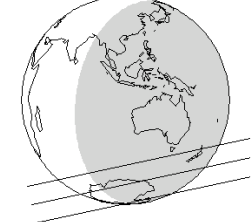
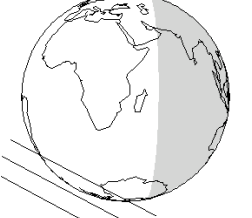
Selected Triton events 2004-2007 (Page 1 of 1)

Visibility	Details	Comments
	Date 2007 Jan 07 15:13:44 UT SNR per scale height 17 SNR per 0.2 s 10 ra J2000 21:22:58.800 dec J2000 -15:34:19.772 Miss distance (") 0.081N Star magnitude: V; K 14.57; 12.55 Sky plane velocity (km/s) 33.7	Useful for astrometric reconstruction; may be observable from politically charged countries; Tr304
	Date 2007 May 06 9:32:44 UT SNR per scale height 33 SNR per 0.2 s = 10 ra J2000 21:37:10.422 dec J2000 -14:27:53.330 Miss distance (") 0.14 N Star magnitude: V; K 14.21; 12.18 Sky plane velocity (km/s) 8.5	Unusually slow event. Fourth-best event from McDonald & Elliot 2002. Tr306

Selected Pluto events 2004-2007 (Page 1 of 2)

Visibility	Details	Comments
	Date 2004 Jun 13 20:02:45 UT SNR per scale height 37 SNR per 0.2 s 10 ra J2000 17:22:24.05 dec J2000 -14:13:36.292 Miss distance (") 0.205 N Star magnitude: V; K 14.93; 12.92 Sky plane velocity (km/s) 23.7	Observable from Africa, S Asia, and S Europe, and E Australia if prediction moves South. P228.1
	Date 2004 Nov 16 01:45:21 UT SNR per scale height 69 SNR per 0.2 s 24 ra J2000 17:22:58.34 dec J2000 -15:00:47.900 Miss distance (") 0.348 N Star magnitude: V; K 13.72; 10.15 Sky plane velocity (km/s) 32.4	Observable from California at high airmass if prediction moves South. Relatively bright IR star; may be observable in sunlight from Australia if prediction moves South. P257
	Date 2005 May 14 12:49:16 UT SNR per scale height 71 SNR per 0.2 s 19 ra J2000 17:34:50.326 dec J2000 -14:59:50.180 Miss distance (") 0.251 N Star magnitude: V; K 13.99; 11.42 Sky plane velocity (km/s) 19.6	Observable from Australia, New Zealand if prediction moves South. Similar K magnitude to Tr266 (observed at sunset from IRTF). P289
	Date 2006 Oct 31 2:30:29 UT SNR per scale height 38 SNR per 0.2 s 12 ra J2000 17:38:28.712 dec J2000 -16:18: 5.654 Miss distance (") 0.137 N Star magnitude: V; K 14.60; 10.18 Sky plane velocity (km/s) 26.1	Observable from California at high airmass. Relatively bright IR star; may be observable in sunlight from Hawaii (or Australia if prediction moves South). P415
	Date 2007 Feb 1 9:42:12 UT SNR per scale height 311 SNR per 0.2 s = 98 ra J2000 17:51:36.719 dec J2000 -16:32:36.320 Miss distance (") 0.270 N Star magnitude: V; K 11.44; 9.49 Sky plane velocity (km/s) 27.5	Extremely bright in visible and IR. Observable in darkness from South America or in daylight from African IR telescopes if prediction moves South. Bright star 5 arcsec away for on-chip standard. P434.

Selected Pluto events 2004-2007 (Page 2 of 2)

Visibility	Details	Comments
	Date 2007 Feb 3 8:17:47 UT SNR per scale height 141 SNR per 0.2 s = 44 ra J2000 17:51:50.378 dec J2000 -16:32:32.022 Miss distance (") 0.009 N Star magnitude: V; K 12.83; 9.74 Sky plane velocity (km/s) 26.8	Bright in visible or IR. Possibly observable from African IR telescopes, or in darkness from South America. P435
	Date 2007 Feb 13 0: 9:56 UT SNR per scale height 61 SNR per 0.2 s = 18 ra J2000 17:52:52.952 dec J2000 -16:32: 0.973 Miss distance (") 0.157 N Star magnitude: V; K 14.07; 9.14 Sky plane velocity (km/s) 23.0	Bright IR star. Observable from India. Observable from Australia in IR if prediction moves South. P438
	Date 2007 May 12 4:42:24 UT SNR per scale height 125 SNR per 0.2 s = 32 ra J2000 17:53:31.955 dec J2000 -16:22:47.043 Miss distance (") 0.250 S Star magnitude: V; K 13.29; 11.22 Sky plane velocity (km/s) 17.6	Easy to deploy to South America if prediction moves North. P456
	Date 2007 Jul 31 13:52:29 UT SNR per scale height 129 SNR per 0.2 s = 32 ra J2000 17:45:41.980 dec J2000 -16:29:31.653 Miss distance (") 0.226 S Star magnitude: V; K 13.25; 11.14 Sky plane velocity (km/s) 16.4	Easy to deploy to Australia if prediction moved North. P495.3
	Date 2007 Sep 27 14:47:49 UT SNR per scale height 1926 SNR per 0.2 s = 366 ra J2000 17:44:38.395 dec J2000 -16:46:35.446 Miss distance (") 0.299 S Star magnitude: V; K 8.74; 5.15 Sky plane velocity (km/s) 9.9	Slow event. Very bright star in visible and IR. Observable if prediction moves North. P507