

5518 Mariobotta

Dates	(1)	(2)	(3)	(4)	Observers
91-07-14.1	AMv	14.5	0.70F	3	HARVEY
98-08-19.9	SMr	14.9	0.70F	1	ANTONINI
98-08-24.0	SMr	14.9	0.40F	3	MARTINOLE
01-05-12.9	AMv	14.6	0.25F	2	FAURE
01-06-04.8	UMu	15.0	0.10F	1	CHARDONNENS
04-03-15.9	AMv	16.1	0.15F	2	FAURE
08-06-28.0	AMv	14.3	0.65F	2	FAURE

H = 13.0 => 0.7F for 1989 YF in 1991

H MPC = 12.5 (EMP 1995 => 1997)

H = 12.8 (EMP 1998 => 2009)

H DIFF. = 0.42 F Revised H MAP = 13.2

(5917) 1991 NG (Maria)

Dates	(1)	(2)	(3)	(4)	Observers
00-09-29.1	AMv	14.9	0.60F	2	HARVEY
04-09-09.9	AMv	14.5	0.75F	2	FAURE
08-08-08.1	AMv	14.3	0.50F	2	SALTHOUSE
08-08-09.1	AMv	14.2	0.60F	2	SALTHOUSE
08-08-10.1	AMv	14.2	0.60F	1	SALTHOUSE
08-08-23.9	AMv	14.2	0.70F	2	FAURE

H MPC = 11.3 (EMP 1996 => 2009)

H DIFF. = 0.63 F Revised H MAP = 11.9

6000 United Nations (Eunomia)

Dates	(1)	(2)	(3)	(4)	Observers
00-12-04.2	AMv	15.1	0.50F	2	HARVEY
01-02-15.9	UMu	16.0	0.83F	3	ROY
01-02-26.8	UMu	16.2	0.80F	2	BOSCH
04-11-22.0	AMv	14.3	0.60F	1	FAURE
08-10-27.9	CMu	13.9	0.49F	5	MILES
08-12-06.8	CMu	14.9	0.38F	1	MILES

H MPC = 11.5 (EMP 1996 => 2009)

H DIFF. = 0.60 F Revised H MAP = 12.1

6838 Okuda

Dates	(1)	(2)	(3)	(4)	Observers
98-07-27.1	UMr	16.5	0.63F	6	BOIVIN
98-08-04.9	GMt	16.6	0.49F	2	CHASSAGNE
04-12-16.2	AMv	15.1	0.60F	2	HARVEY
08-12-06.8	CMu	15.3	0.43F	2	MILES
08-12-08.0	CMr	15.3	0.37F	5	FAURE CCD

H MPC = 12.0 (EMP 1998 => 2009)

H DIFF. = 0.51 F Revised H MAP = 12.5

6911 Nancygreen (Hungaria)

Dates	(1)	(2)	(3)	(4)	Observers
00-11-???.?	SMr	13.9	1.80F	1	SPOSETTI
00-11-21.1	AMv	14.1	1.30F	2	HARVEY
05-07-31.9	AMv	14.8	1.60F	2	FAURE
08-10-27.9	CMu	13.5	2.05F	6	MILES

H MPC = 12.4 (EMP 1998 => 2008)

H DIFF. = 1.69 F Revised H MAP = 14.1

Modified H MPC 01/2009 =14.0

Diff/H MAP after change MPC = only 0.1 F

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LIGHTCURVE ANALYSIS OF 48 DORIS AND 1055 TYNKA

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The synodic period and amplitude for minor planet 48 Doris was found to be 11.8906 ± 0.0004 h and 0.36 ± 0.02 mag; for 1055 Tynka, the parameters are 11.893 ± 0.002 h and 0.07 ± 0.01 mag.

Hunters Hill Observatory (HH) is equipped with a Meade 14" LX200 GPS Schmidt-Cassegrain (SCT) fitted with a Meade f/3.3 focal reducer and SBIG ST-8E CCD producing a final focal ratio of f/4. The scale with 1x1 binning was 1.32 arcsec/pixel. The camera was operated at -15°C . All observations were made with a

clear filter with guided exposures ranging from 60 to 180 seconds. *MaxIm DL/CCD*, controlled by DC3 Dreams *ACP5*, was used for automated telescope and camera control and image acquisition whilst calibration and image measurement via differential photometry were undertaken with *MPO Canopus* v9. Organ Mesa Observatory is equipped with a Meade 14" LX2000 GPS f/11 SCT and SBIG STL 1001-E CCD. A red filter was used with unguided 60-second exposures. Differential photometry and data sharing were made with *MPO Canopus*.

48 Doris. This asteroid was chosen due to its reported period being very close to 12 hours and the fact that it had not been observed in more than 20 years. Initial observations indicated that the target period was commensurate with 12 or 24 hours and required observations from widely-spaced longitudes. Higgins requested a collaboration via the CALL website (Warner, 2009) and Pilcher responded. The target was previously observed by Debehogne et al. (1982), Harris and Young (1980), and Schober and Schroll (1982) who published periods ranging from 11.88 to 11.90 h. The period derived from our data agree with those results.

1055 Tynka. Initial observations indicated that the target's period was very close to 12 or 24 hours and required observations from widely-separated longitudes. As with 48 Doris, the authors formed a collaboration via the CALL web site. The distinct dip in the lightcurve at phase 0.25 indicates that the period based on the bimodal curve presented here is the one most likely correct.

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CCD LIGHTCURVE ANALYSIS OF 511 DAVIDA

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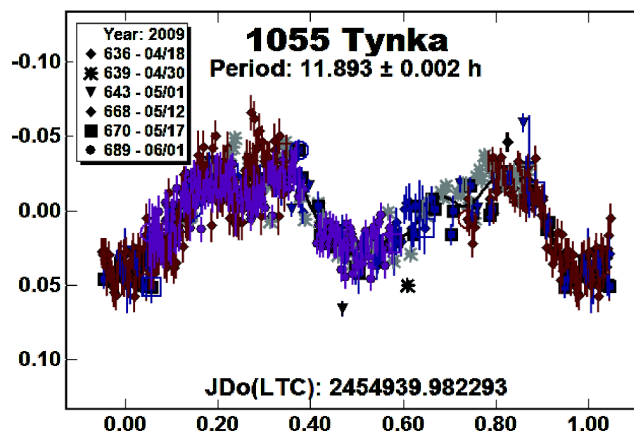
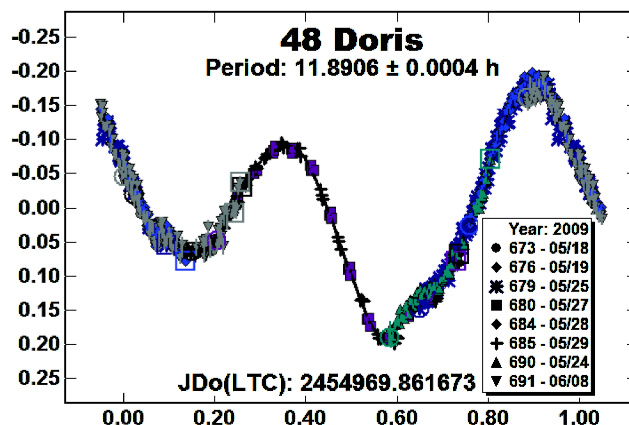
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Filtered (Ic) CCD images for 511 Davida were obtained over four sessions in 2009 March. A folded lightcurve was produced and the synodic period estimated by Fourier analysis to be 5.1297 ± 0.0001 h.

First discovered in 1903 by R.S. Dugan, 511 Davida is a C-type main belt asteroid which ranks seventh in mass amongst all minor planets (Michalak, 2001). Recent ground-based investigations on 511 Davida using adaptive optics and infrared imaging (Conrad et al., 2006, 2007) have confirmed a triaxial ellipsoidal shape with a mean diameter of $D = 289$ km.

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<http://www.MinorPlanetObserver.com/astlc/default.htm>



The equipment for this photometric study included a focal-reduced (f/6.3) 0.2-m Schmidt-Cassegrain telescope with a thermoelectrically cooled (-5°C) SBIG ST-402 ME CCD camera mounted at the Cassegrain focus. Filtered (Ic) imaging was conducted on four nights with exposures automatically taken every 45 seconds. Image acquisition (raw lights, darks, and flats) was performed by *CCDSof* 5 (SBIG) while calibration and registration were accomplished with *AIP4WIN* (Berry and Burnell, 2006). Further data reduction with *MPO Canopus* (Warner, 2008) used at least two non-varying comparison stars to generate lightcurves by differential aperture photometry. Data were light-time corrected but not reduced to standard magnitudes.

A total of 908 data points was generated over 4 days. Relevant aspect parameters for 511 Davida taken at the mid-point from each session are tabulated below. *MPO Canopus* provided a period solution for the folded data sets using Fourier analysis (Harris, 1989). The calculated synodic period of 5.1297 ± 0.0001 h is in good agreement with the most recent value for 511 Davida reported at the JPL Solar System Dynamics website. Peak amplitude was estimated at 0.11 ± 0.02 mag. Phased data are available by request at <http://underoakobservatory.com>.