

LIGHTCURVE ANALYSIS AT HUNTERS HILL OBSERVATORY AND COLLABORATING STATIONS – AUTUMN 2009

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Lightcurves for seven asteroids were obtained at Hunters Hill Observatory and collaborating stations and then analyzed to determine their synodic period and amplitude. We report on 54 Alexandra, 1622 Chacornac, 1676 Kariba, 4171 Carrasco, (5604) 1992 FE, (5752) 1992 CJ, and (8359) 1989 WD.

Hunters Hill Observatory (HH) is equipped with a 0.36m Schmidt-Cassegrain (SCT) fitted with a Meade f/3.3 focal reducer and an SBIG ST-8E CCD producing a final focal ratio of f/4. The guide scope utilizes a 0.1m SCT fitted with a Meade f/6.3 focal reducer and a Starlight Xpress MX716 CCD. The targets were observed at 1x1 binning, producing a pixel scale of 1.32 arcsec/pixel. The camera was operated with fixed temperatures between -10°C and -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 were undertaken by *MPO Canopus v9*. Palmer Divide Observatory (PD) is equipped as described in Warner (2009).

54 Alexandra was observed in support of shape modeling. The synodic period of 7.0227 ± 0.0005 h agrees well with those previously listed in Warner et al. (2009).

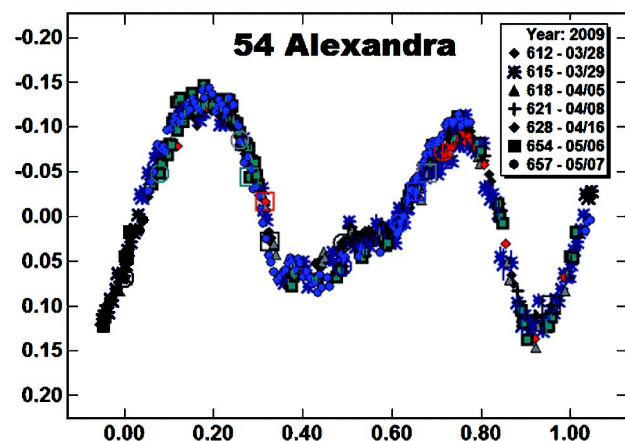
1676 Kariba was observed and the data analyzed by Pravec (2009) and at Hunters Hill. Pravec obtained a period of 3.1673 h while Higgins obtained a period of 3.1682 ± 0.0003 h.

(5752) 1992 CJ was observed during the BINAST survey (Pravec 2009). Data taken by Higgins revealed a period of 42.83 h for a monomodal period or 85.6 h for a more typical bimodal period.

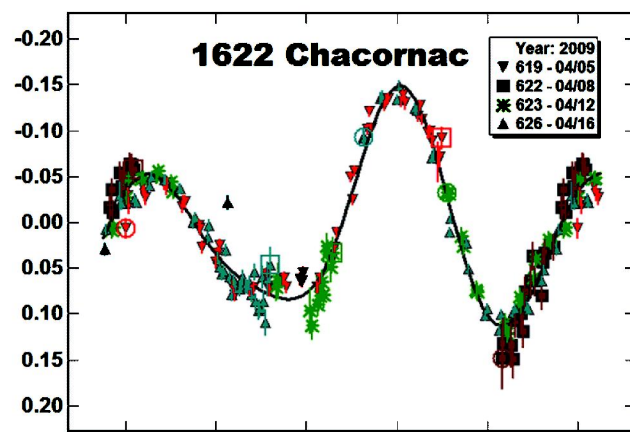
(8359) 1989 WD was observed by Hamanowa (2009) who derived a period of 3.0750 h. Higgins could not fit the 2009 apparition data to this period and instead derived a period of 2.89111 ± 0.00009 h. The period spectrum below covers both periods.

References

- Hamanowa, H.; Hamanowa, H. (2009). <http://www2.ocn.ne.jp/~hamaten/astlcldata.htm>
- Pravec, P. (2009). "Photometric Survey for Binary Asteroids." <http://www.asu.cas.cz/~asteroid/binastphotosurvey.htm>
- Warner, B.D. (2009). "Asteroid Lightcurve Analysis at the Palmer Divide Observatory: 2008 September-December", *Minor Planet Bul.* **35**, 70-72.
- Warner, B.D., Harris, A.W., and Pravec, P. (2009). "Lightcurve Parameter List." <http://www.minorplanetobserver.com/astlc/LightcurveParameters.htm>



Period: 7.02234 ± 0.00007 h JD₀(LTC): 2454918.903869



Period: 12.206 ± 0.002 h JD₀(LTC): 2454926.950843

#	Name	Dates (2009) mm/dd	Per (h)	PE	A (mag)	AE	Obs
54	Alexandra	03/28-04/06	7.0227	0.0005	0.28	0.02	HH
1622	Chacornac	04/05-04/16	12.206	0.002	0.25	0.02	HH
1676	Kariba	03/19-03/23	3.1682	0.0003	0.60	0.02	HH
4171	Carrasco	04/12-04/17	16.90	0.03	0.17	0.03	HH
5604	1992 FE	03/18-04/21	5.3375	0.0003	0.15	0.03	HH, PD
5752	1992 CJ	04/05-04/18	85.6	0.08	0.80	0.02	HH
8359	1989 WD	04/18-04/30	2.89111	0.00009	0.61	0.03	HH

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