

We note that this campaign provides yet another example of the importance of collaboration among optical observers, coordination with observers in other disciplines, and of putting optical data onto at least an internal system in order to analyze data correctly.

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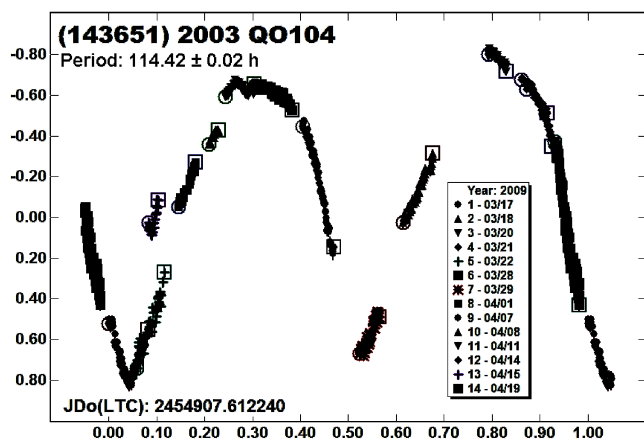


Figure 1. Lightcurve of (143651) 2003 QO104.

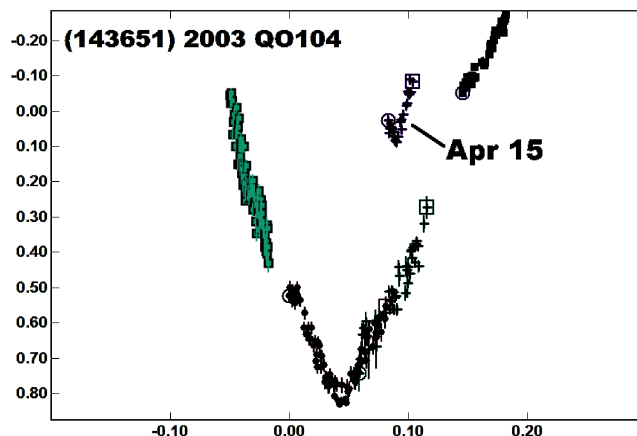


Figure 2. Close-up of Figure 1 showing details of the April 15 data.

PHOTOMETRIC OBSERVATIONS AND LIGHTCURVE ANALYSIS OF NEAR-EARTH ASTEROIDS (136849) 1998 CS1, 2006 SZ217, AND 2008 UE7

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Near-Earth Asteroids (NEAs) (136849) 1998 CS1, 2006 SZ217, and 2008 UE7 were observed photometrically in the course of Lulin Sky Survey (LUSS) in 2008 December and 2009 January. The rotation periods and lightcurve amplitudes for these three asteroids have been determined as: (136849) 1998 CS1, 4.150 ± 0.001 h and 0.11 mag; 2006 SZ217, 3.2474 ± 0.0001 h and 0.10 mag; 2008 UE7, 3.25146 ± 0.00001 h and 0.13 mag.

Photometric studies of three near-Earth asteroids (NEAs) were carried out in 2008 December and 2009 January in the course of Lulin Sky Survey (LUSS). LUSS was equipped with a 0.41-m Ritchey-Chretien telescope operating at f/6.25 and a back-illuminated Apogee U42 CCD. The program's main goal is obtaining astrometric observations of asteroids and comets, but photometric studies are performed occasionally, usually targeting unusual asteroids such as NEAs or those with a large orbital

eccentricity. CCD images were reduced and calibrated remotely by the automatic pipeline *INT* (Ye, 2008) and then were transferred to a local computer. The brightness variations of asteroids were determined by differential photometry using *MPO Canopus* while the astrometric data was measured by *MPT* (Ye, 2008). The observing procedure and result for each asteroid is described below.

(136849) 1998 CS1 was discovered by Beijing Schmidt CCD Asteroid Program (SCAP) on 1998 February 9 (Tichy et al., 1998) and is classified as a Potentially Hazardous Asteroid (PHA). No photometric result has been published before this work. From 2009 January 8 to 11, three nights of data were successfully obtained and a period of 4.150 ± 0.001 h was found. However, an internal calibration was not done due to an insufficient number of comparison stars. We note that the curves from different nights do not fit with each other very well. The possibility of a period of 5.54 h or a much longer one, although not significant, cannot be ruled out. We attempted to get more images on January 14-17 but failed due to bad weather and technical problems. Further observations are recommended for this target.

2006 SZ217 was discovered by the Spacewatch program on 2006 September 30 (Bressi et al., 2006); no photometric result has been published before this work. Five nights of data were taken on December 6-15 but they suffered due to strong moonlight, resulting in errors as large as ± 0.1 mag. However, a period of 3.2474 ± 0.0001 h can still be derived with some confidence.

2008 UE7 was discovered by the LINEAR program on 2008 October 26 (Young et al., 2008) and is classified as a PHA; no previous photometric result could be found. We obtained a total of five nights of data of acceptable quality from 2008 December 1-7. Based on that data, we found a period of 3.25146 ± 0.00001 h.

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