

being 24hr after session 7 and the expected 0.08 later in phase. Such apparent duplication of a feature within the lightcurve is not as readily apparent with the longer solution, and the fit of some overlapping sessions is not as clean, e.g., sessions 2, 5, 12, and 14 (April 16, 20, 25, and 27 respectively).

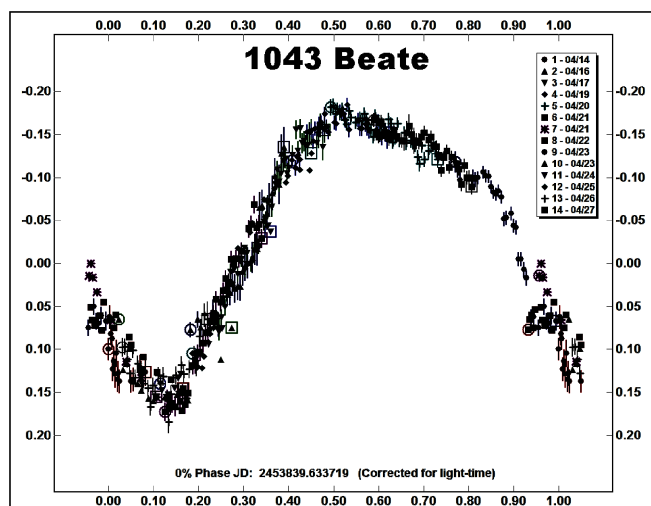


Figure 1. The lightcurve of 1043 Beate phased to 22.05hr.

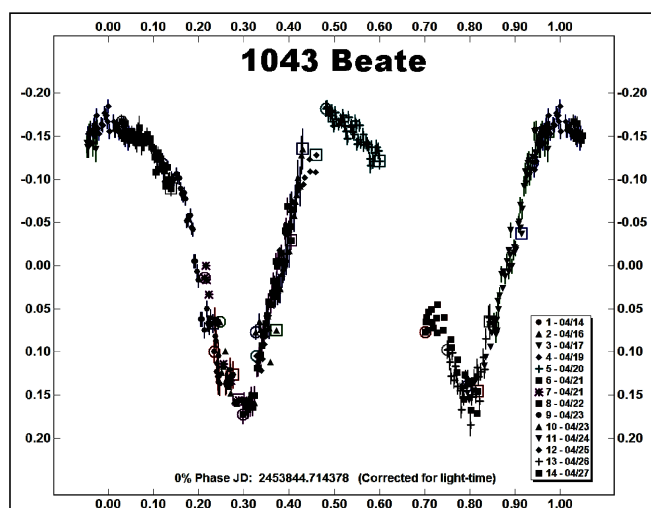


Figure 2. The lightcurve of 1043 Beate phased to 44.10hr.

All observations were made with a clear filter and the zero-point adjustments of the sessions were somewhat arbitrary, save where overlapping runs allowed matching them to approximately 0.01m. As noted by Petr Pravec (private communication), small changes in the zero points of some sessions provide reasonable solutions that differed by 0.1m, and possibly more. However, the fitting of the several sessions described above seems also to provide a reasonable "anchor" of its own and gives reasonable credence to the shorter, adopted solution. However, Alan Harris (private communication) favored the longer period, noting that "the absence of odd harmonics in the bimodal curve is more plausible than a 0.3mag amplitude monomodal curve." All of this pointing to the need for linked observations on a standard system in general and follow up work on this asteroid as circumstances allow.

1186 Turnera. Fortunately, the period for this main-belt asteroid proved to be much easier to resolve, with sessions 4-7 providing two sets of overlapping runs. The first three runs by Warner alone

could not resolve several aliases. The addition of the two runs by Higgins (sessions 5 and 7) that extended runs by Warner (sessions 4 and 6) on the last two nights eliminated all aliases and allowed finding a synodic period of 12.066 ± 0.004 hr. Figure 3 shows a plot phased to this period using the complete data set.

What helped in particular was catching the second minimum at phase 0.70 and seeing that it was not symmetric with the first minimum. The two runs covering the second minimum were the result of Higgins observations. Given the period, it would take about 90 rotations, or 45 days, for the sampling window open to one given location to move 1/2 cycle. With data from two widely spaced locations, the period was resolved after only two days of joint observations.

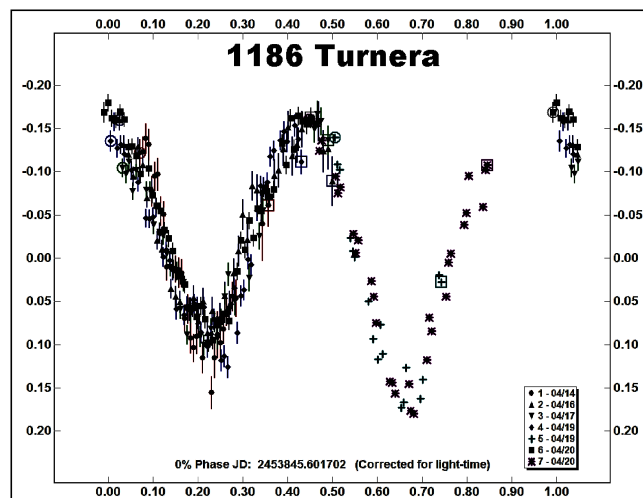


Figure 3. The lightcurve of 1186 Turnera phased to 12.066hr.

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LIGHTCURVE ANALYSIS OF ASTEROIDS 453 TEA AND 454 MATHESIS

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CCD images recorded December 2005 to February 2006 yielded lightcurves and periods for two asteroids:
453 Tea 6.812 ± 0.001 hr, 0.30 ± 0.02 mag and
454 Mathesis, 8.378 ± 0.001 hr, 0.29 ± 0.02 mag.

R.P.Feynman Observatory is located in the south of Italy. Details of the observatory, equipment and observing strategy are reported

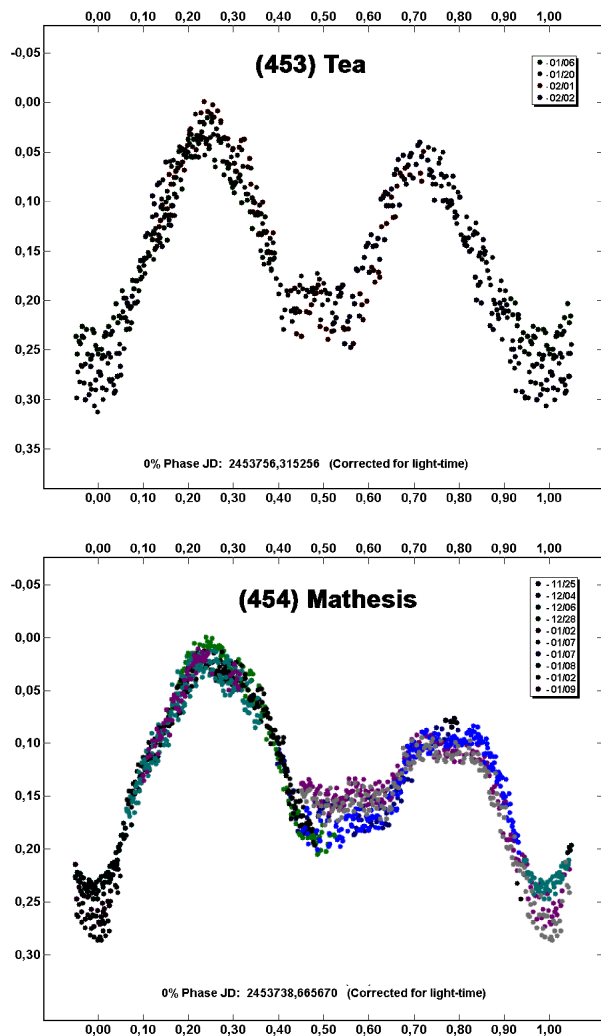
in Licchelli (2006). CCD images recorded in December 2005-February 2006, yielded lightcurves and periods for two asteroids:

453 Tea. I observed this asteroid over four nights, 2006 January 6, 20, February 1 and 2. Wisniewski et al. (1997) reported a period of 6.4hr, while Behrend (2005) in his website suggests a longer value of 10.567hr. Plots against these values didn't show a reasonable lightcurve. The best fit with my data indicates a period of 6.812 ± 0.001 h with an amplitude of 0.30 ± 0.02 mag.

454 Mathesis. Observations were made on nine nights, during the period from November 25, 2005, to January 9, 2006. The best fit of the data suggests a period of 8.378 ± 0.001 h and an amplitude of 0.29 ± 0.02 mag. This period is in very good agreement with that reported by Buchheim (2006), while the amplitude is slightly different, probably due to changed observing geometry. I tried to test the new data with other suggested periods (7.7hr, Lagerkvist et al. (1978), 7.075hr, Di Martino et al. (1994) and 7.04hr, Cieza et al. (1999)), but the resulting lightcurves were not satisfactory.

Acknowledgements

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DEFINITION OF A PLANET: PRAGUE 2006 IAU RESOLUTIONS

Richard P. Binzel, Editor

For members of the ALPO Minor Planets Section and readers of the *Minor Planet Bulletin*, it is useful to review the outcome and implications of the resolutions passed at the XXVIth General Assembly of the International Astronomical Union (IAU) held August 14-25 in Prague.

The General Assembly passed a resolution defining an object to be a "planet" in our Solar System if: (a) it is in orbit around the Sun, (b) has sufficient mass for its self-gravity to overcome rigid body forces so that it assumes a hydrostatic equilibrium (nearly round) shape, and (c) has cleared the neighborhood around its orbit. By this definition, Ceres resides in the asteroid belt and cannot be a planet (its neighborhood is not "significantly cleared"). Similarly, Pluto's neighborhood of the Kuiper Belt also indicates Pluto cannot be placed in the "planet category."

The IAU resolutions further define a "dwarf planet" to be a celestial body that: (a) is in orbit around the Sun, (b) has sufficient mass for its self-gravity to overcome rigid body forces so that it assumes a hydrostatic equilibrium (nearly round) shape, (c) does not have to have cleared its neighborhood, and (d) is not a satellite of a planet. Ceres, Pluto, and 2003 UB313 are "dwarf planets" by this definition. Smaller bodies, whose shapes are not controlled by self-gravity, are collectively referred to as "small solar system bodies". A committee within IAU Division III (Planetary Systems) will assess objects near the "dwarf planet" boundary for categorization.

The educational and practical implications are a matter for ongoing discussion. From my own point of view, I find it most useful to refer to the eight planets Mercury through Neptune as the "classical planets". Pluto resides in a growing category of dwarf planets being discovered beyond Neptune, for which a separate IAU resolution recognizes as a new (but yet unnamed) category. My provisional preference for this category is to call Pluto the first of many "Plutonian planets", all of which are likely to be physically described as "dwarf planets." The term "minor planets" may still be used, though the distinctions such as 'asteroid' and 'comet' are generally preferred to describe these subsets of "small solar system bodies". There are no changes planned for the name "Minor Planets Section" and *Minor Planet Bulletin*, as none are required. There are no plans for creating a