

# Physical Properties of Small Icy Bodies from their Rotational Lightcurves

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Lightcurve analysis is a powerful tool to learn about the physical properties of small solar system bodies. In the last half-century the technique has been widely used in the study of main-belt asteroids, of which a few thousand of those objects have known rotational properties (lightcurve period and photometric range). The study of the fainter Centaurs and Kuiper belt objects through analysis of their lightcurves is at a far more primitive stage as less than a hundred bodies have measured lightcurves. In spite of the low numbers, interesting results have been secured which reveal the different nature and evolution of these icy objects. I will summarise what is known about the rotational properties of these outer solar system populations, focussing on some extreme examples such as Varuna, 2001 QG298 and Haumea.

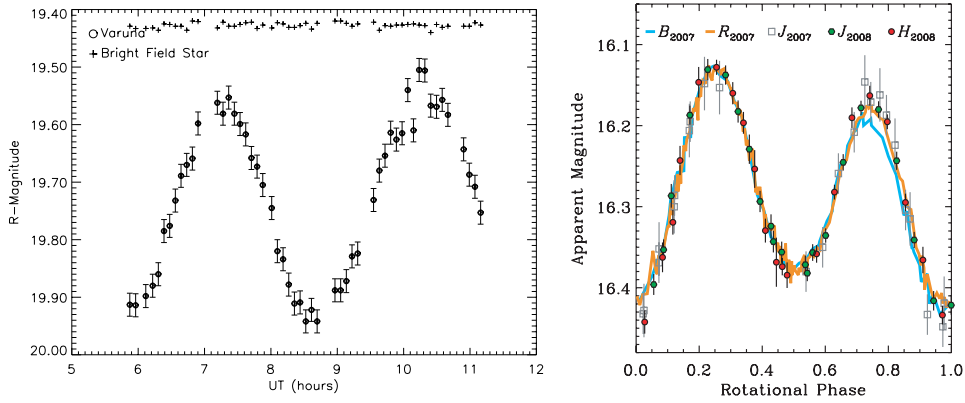


Figure 1. Rotational lightcurves of Kuiper belt objects Varuna (left) and Haumea (right).  
From Jewitt & Sheppard (2002) and Lacerda (2009).

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## References

- [1] D. Jewitt and S. S. Sheppard, *Astron. J.* **123**, 2110 (2002).
- [2] P. Lacerda, *Astron. J.* **137**, 3404 (2009).