

Preliminary solution for the shape and rotational state of the nucleus of comet 67P/Churyumov-Gerasimenko

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In preparation of ESA's ROSETTA mission to comet 67P/Churyumov-Gerasimenko, solutions for the shape and rotational state of its nucleus have been published based on observation with the Hubble and Spitzer space telescopes as well as ground-based observations (Lamy et al. 2006, 2007, 2008; Lowry et al. 2012). Following the wake-up of the Rosetta spacecraft in January 2014 and the successful commissioning of the OSIRIS camera system in March, a first lightcurve of the inactive nucleus has been obtained on 23 March 2014 with the OSIRIS Narrow Angle Camera (NAC). Further lightcurves will be acquired in the forthcoming months. We will present an updated solution for the shape and rotational state based on these data sets as of end of June 2014 combined with past Hubble and Spitzer space telescopes as well as ground-based observations using the technique of lightcurve inversion.

References: Lamy, P. et al., A&A 458, 669, 2006; Lamy, P. et al., Space Sci. Rev. 128, 23, 2007; Lamy, P. et al., A&A 489, 777, 2008; Lowry, P. et al., A&A 548, A12, 2012.