

Visible and infrared observations of Asteroid Steins, a target of the Rosetta mission

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In 2008, the ROSETTA spacecraft will flyby asteroid 2867 Steins, a small main belt asteroid whose present knowledge is still very limited. In particular, its albedo is unknown since it has never been observed in the infrared. Its rotational period of 6.06 ± 0.05 hours and light curve amplitude of 0.2 mag have been recently determined but the orientation of its spin axis is unknown. In order to improve our knowledge of this asteroid and prepare the flyby, we have conducted a campaign of visible measurements using ground-based telescopes and infrared measurements using the SST (Spitzer space telescope). In all cases, Steins has been observed over several hours to secure rotational light curves in order to rephase them for proper interpretation. We will present our results for the size, shape, albedo and rotational state of this asteroid, as well as a 3D solution reconstruction of its shape resulting from the inversion of the light curves.