

Photometric Observations of 2005 UD at Lulin Observatory

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A near-Earth asteroid 2005 UD was discovered by Catalina Sky Survey in October 2005. Orbital parameters of this asteroid is very similar to those of (3200) Phaethon. (3200) Phaethon has comet-like orbit, and thought to be a parent body of meteor shower. Orbital similarity of these asteroids may suggest that 2005 UD is a fragment of (3200) Phaethon. To test this hypothesis, we carried out photometric observations of 2005 UD using 1-m telescope at Lulin Observatory in early-November 2005. Results of multi-color photometry shows bluish surface of 2005 UD which is consistent with the surface of (3200) Phaethon. The light curve of 2005 UD shows rotational period of 5.23 hours and amplitude of 0.4 mag. The observations of dormant comet candidates provide opportunity to reveal properties of bare cometary nuclei which are difficult to be observed by comae contamination due to the cometary activities.