A fast rotation period and large amplitude for PHA 2021 NY1

ATel #14944; ***M. Ferrais (Aix Marseille University, France), E. Jehin (University of Liege, Belgium)***
on ***29 Sep 2021; 14:01 UT***
Credential Certification: Emmanuel Jehin (ejehin@uliege.be)

Subjects: Optical, Solar System Object, Potentially Hazardous Asteroid

We report optical light curve observations of the near earth asteroid 2021 NY1. It was first observed with Pan-STARRS 1, Haleakala, on 2021, July 7 and has been classified by the Minor Planet Center as a potentially hazardous asteroid. The asteroid has an absolute magnitude of 21.5 that suggests a diameter of roughly 150 meters. 2021 NY1 approached within 0.010 AU (approximately four lunar distances) on September 22. We carried out photometric observations with the 0.6-m Ritchey-Chretien TRAPPIST-South (I40) robotic telescope located at the ESO la Silla Observatory on 2021, September 25, 27 and 28 when the object had a visual magnitude of about 16.0 and a phase angle ranging from 84 to 68 degrees. Analysis of the three datasets covering respectively 3, 5 and 2 hours of continuous observations revealed obvious and fast brightness variations on the raw images and allowed us to derive a fast rotation period of 0.2224 +/- 0.0001 h using the FALC algorithm. The composite light curve covering many rotations each night indicates on all nights a large amplitude of about 1.4 mag.