

Physical properties of near-Earth asteroids are scrutinized via EURONEAR

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Lightcurves and spectra of a few PHAs and NEAs have been observed in 2011, 2013 and 2014, part of the European Near Earth Asteroids Research (EURONEAR, euronear.imcce.fr) project. We briefly describe our results.

In 2011 we used the WHT-ACAM in service mode to observe for 8 hours during 3 nights the lightcurve of the VI (101955) Bennu (NASA target of OSIRIS-REx). Due to the difficult observing circumstances, PSF fitting technique was used to derive accurate magnitudes needed to check the rotation period.

Part of an international effort lead by NASA, in 2013 we used the INT for 5 hours to observe the photometry of the PHA (163249) 2002 GT (possible target of the former Deep Impact mission). Accurate data was obtained by a few telescopes, and the INT and TMO lightcurves (the Southernmost observing sites involved in this campaign) show a small growing trend (compared to the other sites) suggesting maybe a possible satellite or very distorted shape for this object.

In 2014A we were awarded 7 nights with the INT for photometry of NEAs (using the WFC) and visible spectroscopy (using the IDS). Part of this program, visible spectra of 7 NEAs was acquired during one night and lightcurves of 4 NEAs were observed during 4 nights, and the run continues. In a complementary work, we used the 0.6-m Modra telescope to observe lightcurves of 4 more NEAs, part of the same EURONEAR project to contribute to characterization of NEAs.

We plan to continue these efforts in 2014B and beyond, using the INT and other facilities accessible by the EURONEAR network, carefully planning for the best NEA visibility circumstances and complementing other data available in the literature.

