

space situational awareness

→ NEAR-EARTH OBJECTS

Current NEO statistics

A new near-Earth comet, designated P/2016 J3 (STEREO), has been found in images taken by the STEREO-A solar observatory.

- Known NEOs: 14 374 asteroids and 107 comets
- NEOs in risk list*: 550
- New NEO discoveries since last month: 113
- NEOs discovered since 1 January 2016: 852

Focus on

The NEO Coordination Centre is collaborating with the European Commission project NEOShield-2 on the dissemination of NEO physical properties. Our EARN-based physical properties database will be enhanced to host additional data. These will be compatible with the NEOShield-2 NEO Properties Portal (<http://www.neoshield.net/the-neoshield-project/project-activities/>) which provides support tools for efficiently planning observation campaigns devoted to physical characterization.

Upcoming interesting close approaches

A larger and a smaller asteroid will reach the same brightness this month.

- (441987) 2010 NY65 is a 230-metre object which will come to about 10 lunar distances at the end of June. However, due to the unfavourable geometry, it will only reach magnitude 17.
- 2016 KL is a new discovery, about six times smaller in diameter, but it will reach roughly the same magnitude because the distance is about half, and the geometry of the fly-by is much better.

Recent interesting close approaches

A very small and three quite large objects came close in May.

- 2016 JS5 is an extremely tiny object, 3 metres in diameter, which came to about half lunar distance on 5 May. It had been discovered just two days earlier during the periodic survey activities carried out every spring with the DECam imager on the 4-metre Blanco telescope at Cerro Tololo, Chile.
- (444584) 2006 UK and (388945) 2008 TZ3 are two 300-metre objects that came to about 15 lunar distances in early May.
- 2009 DL46 became the brightest close approacher in May, reaching magnitude 14 at the end of the month.

News from the risk list

New observations of a very faint NEO significantly lowered its impact risk.

- 2016 EP84 is a possible impactor discovered by Pan-STARRS about three months ago and rated at a Palermo Scale of -5 . After the inclusion of the VLT observations we obtained in May the impact assessment has been lowered to a Palermo Scale of -8 . The nearest possible impact date has also moved away from 2049 to 2103.

* The risk list of all known objects with a non-zero (although usually very low) impact probability can be found at <http://bit.ly/neorisklist>

In other news

- The second edition of Asteroid Day will be held on 30 June all over the world, and ESA will also be involved. The date has been chosen to commemorate the yearly anniversary of the Tunguska event of 1908.

Upcoming events

The Gaia workshop in Nice has been moved to April 2017, two weeks after the ACM conference in Uruguay, and three weeks before the PDC conference in Japan.

- AIDA International Workshop, 1–3 June 2016, Nice, France
<https://www-n.oca.eu/michel/AIDAWorkshop2016/>
- International Meteor Conference (IMC 2016), 2–5 June 2016, Egmond aan Zee, The Netherlands, followed by the Meteoroids 2016 conference, 6–10 June 2016, ESTEC, Noordwijk, The Netherlands
<http://imc2016.imo.net>, <http://www.cosmos.esa.int/web/meteoroids2016>
- AAS Division for Planetary Sciences Meeting (joint with EPSC), 16–21 October 2016, Pasadena, USA
<http://dps.aas.org/meetings/current>
- Asteroids, Comets and Meteors (ACM 2017) Conference, 10–14 April 2017, Montevideo, Uruguay
<http://acm2017.uy/>
- IAUS 330: Astrometry and Astrophysics in the Gaia sky, 24–28 April 2017, Nice, France
<http://www.iau.org/science/meetings/future/symposia/1163/>
- IAA Planetary Defense Conference, 15–19 May 2017, Tokyo, Japan
<http://pdc.iaaweb.org/>

List of largest near-Earth asteroids

Six NEAs are bigger than 10 km, and five of them are of the Amor class. The fact that the most recent discovery of one such object is already more than 25 years old is reassuring.

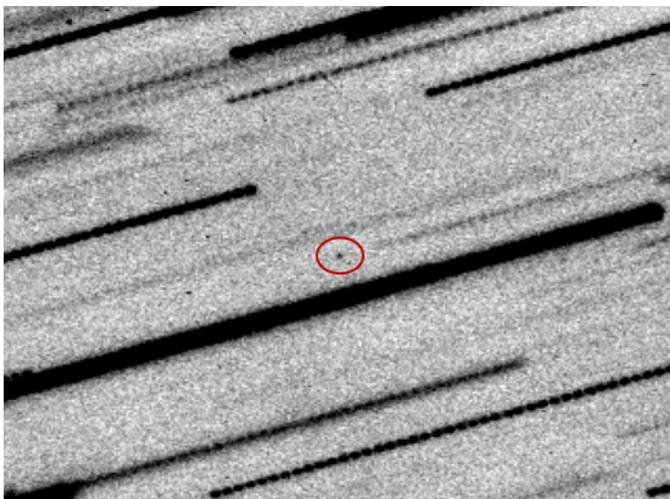
Object name	Size in km	H magnitude	Orbital class	Discovery Date
(1036) Ganymed	36.5	9.5	Amor	1924-10-23
(433) Eros	23.3	10.3	Amor	1898-08-13
(3552) Don Quixote	18.4	12.8	Amor	1983-09-26
(1866) Sisyphus	14.3	12.5	Apollo	1972-12-05
(4954) Eric	13.0	12.7	Amor	1990-09-23
(1627) Ivar	10.1	12.6	Amor	1929-09-25

Links for more information

Website: <http://neo.ssa.esa.int>

Close approaches: <http://neo.ssa.esa.int/web/guest/close-approaches>

Risk List: <http://neo.ssa.esa.int/web/guest/risk-page> or <http://bit.ly/neorisklist>



Asteroid 2016 EP84 seen by the Very Large Telescope on 25 May 2016.

At the moment of these observations, the 10-metre asteroid was more than 40 million kilometre away, and its brightness was approximately magnitude 26.7.

The image shown here corresponds to an exposure time of about one hour, under extremely good sky conditions.

Image credit: ESA / ESO

neo.ssa.esa.int

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