

## space situational awareness

### → NEAR-EARTH OBJECTS

#### Current NEO statistics

A small decrease in the number of objects in the risk list since last month.

- Known NEOs: 15 711 asteroids and 106 comets
- NEOs in risk list\*: 593
- New NEO discoveries since last month: 89
- NEOs discovered since 1 January 2017: 285

#### Focus on

During the past year ESA funded the refurbishment and modernization of the 0.8 m Schmidt reflector located at the Calar Alto Observatory in Spain. The telescope, identified with the MPC code Z84, is now operational and can be remotely controlled. The telescope is now fully available to our team, who over the past few weeks obtained the first valuable scientific observations, including follow-up of recently discovered objects and confirmation of recovery observations. Taking advantage of the great seeing conditions of Calar Alto, the telescope is capable of seeing objects as faint as magnitude 22, making it a very useful resource for asteroid follow-up and characterization.

#### Upcoming interesting close approaches

A half-kilometre object will come moderately close at the end of March.

- Among the known close approachers in March, (215588) 2003 HF2 is going to be the brightest, reaching visual magnitude 15 at the end of the month.

#### Recent interesting close approaches

A large and well known object flew past the Earth last month.

- (5604) 1992 FE, a km-sized object with a very accurately determined orbit, approached our planet at about 13 lunar distances in mid-February, reaching visual magnitude 12.
- Three other objects, 2017 BS32, 2017 DG16 and 2017 DR34, came closer than the Moon last month. They were all in the ten metre size range.

#### News from the risk list

Two interesting asteroids deserved attention in February .

- 2017 BL30, a 100-metre-class object, grew in impact probability during the first week of February up to a value higher than 1/1000 . Follow-up observations, including those carried out with ESA's OGS telescope, significantly lowered the impact probability, which is now less than 1 in a million.
- 2017 CH1 climbed for a couple of days the Torino risk scale (see table) despite a low impact probability, because of its extremely large size of about 1 km. Subsequent observations led to drop the associated impact probability to almost zero.

---

\* 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 Asteroid Day press conference was held in Luxembourg on 13 February.  
<https://blog.asteroidday.org/2017/02/07/asteroid-day-press-conference-2017/>

## Upcoming events

A few major international conferences will take place over the next three months.

- 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/>
- CELMEC VII, 3–9 September 2017, San Martino al Cimino (VT), Italy  
<http://adams.dm.unipi.it/~simca/celmecVII/index.html>

## Risk list on 8 February 2017

The top-10 positions of our risk on 8 February 2017, when for the first time in about two years two objects were rated at Torino scale level 1, which corresponds to posing no unusual level of danger but calling for follow-up observations.

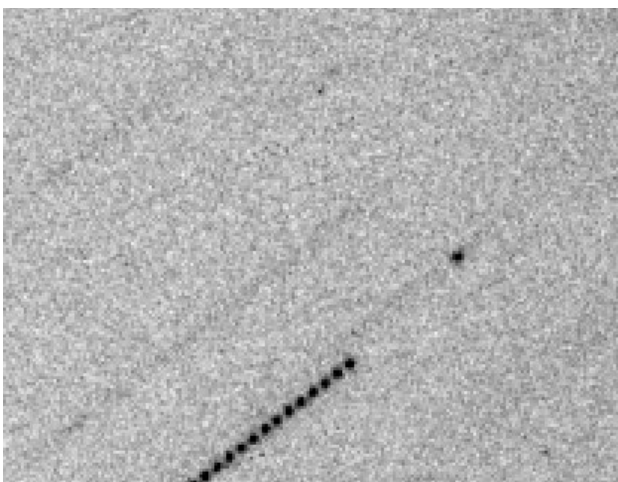
Object name	Size in m	Date/Time of possible impact (UTC)	Impact probability	Palermo Scale	Torino Scale	Velocity in km/s	In list since (days)
(29075) 1950 DA	2000	2880-03-16 23:48	1/7000	-1.36	n/a	17.99	331
2017 BL30	~ 90	2029-08-03 13:21	1/900	-1.70	1	13.28	8
(410777) 2009 FD	150	2185-03-29 18:06	1/700	-1.83	n/a	19.41	2189
2017 CH1	~ 1100	2095-06-04 15:07	1/500000	-2.29	1	21.18	3
(101955) Bennu	484	2196-09-24 07:55	1/10600	-2.32	n/a	12.68	2739
2010 RF12	~ 9	2095-09-05 23:47	1/16	-3.26	0	12.29	2334
1979 XB	~ 860	2113-12-14 18:07	1/2000000	-3.28	0	26.04	13541
2000 SG344	~ 50	2071-09-16 00:26	1/2000	-3.63	0	11.26	5943
(99942) Apophis	375	2068-04-12 15:13	1/532000	-3.67	0	12.62	4230
2016 NL56	~ 560	2020-06-22 15:42	1/1000000000	-3.70	0	38.42	117

## 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 2012 EP5 recovery confirmed with the Calar Alto Schmidt telescope.

The object, fainter than magnitude 21 at the time of the observation, is clearly seen in this stack of multiple shorter observations (bright point to the right of the center of the image).

Image credits: ESA/NEOCC

[neo.ssa.esa.int](http://neo.ssa.esa.int)

To subscribe or unsubscribe to this newsletter and for further information please send an email to [neocc@ssa.esa.int](mailto:neocc@ssa.esa.int)

