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- Key International and Political Developments**
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- NEO Characterization Results**
- Deflection and Disruption Models & Testing**
- Mission & Campaign Designs**
- Impact Consequences**
- Disaster Response**
- Decision to Act**
- Public Education & Communication**

**Near-Earth Asteroids monitoring for hazard assessments**

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**ABSTRACT**

Observational campaigns for detection, secure and recovery of Near-Earth Asteroids (NEAs) are scheduled as perennial activities over Europe. Most of these activities are developed inside the networks of observers. One of the observational priorities is securing orbits of NEAs newly discovered, and reports these measurements to the International Astronomical Union - Minor Planet Data Center. Observing runs have been done using 0.4-1.2meter diameter telescopes. These astrometrical observations are used as input for orbit improvement, estimation of non-gravitational effects, into a complex and exciting context of GAIA ultra-precise catalogues.

NEAs are usually small objects with diameters spanning the interval 10meters – 15 kilometers. When captured by Earth’s gravitational field they could hit the surface of our planet and produces local, regional, or global cataclysms. We illustrate the category of local disaster by the Tunguska event (occurred in Siberia in June 30, 1908, and attributed to an explosion of a body of 15meters in diameter) or by the recent Chelyabinsk bolide (fall of February 15, 2013 diameter estimated to 17meters in diameter). The category of global disasters due to asteroids is included the famous Chicxulub crater in Yucatan created by a NEA estimated to 10km in diameter which was at the origin of extinction of dinosaurs.

Despite the fact that NEAs could pass close to the Earth, these observational windows are very short in time and occur on average only five times per century. Thus, it is vital to treat these favorable situations using a complete set of investigations (imagery, spectra, radar, thermal flux emissions).

The presentation will cover results of observational runs over the last years using several assets, and some numerical aspects related to the orbital evolution of our targets.

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