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GAIA FOLLOW-UP OF SOLAR SYSTEM OBJECTS

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ABSTRACT

The Gaia mission has been launched on 19 December 2013 and this satellite, in Lissajous orbit around the L2 Lagrange point, has been mapping the sky in operational mode since July 2014. This mission has been designed to map the sky down to magnitude 20 with unprecedented level of precision down to 9 µarcsec for stellar objects parallax and 1 milliarcsec for asteroid astrometry. Gaia spins around its axis which, itself, is precessing around the Solar direction with an angle of 45 degrees. This scanning law can permit the detection from space of objects orbiting temporarily in the inner part of the Earth orbit and of Atira asteroids which is one major advantage of this observing mode.The inherent disadvantage is that no follow-up of new detections is possible by the satellite itself. In order to overcome this difficulty, a ground-based follow-up network, entitled Gaia-FUN-SSO, has been developed since 2008. Several training observational campaigns of NEOs were carried out during the prelaunch period in order to initiate the network activity. In this presentation, in addition to the description of the network and its organization, we will

present the results obtained thanks to these campaigns, in particular the (99 942) Apophis campaign between December 2012 and May 2013, involving 19 observatories. Besides we will present the tools developed for managing the alert dissemination, and the preliminary results obtained during a verification phase.

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