

Gaia-FUN-SSO Circular #3  
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Dear Gaia-FUN-SSO member,

Need for 2012 DA14 observations!

Southern hemisphere : before the close approach on Feb. 15 - North hemisphere: after the close approach !

As announced before, we propose to perform new training astrometry campaigns. There is right now the need for astrometric measurements of 2012 DA14. As you probably know, this PHA has been discovered on February 2012 at the Observatorio Astronomico de Mallorca - La Sagra - in Spain, after its approach from Earth at 2.5 million kilometers. This year on February 15 at 19:24 UT it will pass much closer to the Earth, since it will cross the zone of geosynchronous satellites and pass at a distance of 27 700 kilometers from the Earth surface. Before this date it will be observable only from the Southern hemisphere and after this date it will be observable only from the Northern one. This asteroid is about 45m in size and its magnitude is generally faint. During the next close approach, the magnitude will change very fast, down to 7.7, and observations become accessible to small telescopes, but the apparent velocity will be very large (from 43'/min to 4'/min). Astrometry of this object is important since most of the observations used for the orbital model are based essentially on the 2012 approach observations, and this object is flagged as a virtual impactor by the JPL Sentry. The ephemerides given on the wiki are 1h step ephemerides. Observers are invited to compute their own ephemerides with smaller stepsize if needed. Besides, we encourage observers to perform some observations at the exact times given in the ephemerides because simultaneous astrometric measurements could be analyzed and lead to a new observational constraint: an accurate estimate of the distance of the asteroid. Note that in case of observations of a very fast moving asteroid, it is possible to acquire several positions in only one frame by using a shutter occulting periodically the camera during a certain time interval (perhaps several seconds) and by identifying exactly the corresponding time of the exposures when the shutter is open. See the wiki page <https://www.imcce.fr/gaia-fun-ss0/campaigns>

\* Reminder

The PHA 99 942 Apophis is still observable and astrometry is still interesting for the improvement of the orbit. Note that, for all these campaigns, besides the interest of the astrometric measurements themselves, it is important that the observing stations involved in Gaia-FUN-SSO be well visible. The number of stations involved in such a campaign is important. No need for systematically numerous measurements, but need of large participation.

\* As usual, some recommendations are given in the wiki and we stay available to answer to some questions if needed. We would appreciate that you send us your astrometry measurements at [gaia-fun-ss0@imcce.fr](mailto:gaia-fun-ss0@imcce.fr) by specifying whether you also sent them to MPC or you let us do that.

With our best regards

W. Thuillot  
for the Gaia-FUN-SSO central node

PS: If for any reason...

- you have no more access to the wiki, let us know, we will reinitialize your credentials.  
- you wish to unsubscribe let us know too!