

## Ground-based follow-up of Solar System objects detected by Gaia

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In the frame of the DPAC consortium preparing the Gaia mission, a specific follow-up activity has been set up in order to ensure best scientific return related to solar-system-object (SSO) science. This activity encompasses a system of alerts for newly detected objects provided by CNES, the French data center in charge of the Solar System data processing, and IMCCE, to organize and publish the alerts, and to retrieve the objects astrometry and feed the Minor Planet Center database.

We are expecting in particular the detection of new near-Earth objects (NEO) at low solar elongation, or even inner-Earth objects. Owing to its observing mode, the satellite will not be able to monitor these objects after discovery and they could be lost. It is thus important to consolidate and improve their orbital parameters. This is the objective of the SSO ground-based follow-up. Once the objective is reached, it is possible to update the auxiliary database of orbital elements used within the Gaia data reduction pipeline for identifying the known SSOs and to allow Gaia to subsequently identify these objects properly during its mission.

In order to reach these goals we have carried out two main activities:

- We have developed a pipeline for processing the Gaia raw data that will be received, and for disseminating only the topocentric data useful for observers in an automatized way
- We have set up a worldwide network of observing stations, the Gaia-FUN-SSO network (shortly described at <https://www.imcce.fr/gaia-fun-sso/>). At this date, 55 observing sites have registered and many participants have already contributed to several training campaigns for NEO observations.

We will describe both activities and we will give preliminary results regarding the Gaia Solar System alerts, depending on the status of the triggering system during this early stage of the mission.