

July 17, 2006, Santiago, Chile

To: The Administration of ESO

EURONEAR - Letter of Intent

Aim:

To raise the interest for an European project to automatize and support two 1m class telescopes located in both hemispheres to observe Near Earth Asteroids (NEAs) and Potentially Hazardous Asteroids (PHAs).

Why Necessary?

There are more than 4000 NEAs and about 800 PHAs known today, and these numbers are increasing. The great majority of these small bodies have been discovered by five major dedicated programs, all being founded in the US in the last decade. To our knowledge, there have been only a few part-time efforts made by European astronomers, but no dedicated such program has been initiated by Europe yet.

The Committee of Initiative:

The undersigned, Dr. Ovidiu Vaduvescu, I am currently a research associate with IMCCE and Observatoire de Paris, with the project to follow-up PHAs and NEAs, given spare time on 1m class telescopes.

In this respect, I attended recently an observing run at Pic du Midi Observatory, together with Dr. Francois Colas of IMCCE. To be able to observe NEAs on a regular base, an ~1m automated telescope would be necessary to operate at Pic du Midi. Dr. Mirel Birlan of IMCCE is another collaborator interested in EURONEAR; moreover, he was the first to conduct remote observing on NASA's 3m IRTF from Paris to Hawaii. In Romania, we also have two other collaborators, Alin Nedelcu and Adrian Sonka.

I attended recently another observing run at La Silla, related to another project. Going for the first time in La Silla, I was puzzled to see so many small telescopes closed! During the run, I discussed with my collaborator Dr. Rami Rekola (Univ of Turku, Finland) about how we should raise the interest of ESO to automatize one

spare 1m class telescope at La Silla. The Department of Astronomy at Turku has the experience in conducting remote observing on a telescope in La Palma, Canary Islands.

EURONEAR – European Near Earth Asteroid Research

We have envisioned a network, named EURONEAR (European Near Earth Asteroid Research), in charge of planning and optimizing follow-up observations of PHAs and NEAs on 1m class telescopes, also their data reduction, reporting, and publication.

Two communications at major incoming meetings (IAU General Assembly and AAS' DPS) will be presented soon, introducing EURONEAR to the astronomical community this summer and fall.

Where do we get the Money?

We see two main possibilities:

- A dedicated fund from ESO;
- From a dedicated international Consortium;

The Consortium could comprise universities, colleges, public or private, planetaria, associations, individual amateurs, interested to join and fund the project for a given period. It could be announced and established with the scientific support of ESO, with the aim to raise funding necessary to automatize for remote observing one or two existent telescopes in both hemispheres, and to maintain and run the program for a given period (e.g., 5 years in a first instance). We mention that a similar US consortium (SMARTS) allowed CTIO to run successfully five small telescopes at Cerro Tololo since 2003.

Facilities:

- One or two existent spare 1m class telescopes, tentatively located in both hemispheres (e.g., La Silla and Pic du Midi); As the T1m telescope at Pic du Midi is involved in other research, moving a spare ~1m telescope from elsewhere (e.g., La Silla) might be an option for Pic du Midi site;

- Two dedicated positions/postdocs in charge of the program, also some technical assistance from ESO and France to maintain these facilities;
- Part-time access (observing runs) to other 1m class facilities around the globe; any external part interested could join for free as a collaborator the project (institution, association or individual, professional or amateur);

Benefits from EURONEAR:

- For the program: the dedicated funding;
- For the Consortium, ESO and other collaborators: observing time and data to be used in education (Masters, PhD thesis, observing projects in teaching/classes, etc) and public outreach (Internet, visits, etc);
- For the community: coordinated new data on NEAs and PHAs.

Timeframe (tentatively):

- Call for the Consortium: September 2006;
- Establish the Consortium: March 2007;
- Hire two Postdocs: May 2007;
- Automate the Telescopes: September 2007;
- A first 5 year first observing program: 2007 - 2012;

More Feedback?

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Should ESO be interested in our EURONEAR project, please let us know in the near future.

Yours sincerely,
Ovidiu Vaduvescu

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CC (by email): The Committee of Initiative,
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