

Spanish Virtual Observatory progress report. Jul2005

- **Project:**

The proposal submitted last February to the Spanish Ministry of Education and Research to fund the Spanish Virtual Observatory (SVO, <http://svo.laeff.esa.es>) during the period 2006-2008 has been approved. This guarantees the SVO activities for the next three years.

SVO will be structured following a two-layer approach:

- A core group formed by a reduced number of funded people, full-time devoted to the project.
- A more numerous group of interested people not directly involved in the funded project due to a number of reasons (FTEs already allocated to other projects, VO not seen as a top priority,...) but performing VO-activities.

In order to provide an overall framework for both communities we have submitted to the Ministry of Education and Research a proposal to create the SVO Thematic Network. If the proposal success, the funding resources will be mostly devoted to the support of the attendances of the yearly meetings to be organized by the network. The major goals of these meetings will be to present the results obtained by the Spanish groups in the VO framework, to share experiences and to take advantages of the potential synergies that may arise. The proposal will be submitted by the end of July and the decision will be known by the end of 2005.

In addition to this, a proposal for the development and exploitation of astronomical instrumentation was submitted by different institutes to the Madrid Regional Government. VO-activities (e.g. compliance of archives with VO, development of data mining tools) were one of the key objectives of the proposal. The decision will be known by the end of 2005.

- **Analysis tools:**

- *Automated classification of light curves*: The present version of the classifier is able to separate between eclipsing variables (with five subclasses according to the physical scenario) and almost all classes of pulsating variable stars as defined by HIPPARCOS. A first demonstration took place during the COROT review meeting held in Toulouse in May 2005.

In addition to this, the tool is being used by Vilardell et al. in their analysis of Cepheids and Eclipsing Binaries in M31. Andromeda is a crucial calibrator for the Cosmic Distance Scale and double-line eclipsing binaries can serve as excellent "standard candles" as derived distances are basically geometric and essentially free from many assumptions and uncertainties that plague other less direct methods. The

major goal of this work will be to reduce the uncertainty of the M31 distance from 15% to better than 5%. The paper is presently in preparation.

- **Archives:**

- In July 2005, the whole OMC dataset was reprocessed with the latest software and calibration available. The OMC Data Server (<http://sdc.laeff.esa.es/omc/>) now provides data up to resolution 300.
 - Scientific sources observed: 64914
 - Sources with more than 1000 photometric points: 300
 - Sources with more than 100 photometric points: 9500
- **Theory in the VO:** SVO, in collaboration with ESAVO and HVO, will be in charge of preparing a science case taking advantage of the access protocol proposed during the Theory Session in the last interop. meeting at Kyoto.

- **Meetings:**

- On July 6-8 a meeting on e-Science in Spain was held in Santiago de Compostela. The prime objective of the meeting was to present the white paper that reviews the status of the e-science activities in different research fields. The need of creating an e-Science structure at national level was clearly shown. One of us (Enrique Solano) was invited to present the status of the e-science in the Spanish astronomical community.
- EURO-VO Workshop: On 27 June - 1 July, 2005 The EURO-VO Project held a workshop on VO technologies and standards. Enrique Solano participated in the Organizing Committee and Raúl Gutiérrez gave a lecture on VOTable. Another SVO member (Carlos Rodrigo) participated as student.