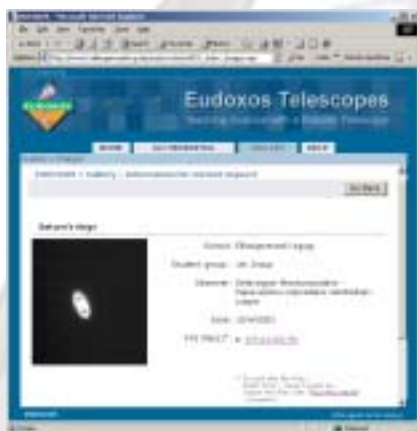


Eudoxos

Teaching Science with a Robotic Telescope

eLearning
Designing Tomorrow's Education

The Eudoxos project is funded by the European Commission within the framework of the action Preparatory and innovative actions - eLearning action plan DG EAC/25/01

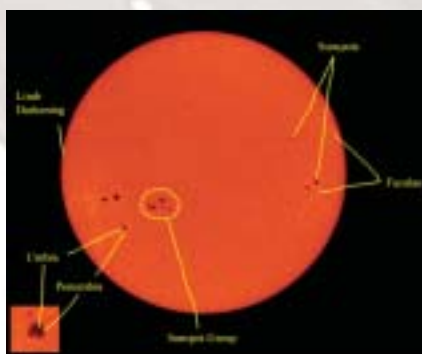


The **Eudoxos project** aims at using the possibilities the Internet offers in order to transform the classroom into a research laboratory. The project studies the applicability of the emerging technology in the school sector and provides a platform that allows the students to use the Andreas Michalitsianos Telescope of the **Eudoxos National Observatory for Education and Research** in the framework of their school curriculum. The robotic telescope is installed on the Ainos mountain on Kefallonia Island, Ionian Sea, Greece.



In the framework of the project a user-friendly **web based educational environment is being developed** in order for the telescope to be operated via queue based scheduling by high school students and their teachers. The development of the educational environment is the outcome of the collaborative effort of scientists, pedagogical and software experts, technicians, teachers and students.

The project's implementation includes **two cycles of school-centered work** in real school environments in Greece, Italy, Spain and Austria. For the first cycle an adapted curriculum is being developed around a solid educational framework that captures the main learning objectives of the project (observation of the sun, the moon, planets, galaxies, nebulae, variable stars, eclipsing binaries), while during the second cycle the students and the teachers of the participating schools will have the chance to design and perform their own projects by using the telescope for their own direct astronomical observations.



The project's evolution relies in parallel on **the further development of the telescope** (improvement of the access to it through the development of a highly user-friendly user interface, in order to be used for educational purposes) and the **design and development of the appropriate pedagogical framework for the introduction of the scientific inquiry in science teaching at high school level**. The pedagogical framework includes the necessary adjustments to the normal school curriculum, teachers training (on-line seminars and workshop) and support, development of lesson plans for the project's implementation in the classroom and development of the suitable educational material (conventional and electronic).

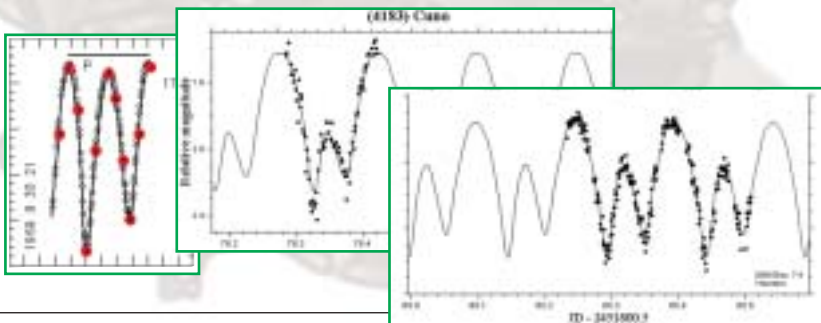
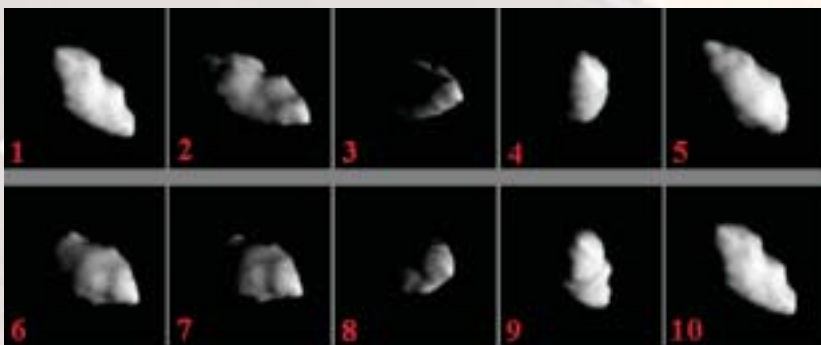
Eudoxos

Teaching Science with a Robotic Telescope



The main aim of the Eudoxos project is to take advantage of the popularity of Astronomy among students and their attraction to the idea of using a first rate scientific instrument, in particular a high grade telescope, to learn concepts and ideas of science, of a multidisciplinary nature spanning through the areas of mathematics, statistics, chemistry, physics etc. and of course astronomy, astrophysics and cosmology. The objectives of the project are:

- To design and develop a pedagogical framework that allows for successful application of the advanced technology in science teaching.
- To enhance the constructionist approach in science teaching.
- To enhance the motivation of students.
- To enhance students' critical capacity.
- To make connections to underlying concepts.
- To make students understand the relationship between science and technology.
- To develop new learning tools and educational environments.
- To design and develop a concrete evaluation scheme of the educational and technological aspects.



Project Number

2002-4085/001-001 EDU-ELEARN

Duration

18 months

Programme

eLearning Initiative

Action Line

eLearning Action Plan

Project Type

Research on, and development, implementation and testing of new learning environments

Full Title

Teaching Science with a Robotic Telescope

Start Date

01/10/2002

End Date

31/03/2004

Target Audience

Teachers - organizations operating in open and distance learning, Trainers, Schools students

Key words

Robotic Telescope, e-learning, Eudoxos

Project Coordinator

Dr. George Fanourakis
Institute of Nuclear Physics
National Center for Science Research
"Demokritos"
P.O. Box 60228 - Agia Paraskevi
153 10 Greece
Tel.: +30 210 6503525
Fax: +30 210 6511215
E-mail: gfan@inp.demokritos.gr
URL: www.ellinogermaniki.gr/ep/eudoxos

Project Participants

- 🇬🇷 NCSR, Demokritos
- 🇬🇷 Ellinogermaniki Agogi
- 🇬🇷 University of Athens
- 🇪🇸 University of Cadiz
- 🇦🇹 Management Center Innsbruck
- 🇮🇹 IT IS - GB Pininfarina
- 🇭🇺 BG & BRG Schwechat
- 🇪🇸 Colegio Publico Rural Campina de Tarifa