

# Research, education and outreach at La Hita Astronomical Observatory

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## Abstract

La Hita Astronomical Observatory is located in the village of *La Puebla de Almoradiel*, in the province of Toledo (Spain). These facilities belong to AstroHita Foundation, which has the aim to provide support for researchers working in Astronomy and Planetary Sciences but also for the development of education and outreach projects. We briefly describe here its facilities and some of the activities performed at this observatory.

## 1. Introduction

The three domes of La Hita Astronomical Observatory (Fig. 1) are named Antares, Vega and Cygnus X-1. These contain robotic telescopes with a diameter of, respectively, 30, 40 and 77 cm (Fig. 2) and Newton optical configuration. The others are Newtonian reflectors. These facilities belong to AstroHita, a foundation with the aim to promote Astronomy by means of outreach activities, but also to provide support for professional research projects. Thus, nowadays research represents a fundamental part of the activities performed at this observatory. Most of the projects that are currently being developed at La Hita are related to meteoroids and minor bodies, and new collaborations with other researchers and institutions are expected in future.

## 2. Research projects

One of the aims of AstroHita Foundation is the cooperation with universities and research centers that can get advantage of these facilities to develop research projects related to Astronomy and Space Sciences. This has resulted in several initiatives that are currently being developed at La Hita Astronomical Observatory. Thus, for instance, as a result of an agreement with the University of Huelva



Figure 1: Panorama view of La Hita Astronomical Observatory.

(Spain), a project related to the analysis of the orbits, chemical composition and determination of the parent body of meteoroids ablating in the Earth's atmosphere is being performed (Fig.3). This observatory is also one of the nodes of the MIDAS project (Moon Impact Flashes Detection and Analysis System), which is being developed by the Institute of Astrophysics of Andalusia (IAA-CSIC) and the University of Huelva with the aim to analyze flashes produced by meteoroids impacting with the lunar surface. For this purpose, the 40 cm telescope is being used. Besides, the IAA-CSIC is also developing a project related to TNOs with the 77 cm Newton telescope.

## 3. Education and outreach

AstroHita is also focused in the development of outreach activities oriented to educators, with the aim to help them to promote the interest for science among younger minds. The Foundation facilitates the access to the equipment in the observatory. This policy is very valued by teachers, as this results in a higher motivation for learning. Thus, the educational work developed by AstroHita is supported by new teaching methods based on involving students in the

inductive and deductive processes of scientific research (IBSE: Inquire Based Scientific Education). The Foundation is also actively involved in the HOU-Spain project for the application of these methodologies.

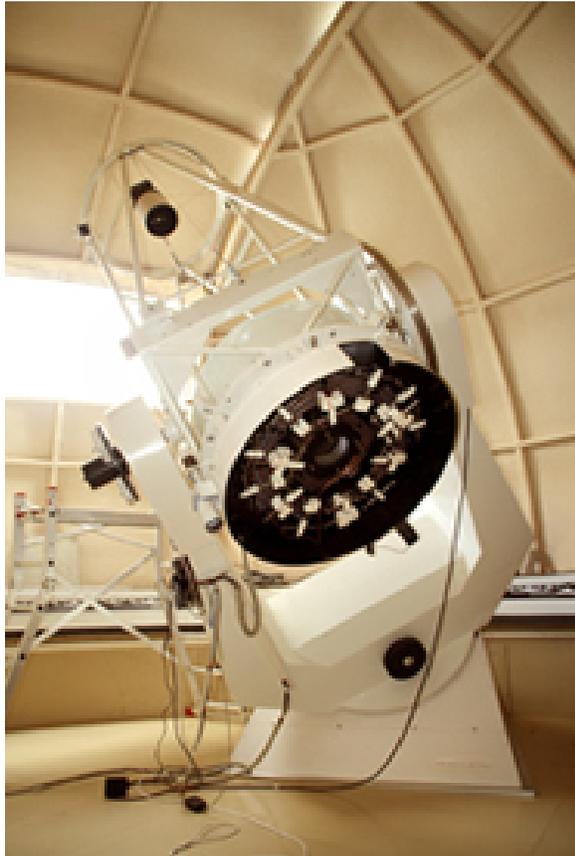


Figure 2: The 77 cm Newton telescope, located under the Cygnus X-1 dome.



Figure 3: Control room of the meteor observing station.

## 4. Summary and Conclusions

Education and outreach is one of the aims of La Hita Astronomical Observatory, and different activities are regularly organized mainly for students and educators. But research is also one of our main objectives. So, AstroHita Foundation is offering its facilities for the development of research projects related to Astronomy and Space Sciences. Thus, as a result of the agreement with universities and research centers in Spain, several projects are currently being developed at La Hita Astronomical Observatory.