

ASTRONOMY AND ASTROPHYSICS COMMUNICATION IN THE UCM OBSERVATORY

I. Crespo-Chacón¹, E. De Castro¹, C. Díaz¹, J. Gallego¹, M.C. Gálvez¹,
M. Hernán-Obispo¹, J. López-Santiago¹, D. Montes¹, S. Pascual¹,
A. Verdet¹, V. Villar¹ and J. Zamorano¹

Abstract. We present a summary of the last activities of science communication that have taken place in the *Observatorio de la Universidad Complutense de Madrid* (UCM Observatory) on the occasion of the Third Science Week of the *Comunidad Autónoma de Madrid* (3–16 November 2003), including guided tours through the observatory facilities, solar observations, and several talks. Moreover the current telescopes, instruments and tools of the UCM Observatory have allowed us to organize other communicating activities such as the live observation, together with its internet broadcast, of total lunar eclipses and other exceptional astronomical events as the Venus transit that took place in 8 June 2004.

1 Introduction

The UCM Observatory (*Observatorio de la Universidad Complutense de Madrid*) (see Fig. 1) is located at the Faculty of Physics of the *Universidad Complutense de Madrid* (UCM). The facilities that are available in this observatory are continuously improving every year (see contribution by Montes *et al.* in this book).

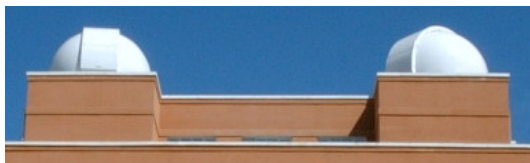


Fig. 1. UCM Observatory.

¹ Departamento de Astrofísica, Facultad de Ciencias Físicas, Universidad Complutense de Madrid, 28040 Madrid, Spain

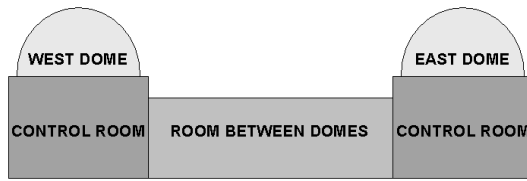


Fig. 2. Scheme of the UCM Observatory.

The UCM Observatory is generally used for carrying out the exercises that the students have to do in the last years of the Astrophysics career, but however, eventual scientific communication activities, like the ones described in this work, are also organized.

2 Third Science Week of Madrid

Several activities were organized during the Third Science Week of the *Comunidad Autónoma de Madrid* (3–16 November 2003), including guided tours through the observatory facilities, solar observations, and several talks.

Figure 2 shows a scheme of the UCM Observatory. The solar observations were done in the *west dome*. Two telescopes with two different filters (visible and $H\alpha$) were used. People could see solar spots (see the bottom part on the right of Fig. 3), plages, prominences (top part on the right of Fig. 3), and filaments. A description about the solar and stellar spectrographs of the UCM Observatory, which were done by students of Astrophysics, was given in the *control room of the west dome*. People could learn more about the Sun and solar activity thanks to the talk that we offered them in the *room between domes*. In addition, we showed them different projects made by students such as the construction of a radio-telescope.

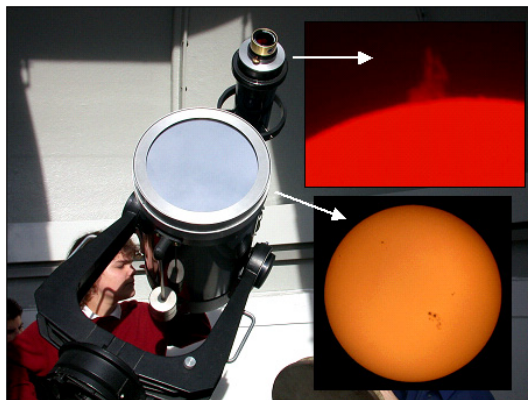


Fig. 3. Solar observations. Top on the right: solar chromosphere ($H\alpha$ filter); Bottom on the right: solar photosphere (visible filter).

In the *east dome* we explained to them what is a dome, why a telescope has to be inside a dome and how many different kinds of telescopes and mounts exist. Besides, a short talk about what is a control room and how an astronomer makes his or her observations nowadays was given in the *control room of the east dome*. Pictures of large observatories, telescopes, instruments, galaxies, nebulae and star clusters were also shown.

Two lectures were also given during the Third Science Week of Madrid. Their titles were: “24 hours in the astronomer’s life” and “The GTC project: Gran Telescopio Canarias”.

3 Observation of Lunar Eclipses

Figure 4 shows several pictures of the total eclipse of the Moon that took place on 8–9 November 2003. These observations were taken using a digital camera together with the telescope Celestron 11" (f/6.3) and an eyepiece of 30 mm. The images were live broadcasted via internet¹ while a large screen showed them at the campus of the UCM University.

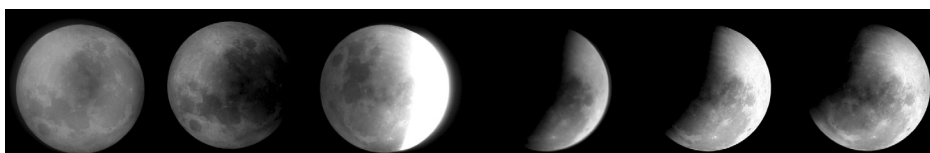


Fig. 4. Some images of the series of observations that were carried out during the eclipse of the Moon that happened on 8–9 November 2003.

4 Venus Transit (8 June 2004)

The images of the solar photosphere (Fig. 5) and chromosphere (Fig. 6) taken by the UCM Observatory during the Venus Transit (8 June 2004) were live broadcasted via internet¹ in collaboration with the amateur astronomers of ASAAF-UCM. Many interested people could observe the transit from telescopes mounted at the Faculty of Physics in its flat roof (Fig. 7) and entrance (Fig. 8).

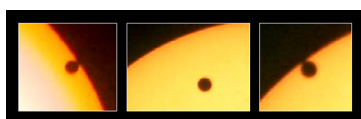


Fig. 5. Some observations of the solar photosphere during the Venus Transit that took place in 8 June 2004.

¹<http://www.ucm.es/info/Astrof/>.

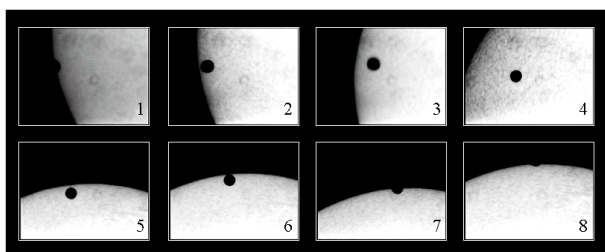


Fig. 6. Some $H\alpha$ or chromospheric observations of the Sun during the Venus Transit that took place in 8 June 2004.

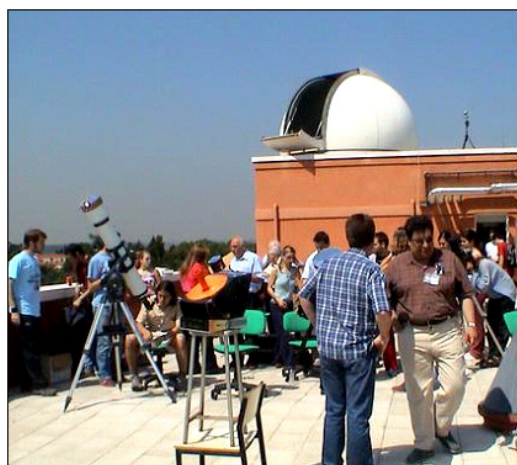


Fig. 7. Atmosphere created by the staff of the UCM Observatory and visitors at the flat roof of the Faculty of Physics beside the UCM Observatory during the Venus Transit (8 June 2004).



Fig. 8. Atmosphere created by the amateur astronomers of ASAAF-UCM and visitors at the entrance of the Faculty of Physics during the Venus Transit (8 June 2004).