

Public outreach for the 2012 Venus transit at the Belgium Institute for Space Aeronomy

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Abstract

Planetary aeronomy is a relatively young science, therefore outreach and popularization helps to promote public awareness and understanding of the importance and the goals of scientific research in this area. Information about the latest advances and discoveries in the field can also inspire young people to pursue careers in science and technology.

The Belgian Institute for Space Aeronomy (IASB-BIRA) is a Belgian federal scientific research institute. Created in 1964, its main tasks are research and public service in space aeronomy, i.e. the physics and chemistry of the atmosphere of the Earth and other planets and extending into the field of interplanetary space physics. In addition, IASB-BIRA disseminates this knowledge through publications, web services and public outreach.

Therefore the transit of Venus of June 2012, the last one in the 21st century, is an important opportunity for science education: it helps to guide everybody to become familiar with our Solar System as well as with the historical development of scientific knowledge. Moreover it is important to draw a parallel between the Venus transit and the characterisation of exoplanets outside our Solar System. This aspect is of great potential to reach a broad audience of laypersons and particularly the younger generation.

1. Introduction

IASB-BIRA uses a variety of teaching tools to promote aeronomy to the general public. For example, its general website presents the activities of our federal institution [1].

IASB-BIRA also advertises itself at so-called permanent exhibition sites such as:

Planetarium (Royal Observatory of Belgium) [2]
Euro Space Centre (Redu) [3]
Earth Explorer (Ostend) [4]

It also takes part in temporary events and/or exhibitions used to provide information about new developments, and for these it either makes existing material available or creates it for the occasion.

Within IASB-BIRA, the Planetary Aeronomy division originally developed its website devoted to the study of the Mars and Venus atmospheres [5]. The team also regularly organizes conferences on Venus, Mars, planetology and the Belgian contribution to international projects, such as the ESA/NASA ExoMars programme or the ESA Venus Express mission. For the transit of Venus that will take place in June 2012, the Planetary Aeronomy division started a webpage [6] at the beginning of April 2012 addressing one aspect of the subject every Friday until the first of June.

2. Public Outreach for the Venus transit in June 2012

IASB-BIRA is responsible for the SOIR instrument on the ESA Venus Express mission and will therefore participate in the worldwide observation of the Venus transit. SOIR will be operated throughout the complete duration of the transit of Venus and its observations will be compared to observations performed with instruments on Earth or with the Hubble Space Telescope. Moreover, our scientists will observe the transit from the Svalbard Observatory (Norway) and will contribute to a global network of outreach activities.

In recent years, the necessity to have dynamic webpages to reach the younger generation has become evident. This includes regular updates and addition of new content, such as news that are also embedded in social networking services. In addition, the use of videos placed on video sharing websites is an increasingly popular tool. Knowing this, we chose to create an evolving webpage for our communication about the Venus transit (Fig.1), starting on April 6. In total, nine topics were selected and the corresponding tab

activated each week in order to stimulate curiosity and induce the follow-up of the website. Among the topics covered are: 'What is a transit?', 'Historical facts', 'Scientific interest', 'Collaborations', 'Where and how to observe?...',

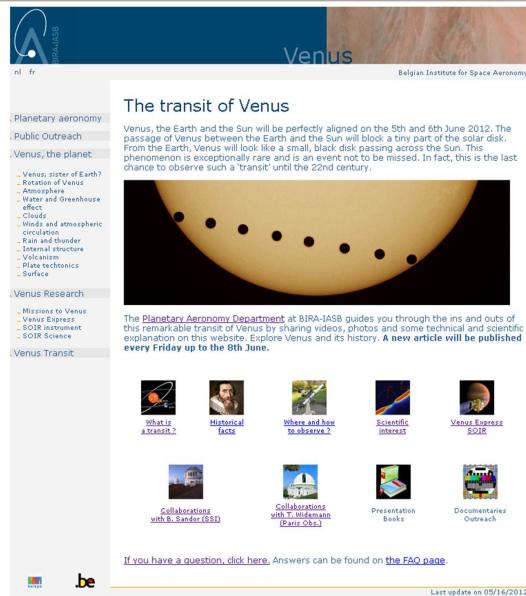


Figure 1: Snapshot of the homepage developed to mark the transit of Venus

In addition, specialized terms of the particular domain of knowledge were linked to a glossary to present definitions and the necessary explanations of relevant concepts. Finally, we contacted astronomy clubs active in Belgium to list their activities during the transit. Most of them answered positively and were happy to get their passion promoted.

In March 2012, a strategic workshop on coordinated ground-based measurements during the transit was held at the Observatory of Paris (France) where the SOIR team met several collaborators. We took this opportunity to interview colleagues about their scientific interests and the importance of observing the transit of Venus. These videos were captioned and used on our web page to make it more lively and to highlight the importance of collaboration in science. They also contribute in emphasizing the complementarity between satellite and ground-based observations and the beauty of the transit method in the detection and characterisation of exoplanets for which the Venus transit can be used as a reference.

During our stay at the Svalbard Observatory in June, we aim to publish news every other day to highlight

what is going on at one of the exceptional observation sites of the transit. This will be done in a more journalistic way, like newsbites.

3. Summary and Conclusions

In order to make the most of the Venus transit occurring this June, the Planetary Department, together with the communication cell of IASB-BIRA, have elaborated an outreach strategy. A website has been set up and updated once a week starting two months before the event. We took advantage of all kinds of web facilities: text and images, embedded videos, social networking,...

To stimulate public knowledge and excitement around aeronomy/planetary sciences, IASB-BIRA is engaged in science outreach activities. Our goal is to share scientific knowledge as broadly as we share our other cultural developments, trying to instill a passion for science in the younger generation.

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References

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- [3] <http://www.eurospacecenter.be>
- [4] <http://www.earthexplorer.be>
- [5] <http://planetary.aeronomie.be>
- [6] <http://venus.aeronomie.be/en/transit>