

Transit of Venus with GLORIA

It's now or never for seeing Venus walking on the Sun: should we miss the June 5th/6th transit, we'll have to wait until 2117. A live coverage of the event – from Australia, Japan and Norway – will be broadcasted on the Internet by the European citizen-science project GLORIA (GLObal Robotic-telescopes Intelligent Array). GLORIA proposal for the event also includes photo sharing and special activities for students.

On June 5th/6th, 2012, just after midnight Central European Time, the planet Venus will start to cross the face of the Sun on a journey that will take it just over 6 and a half hours to complete. The Sun, Venus and Earth only rarely come into alignment, allowing us to observe the transit, because the orbits of the Earth and Venus around the Sun are slightly tilted. The transits repeat in a regular pattern of 8 years, 121.5 years, 8 years and 105.5 years. The last was in 2004 and the following one will not be until 2117. Since the invention of the telescope, Venus has crossed the face of the Sun only 7 times.

The 2012 spectacle will not be visible from all places on Earth, since the Sun will be below the horizon for many parts of the world during the transit.

The GLORIA project, in collaboration with other institutes and organisations, has organized expeditions to watch the event with solar telescopes and digital cameras. Videos and pictures of the transit will be broadcast live on the internet from Australia, Japan and Norway, so the last occurrence of a transit of Venus for 105 years will be visible by everyone. There will be live commentary in Spanish and English during the broadcasts.

GLORIA is an innovative and ambitious citizen-science project lead by *Universidad Politécnica de Madrid* and involving 13 partners in 8 countries, which will give free and open access to a growing collection of robotic telescopes via a Web interface.

The transit of Venus is the first in a series of live broadcasts of astronomical events which are being created by GLORIA to promote Astronomy and eScience to the public. Associated educational materials have been developed to engage high school students in physics and mathematics. In the case of the transit of Venus, school students will be able to measure the Sun-Earth distance using images of the transit acquired by GLORIA.

The webcasting is organized into 3 main slots, with live coverage for the first 30 minutes, the central 10 minutes and the final 30 minutes of the transit. In the intervening times, the images will be updated every 5 minutes. All the collected images will be immediately available for use in the educational activities.

GLORIA is also asking people all over the world to send their images of the transit.

For many people on the planet, this will be their only chance to see a transit of Venus. What story do we want to tell to those who will see the next transit in 105 years? What was going on in the world on June 5th/6th 2012, against the backdrop of this magnificent cosmic dance? We would like people to document this historic event and turn their cameras back to Earth to capture moments of themselves, their loved ones and their lives, on June 5th/6th 2012.

To participate in the first GLORIA experiment and for more information, please go to www.gloria-project.eu

Didactic activities reference page: www.gloria-project.eu/didactic-activities/

Expeditions reference page: www.gloria-project.eu/expeditions/