NASA 'Solar Dynamics Observatory': First Light on April 21.

On April 21 at 14:00 EDT (20:00 Belgian summer time), NASA will host a press conference to present the spectacular first images ("First Light") gathered by the Solar Dynamics Observatory (SDO), a new space mission designed to make the most detailed observations of the Sun ever.

One of the first institutes to analyze SDO's scientific data will be the Royal Observatory of Belgium (ROB), located in Uccle. ROB will be the only European institute receiving all SDO data directly from the USA, and will serve as a relay to redistribute this data further in Europe.

The satellite was launched from Cape Canaveral Air Force Station in Florida on February 11, 2010 at 10:23 EST and has since undergone a series of orbit-raising maneuvers to reach its final orbit at 36 000 km above the earth. Mission scientists have been testing the instruments, all of which are in excellent shape. The scientific exploitation of SDO can begin!

The SDO mission is designed to help scientists understand the Sun's influence on Earth by studying the solar atmosphere in fine detail in space and time, and in many wavelengths simultaneously. "SDO will observe all of the Sun all of the time, and even changes of around 700 km on the Sun will be noticed", says Véronique Delouille from the Royal Observatory of Belgium. That is equivalent to seeing a 1Euro coin at a 5 km distance.

The Sun's activity varies tremendously during its 11-year cycle. Data from the new probe will enable scientists to understand changes in the Sun's magnetic field, which emits sporadic storms of charged particles that can disrupt technology on Earth and threaten humans in space.

Despite the Earth's relative closeness to the Sun it is only recently, with the advent of space missions, that the Sun can be observed without details being blocked by the Earth's protective atmosphere. "The atmosphere of the Sun is much hotter than its surface, and SDO will help understand how this heating works" says Jean-François Hochedez from the Royal Observatory of Belgium.

The Solar Dynamics Observatory carries three outstanding instruments. One of them will take - every 10 seconds - very high quality snapshots of the Sun, in eight wavelengths of ultraviolet light. This will generate 1 to 2 Terabytes (200 DVDs!) of data per day!

Scientists anticipate that over its five-year mission SDO will revolutionize our understanding of the Sun. Through its involvement in the mission, the Royal Observatory of Belgium will play an important role enabling and participating to potentially major scientific discoveries.

Further reading:

NASA press conference (April 21, 14:00 EDT = 20:00 Belgian summer time):
http://www.nasa.gov/home/hqnews/2010/apr/HQ_M10-057_SDO_1st_Light.html

Press conference images and movies (online starting at 14:00 EDT):
http://www.nasa.gov/sdo

After the press event, some images and movies will be available at:
http://aia.lmsal.com/public/firstlight/

Short movie about the SDO mission:
http://www.youtube.com//SDOmission2009#p/u/2/MUQElJYIIlI

Main SDO website:
http://sdo.gsfc.nasa.gov/

SDO Media Resources (with Press quality Photos):
http://sdo.gsfc.nasa.gov/resources/press.php

SDO center at the Royal Observatory of Belgium:
http://wissdom.oma.be

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