



Mission

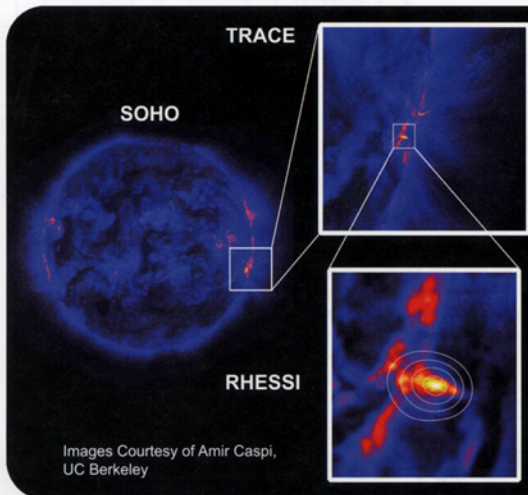
The Reuven Ramaty High Energy Solar Spectroscopic Imager, **RHESSI**, studies the active Sun and energetic solar flares.

A flare results from the rapid release of magnetic energy which has built up in the solar atmosphere. Flares are seen as intense brightenings in active regions on the Sun. The amount of energy released in a flare can be ten million times greater than the energy released in a volcanic eruption. This energy is released in a very short time – as little as a few tens of seconds.

RHESSI launched in February, 2002.

RHESSI addresses the following questions:

1. How is such a large amount of energy released so rapidly during a flare?
2. How can such a large part of this energy go towards accelerating electrons and protons to very high energies?
3. Where in the solar atmosphere are the electrons and protons accelerated and where do they deposit their energy?



Images Courtesy of Amir Caspi,
UC Berkeley

On April 21st, 2002 RHESSI observed its first flare of class X. The flare lasted for several hours. In the photos on the left we see this flare as recorded by several NASA missions. The EIT instrument aboard the SOHO spacecraft views the entire Sun in extreme ultraviolet light. TRACE sees in ultraviolet light as well but observes smaller regions of the Sun in greater detail. RHESSI records high energy X-rays also for smaller regions of the Sun.

In the RHESSI frame we see contours of constant X-ray brightness overlaid on a zoomed-in part of the TRACE image. The inner contours represent the greatest X-ray brightness and the outer contours the lowest.



For more information on the mission science visit <http://hessi.ssl.berkeley.edu/> or <http://hesperia.gsfc.nasa.gov/hessi/>
Also visit the education website <http://cse.ssl.berkeley.edu/hessi/>

