



# LASCO

The Large Angle and Spectrometric Coronagraph Experiment

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## LASCO and EIT

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## Science Information

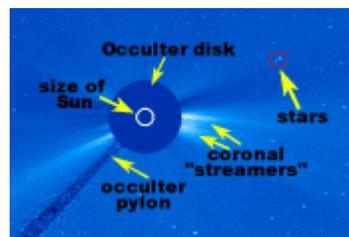
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## Technical

## Introduction to LASCO (and EIT)

### About LASCO

LASCO -- the Large Angle and Spectrometric Coronagraph -- is a set of three "coronagraph" telescopes on-board the SOHO satellite. A coronagraph is a special type of telescope that uses a solid disk ("occultor" or "occulting disk") to actually cover up the Sun itself, completely blocking direct sunlight, and allowing us to see the atmosphere around the outside of the Sun (known as the "corona").



The image opposite (click for a larger version) illustrates the key features of the LASCO image. This particular image is from the LASCO "C3" camera. Visible are the solid occulter disk, used to create a false eclipse; the "pylon", which is an arm that holds the occulter in place; a representation of the Sun in the form of a white disk drawn on the occulter during our image processing; coronal streamers -- one of the feature we are most interested in; and background stars.

LASCO comprises of three telescopes (C1, C2 and C3), each of which looks at an increasingly large area surrounding the Sun. For the first year-and-a-half of the SOHO mission, all three instruments worked perfectly. However, in 1998 SOHO was accidentally "lost" in space after it received a bad command. The entire spacecraft lost power and essentially froze solid for several weeks. Eventually -- miraculously! -- the SOHO team were able to relocate the spacecraft, regain control and slowly power-up and thaw out the instruments. Sadly, the LASCO C1 camera was lost as a result of this but the rest of spacecraft came through almost completely unscathed! Eight years later -- and over ten years since launch -- LASCO C2 and C3 (and most of the rest of SOHO!) continue to work extremely well, sending back images and data on a daily basis.

### About EIT



You may be wondering what EIT is and why it is being mentioned? EIT (the Extreme ultraviolet Imaging Telescope) is another of the instruments on-board SOHO. Unlike LASCO it is not a coronagraph, but instead takes direct images of the Sun using different filters that allow us to see different layers of the Sun's outer atmosphere. An example of an EIT image can be seen opposite. Although they are completely separate instruments, LASCO and EIT share a lot of the electronics on the SOHO spacecraft and we, at the NRL Solar Physics Branch, are responsible for support for the camera

Team and Operations  
Resources  
LASCO/C1 at MP Ae  
(Germany)  
LASCO at LAS  
(France)  
LASCO Handbook  
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Acronyms

#### Related Links

Solwind Images and  
CMEs  
SOHO Home page  
SOHO and SOHO  
Instruments  
Other Solar Satellites  
and Observatories

and electronics of EIT, as well as being the principal investigation team for the LASCO instrument.

## About this website

On this site you will find a wealth of information and data from the LASCO and EIT experiments on board the [ESA/NASA SOHO satellite](#). Here is a summary of just some of the information you will find in these pages:

### Images and Movies:

We offer a variety of [near-realtime images](#) and [movies](#) from both the LASCO and EIT instruments. Images are available in several formats (gif,jpg,png), as are the movies (mpg, animated gif, javascript).

### Data Products:

We make available all LASCO and EIT raw data in FITS format as level-0 (QuickLook), level-0.5 (LZ) and level-1 [products](#), through our online database query form. In addition to these, we offer all the latest calibration files and [monthly background images](#). Also available are [CME lists](#).

### Documentation:

Extensive [documentation](#) is available on this site, covering all aspects of the instruments including design, specifications, operations, and performance.

### Other information

Links to external websites, to our international partners, and to solar physics projects can be found throughout this site. Additionally, at the top of each page are links to the two other main project areas we cover:

- **SECCHI:** The "Sun Earth Connection Coronal and Heliospheric Investigation", the latest mission from the NRL Solar Physics Branch, is a suite of imagers flying on the twin [STEREO spacecraft](#). This mission [launched](#) on October 25, 2006. See the [SECCHI website](#) for more details.
- **Sungrazer comets:** Aside from being the most successful coronagraph ever flown, the LASCO instrument also holds another title: the most [prolific comet discoverer in history!](#) Since operations began in early-1996, over *one thousand six hundred* sungrazing comets have been discovered in LASCO images -- that is more than 50% of all known comets for which orbits have been computed! The [sungrazer website](#) provides all the information you need to watch, discover, and report comets in the LASCO (and STEREO) images.

## Questions?

We are happy to answer any questions you may have about LASCO, its images, or this website. You are welcome to email the webmaster at [webmaster@louis14.nrl.navy.mil](mailto:webmaster@louis14.nrl.navy.mil) and we will do our very best to reply as soon as we can. (Note: please try to include the word "LASCO" in the subject line of your email) You can also check the [LASCO FAQ](#), the [sungrazer FAQ](#), and [Dr SOHO](#) to see if your question has been answered elsewhere.

Contact



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