



# “Solar Eruption Flip Book”



Image Credit: The SOHO-EIT Consortium: SOHO is an ESA-NASA program of international cooperation.

### What is an Erupting Prominence?

Solar prominences are large impressive loop-like structures that, when seen on the edge of the solar disk, stand out brightly against the dark background of space. These structures appear to be very bright and hot but they are actually hundreds of times cooler and denser than the surrounding gases in the sun’s corona or outermost atmosphere. They are insulated from the hotter surrounding gasses and supported against the sun’s immense gravity by strong magnetic fields. In this way they can last for weeks or months, without being heated by the surrounding corona or falling back down towards the surface under their own weight.

Some prominences become unstable and eventually erupt dramatically over the course of as little as a few hours. The magnetic field, that had previously supported and insulated the prominence, suddenly releases its stored energy explosively. The eruption drives matter outward against the impressive force of solar gravity.

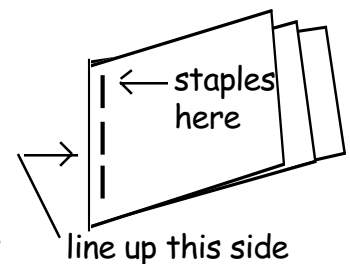
After the eruption, most of the material eventually falls back down towards the surface. The prominence can even reform itself at the same location over the few days following the eruption. However, sometimes in the course of the eruptions, blobs of solar material escape the sun’s gravity and head toward the Earth wrapped in solar magnetic fields. The electrified bubbles of gas, called coronal mass ejections, can trigger major space weather storms at Earth.

### SOHO View of the Eruption

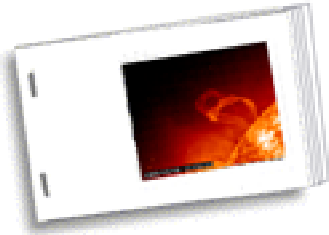
Images in the flip book on the following pages are taken during the powerful eruption of a prominence on 6 March 1999 from 6 08:08 - 12:48 UT , by the SOHO spacecraft in the light of Helium II at wavelengths of 304 Å.

### Assembly Instructions

Print the following 3 pages. It works best if you can use stiff paper but standard printer paper is fine. Cut out each of the pages for the flip book along the solid line. All of the pages will be slightly different lengths. This makes it easier to flip through the book when it is finished. Arrange them in order according to the number in the upper left corner of each image. Line up all the pages by the edge that has a broken line marking the staples. Staple the left edge along the broken line. Your flip book is ready.



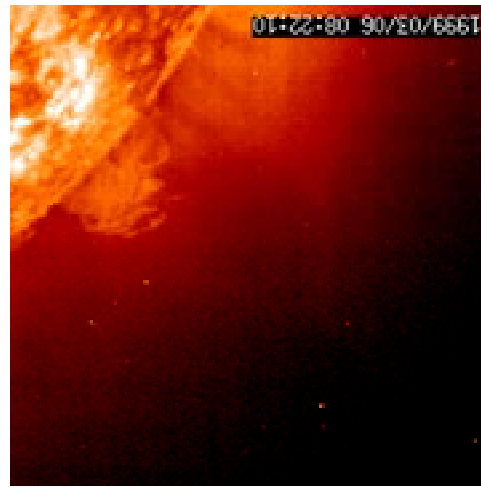
# “Solar Eruption”



Flip  
Book

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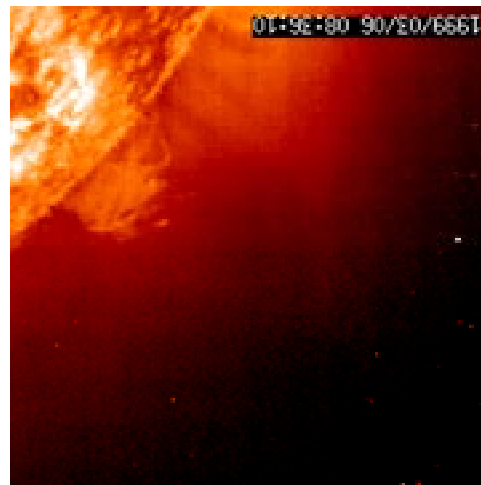
Developed in partnership with:



2

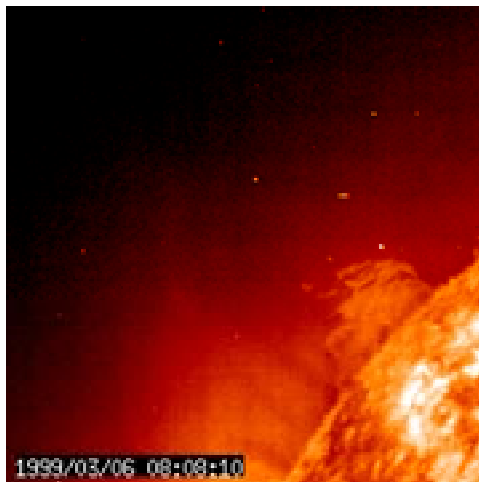
## Flip Book Facts

Solar prominences are large impressive loop-like structures that, when seen on the edge of the solar disk, stand out brightly against the dark background of space. These structures are actually hundreds of times cooler and denser than the surrounding gases in the sun's outermost atmosphere. Magnetic fields insulate them and hold them up against the sun's gravity sometimes for weeks or months. As is the case for the event in this flip book, some of them eventually erupt dramatically over the course of as little as a few hours. After the eruption, most of the material eventually falls back down towards the surface. Sometimes during these eruptions, blobs of solar material escape the sun's gravity and head toward the Earth wrapped in solar magnetic fields. Images in the flip book are taken during the powerful eruption on 6 March 1999 by the SOHO spacecraft in the light of Helium II at wavelengths of 304 Å.



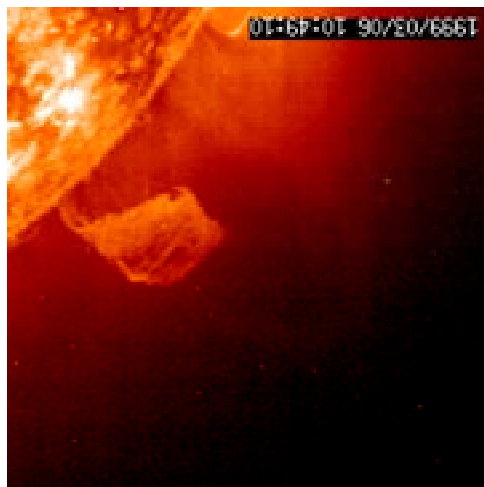
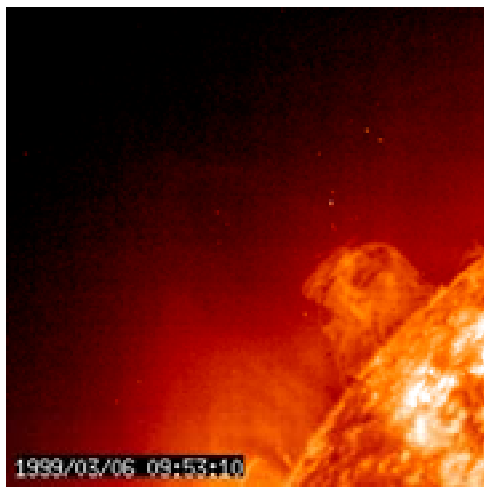
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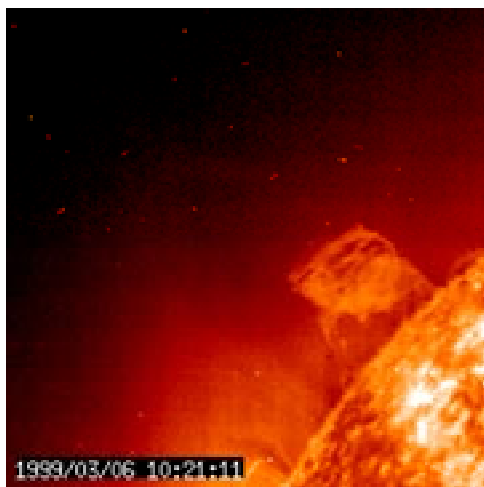
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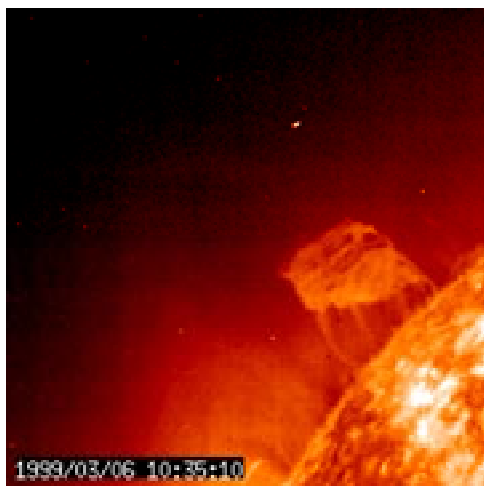
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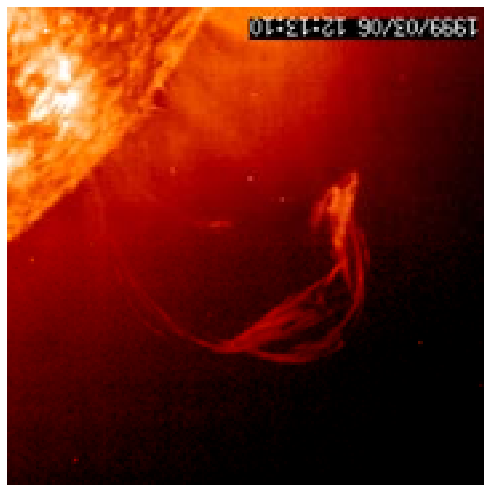
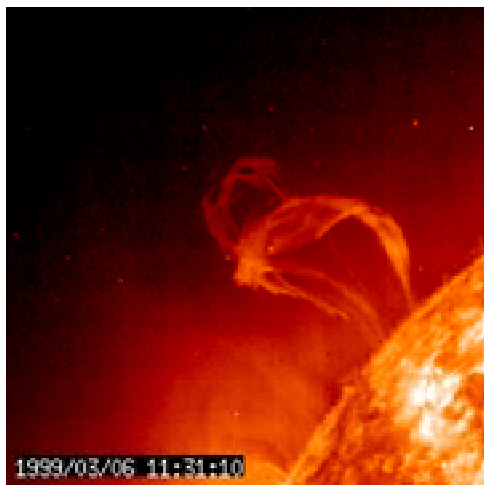
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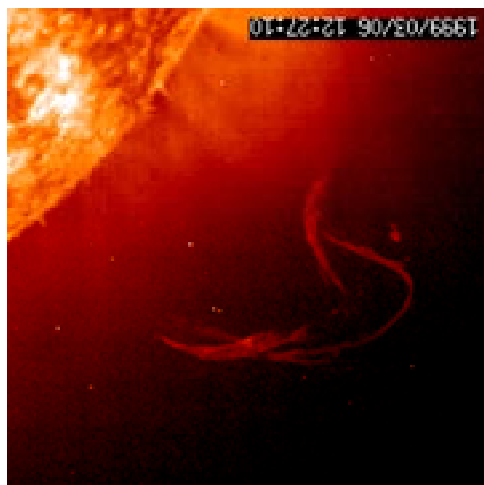
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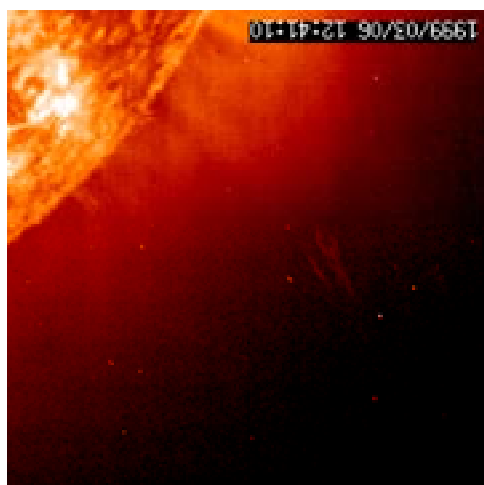
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16