

SCIENTIFIC CASE: Coronal Mass Ejections

Context

Fulgurations reaching furthest from the surface are called prominences, and they can even be ejected into space as solar wind. When that happens, they are called Coronal Mass Ejections (CME). CMEs can affect terrestrial communications, damage orbiting satellites, or interact with the Earth's magnetosphere forming aurorae. Unlike sunspots, fulgurations cannot be detected with regular telescopes, because they aren't significantly brighter than their surroundings.

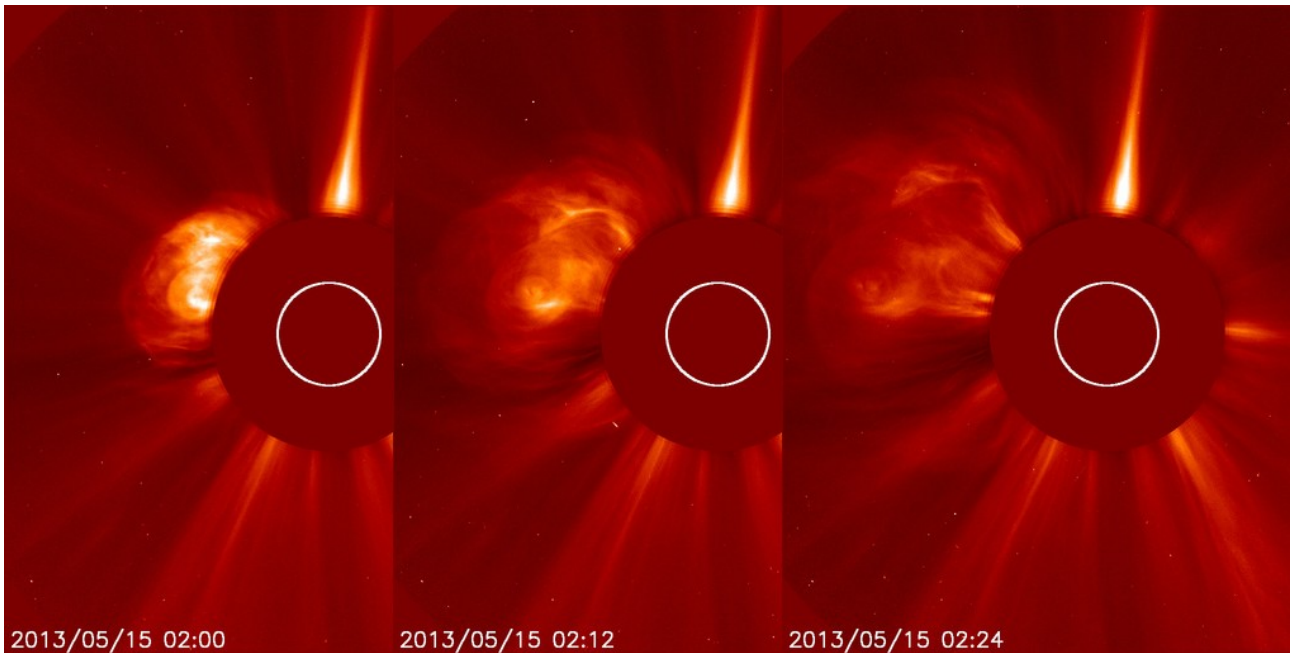
If these ejections are bound to the south of the Earth, they can damage electrical circuits, power transformers, and communication systems. They could also temporarily diminish the Earth's magnetic field. We call this phenomenon solar storms.

More educational materials:

<http://cesar-programme.cab.inta-csic.es/sun.php?Section=Now>
<https://sohowww.nascom.nasa.gov/classroom/>

Project CESAR:

<http://www.cosmos.esa.int/web/cesar>



[CME](#) associated with the X1.2 [flare](#) captured by the [SOHO/LASCO C2](#) camera.

Every space agency considers as a priority the presence of a satellite permanently watching the Sun. One of the most relevant missions has been the satellite SOHO, which is constantly sending us pictures of the Sun, so that we can study CMEs and know how they move. However, that mission is not the only one and every now and then, new plans are designed to continue with those tasks but with a technological upgrade.

A very useful piece of information to have is the time it would take for a CME to reach Earth, if it was coming towards us.