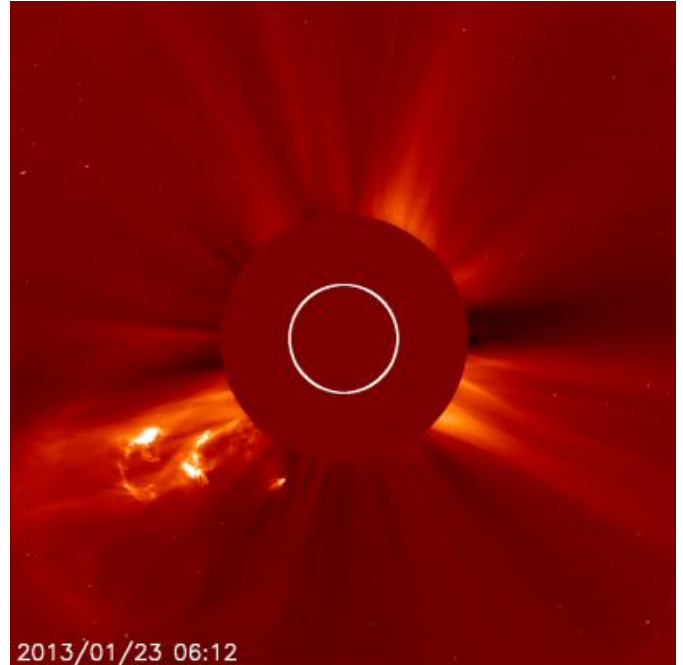
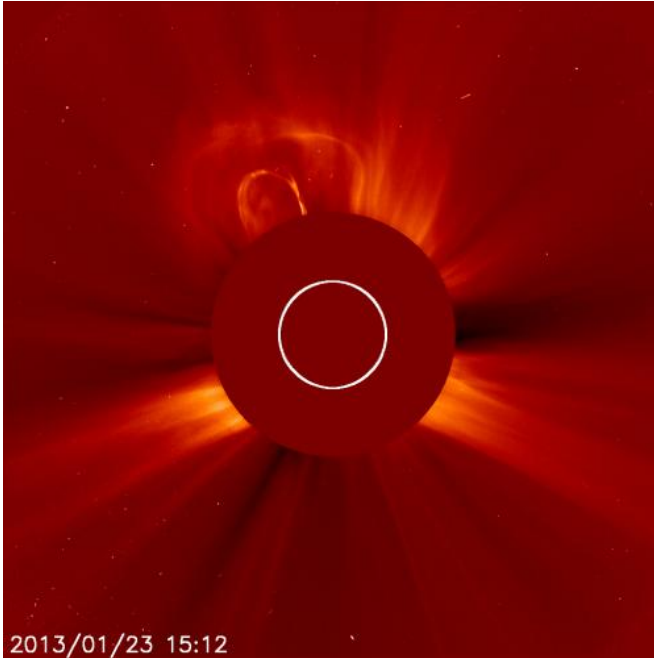


Sun shoots out two coronal mass ejections

24 January 2013



The second of two coronal mass ejections (CMEs) on Jan. 23, 2013, is seen erupting in the top of the picture, away from the sun, which is obscured by the disk in the center. The Solar and Heliospheric Observatory captured this image, called a coronagraph: the bright light of the sun itself is blocked to provide a better view of the sun's atmosphere, the corona. This CME left the sun at speeds of 375 miles per second (1.35 million mph), which is almost 10 times lower than the very fastest CMEs. Credit: ESA, NASA/SOHO

On Jan. 23, 2013, at 9:55 a.m. EST, the sun erupted with an Earth-directed coronal mass ejection, or CME. Experimental NASA research models, based on observations from the Solar Terrestrial Relations Observatory (STEREO) and ESA/NASA's Solar and Heliospheric Observatory, show that the CME left the sun at speeds of around 375 miles per second, which is a fairly typical speed for CMEs.

Not to be confused with a solar flare, a CME is a solar phenomenon that can send solar particles into space and reach Earth one to three days later.

The first of two coronal mass ejections (CMEs) on Jan. 23, 2013, can be seen erupting in the lower left portion of this image, from the Solar and Heliospheric Observatory. This CME was not Earth-directed. This image is what's known as a coronagraph, in which the bright light of the sun itself is blocked in order to better see the sun's atmosphere, the corona. Credit: ESA, NASA/SOHO

Earth-directed CMEs can cause a space [weather phenomenon](#) called a geomagnetic storm, which occurs when they connect with the outside of the Earth's magnetic envelope, the magnetosphere, for an extended period of time. In the past, CMEs of this speed have not caused substantial geomagnetic storms. They sometimes cause auroras near the poles but are unlikely to affect electrical systems on Earth or interfere with GPS or satellite-based communications systems.

A slightly slower CME that was not Earth-directed, also erupted earlier in the day.

NOAA's [Space Weather Prediction](#) Center is the

United States government's official source for space weather forecasts.

Provided by NASA's Goddard Space Flight Center

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