

Eruption of an EUV filament channel and associated CME on 2001 March 19

Y. C. Jiang, L. H. Yang, L. P. Li

National Astronomical Observatories/Yunnan Observatory, CAS, Kunming 650011, China

By using H_α , soft X-ray, and EVU data from the global H_α five-station network, the *Yohkoh* Soft X-Ray Telescope (SXT) and the Extreme-ultraviolet Images Telescope on the *Solar and Heliospheric Observatory* (SOHO/EIT), respectively, we examine the eruption of an EUV filament channel (EFC) occurring on a quiet-sun region near the center of the solar disk on 2001 March 19. In EIT 195 Å observations, the EFC eruption was accompanied by the appearances of two flarelike EUV ribbons on its both sides and the formations of two coronal dimming regions (CDRs) on the regions with opposite magnetic polarities near its two ends. As a remarkable characteristic of the eruption, it had no associated GOES X-ray flare and the only chromospheric response to this coronal eruption was the appearance of a few H_α bright points, which were too weak to regard as an H_α flare. Moreover, no photospheric magnetic activity was detected to relate with the eruption, especially below the coronal dimming regions. However, this event was closely associated with a faint full halo coronal mass ejection (CME) observed by the Large Angle and Spectrometric Coronagraphs (LASCO) on the SOHO. Regarding the eruptive EFC as a sign for a flux rope and the CDRs as its evacuated feet, we explained these joint observations within a framework of the flux rope model of CMEs. The fact that the two CDRs began to darken before the extrapolated onset time of the CME possibly indicated that a large-scale rearrangement of coronal magnetic started earlier than the CME initiation.