

[SO-11] **Kinked Unstable Eruption Caused by a Flare**

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We present a multiwavelength study on a kinked unstable eruption caused by a flare which occurred on 2004 August 18 at the active region NOAA 10656 in the west limb. We examine dynamic evolution of the eruption using the high resolution UV data from TRACE satellite, along with Ha filtergram at Big Bear Solar Observatory (BBSO) and white light coronagraph data obtained from the Mauna Loa Solar Observatory (MLSO) MK4 coronameter. We also investigate timing and location of the high energy electrons obtained by hard X-ray (HXR) data of the Reuven Ramaty High Energy Solar Spectroscopic Imager (RHESSI). As a result we found: (i) a flux rope emerged slowly ( $50 \text{ km s}^{-1}$ ) after the first flare radiation peak and became a kinked loop seen in BBSO Ha and TRACE UV images; (ii) the kinked loop suddenly erupted with large acceleration ( $0.73 \text{ km s}^{-2}$ ) and finally propagated as a core of CME with constant speed ( $400 \text{ km s}^{-1}$ ); and (iii) a HXR corona source ( $> 50 \text{ keV}$ ) appeared at the bottom of the erupting prominence during the eruptive phase. We compare these observations with various solar eruption models.

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[SO-12] **Two-Step Reconnections in a C3.3 Flare and Its Preflare Activity Observed by Hinode XRT**

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We have investigated the evolution of a C3.3 impulsive flare and its preflare activity, which occurred in NOAA Active Region 10923 on 2006 November 12, using Hinode X-Ray Telescope (XRT) data. For an extensive investigation, we have also used GOES X-ray flux, TRACE 171Å, and SOHO MDI data. In the GOES X-ray flux curve, a small preflare enhancement shows up 27 minutes before the main flare. It corresponds to a small XRT brightening in the X-ray sigmoidal loops, which almost delineate the sheared polarity inversion line. The main flare occurred exactly at this preflare site. Examining the time-series of the XRT and TRACE images, we can identify the following evolutionary sequences. (1) There were three bundles of loops along the sheared polarity inversion line forming a sigmoidal structure. (2) The preflare brightening occurred between two upper loop bundles and they consequently formed one larger bundle. (3) The main flare occurred near the location where this new loop bundle and the third bundle met together. (4) As a result, a single stacked loop structure is formed. This morphological evolution of the X-ray loops is quite consistent with the tether-cutting model involving a single-bipole explosion. In the presented event, the cutting processes sequentially took place, creating gradually larger loop bundles by merging smaller loop bundles. Our result shows that the preflare and the main flare in this event are a two-step reconnection process and strongly suggests that the preflare activity plays an important role in triggering the main flare.