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The active Sun and its implication for the heliosphere
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Small Loop-loop Interaction in the Initial Phases of A C9.7 Flare

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The 2007 June 6 16:55 flare was well observed with high time-cadence sparse rasters of the EUV Imaging Spectrometer (EIS) on board the Hinode spacecraft. The observation covers an AR area of 240 arcsec \times 240 arcsec, with the 1 arcsec slit in about 160 seconds.

Tiny loops with apparently cusp-like structures about 1 arcmin west of the main flaring loops (seen in XRT images) are heated and show dynamic behavior in velocity during the impulsive phases of the flare: The HeII line at 256.32Å shows the existence and rapid temporal changes of the bi-directional flow, the line-of-sight velocity of which reaches about -70 - +100 km/sec. On the other hand, the FeXVI line at 262.98Å formed in higher coronal temperatures show only a slight increase of its intensity.

Combining a time series of Stereo-A/B Secchi-EUVI 171Å images, we conclude that the region was heated via magnetic reconnection taking place as a result of tiny loop-loop interaction in the transition region.