Hinode-3: 3rd Hinode Science Meeting
Hitotsubashi Memorial Hall, Tokyo
1–4 December, 2009

Flare onset observed with Hinode in the 2006 December 13 flare

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Abstract. The X3.4 flare that occurred on 2006 December 13 is one of the largest flares observed with *Hinode*, and therefore, has been extensively studied. As we reported in the previous paper (Asai et al. 2008 *ApJ*, **685**, 622), we found a blueshifted phenomenon with EIS at the beginning of the impulsive phase of the flare. That was associated with the faint arc-shaped ejection seen in the XRT soft X-ray images, which is thought to be an MHD fast-mode shock wave. Even before this phenomenon, we found many preflare features, such as S-shaped brightening (sigmoid) with XRT, chromospheric brightening at the footponts of the sigmoid loops with SOT, a faint X-ray eruption, and so on. The faint eruption could be the driver of the MHD fast-mode shock wave. These are also observed with EIS, and we can examine the spectroscopic features. In this paper we present a detailed examination of the flare onset phenomena, and discuss the energy release prosses at the stage of the flare.