

A "Dandelion" Filament Eruption and Coronal Waves associated with the 2011 February 16 Solar Flare

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Coronal disturbances associated with solar flares, such as $H\alpha$ Moreton waves, X-ray waves, EIT/EUV waves, and so on, have been discussed in relation to MHD fast mode waves or shocks in the corona, and therefore, are very important for space weather researches. To solve the mechanism of coronal disturbances, full disk observations with high spatial and temporal resolutions in multi-wavelengths are crucial.

We observed a filament eruption, whose shape is like a dandelion, associated with the solar flare that occurred on 2011 February 16 at the active region NOAA 11158. The $H\alpha$ full disk images of the flare were taken by the Flare Monitoring Telescope (FMT) relocated from Hida Observatory of Kyoto University to Ica University in Peru under the international collaboration of the CHAIN (Continuous H Alpha Imaging Network)-project (see also Morita et al. and UeNo et al. in this JAS-Spring Meeting). There is no Moreton wave observed in $H\alpha$ s, while we identify oscillations/activations of $H\alpha$ filaments (winking filaments) at distant locations. In the extreme ultraviolet data taken by the Atmospheric Imaging Assembly (AIA) on board the Solar Dynamic Observatory (SDO) we clearly see coronal waves as well as the filament eruption. In this paper we present the results of the detailed examination of the eruption, winking filaments and the coronal waves.