

Flare-induced MHD kink oscillation in coronal multiple loops

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Recent solar spacecraft missions such as SOHO and TRACE have detected coronal MHD waves in EUV radiations with high spatial and temporal resolutions. These observations can provide plasma parameters that are crucial to diagnose coronal heating and seismology.

In this paper, we provide the first detection of a MHD kink oscillation in the coronal green line emission (Fe XIV 5303Å, 2MK) by a 2D Doppler coronagraph, NOGIS, at the Norikura Solar Observatory, NAOJ. The oscillation started in an aggregate of face-on coronal loops at the solar limb induced by a M6.5 flare in a nearby active region on June 2, 2003. The oscillation period is about 10 min in the inner loops while about 14 min in the outer loops, suggesting the existence of phase mixing. We discuss the damping mechanism of the oscillation.