

INITIAL RESULTS FROM HINODE

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Hinode was launched on 2006 September, and carried the solar optical telescope (SOT), the X-ray telescope (XRT), and the EUV imaging spectrometer (EIS), and has been working properly until now. SOT provides us with photometric and magnetic images with unprecedented high resolution, while XRT has high spatial resolution with wide field of view to track both the global and local evolution. XRT is unique as compared with other EUV telescopes such as TRACE and SDO in its wide temperatures sensitivity. EIS can produce the Doppler and turbulence maps with very high sensitivity (a few percent of coronal Alfvén speed). SOT observes emergence, transport, and disappearance of solar magnetic fields in various forms, while XRT and EIS simultaneously observe dissipation part of the magnetic life cycle. Hinode has been producing extremely interesting results, including detection of waves in various forms. Indeed, SOT detects signature of Alfvén waves and magnetic fluctuations in the photometric and polarimetric data, and EIS detects line broadening around the footpoints of coronal loops. Overview on the initial results from Hinode is presented with emphasis on waves.