The Sun in the Solar Activity Minimum Observed with Hinode EIS

Hirohisa Hara[1]

[1] NAOJ/NINS

The Hinode Extreme-ultraviolet (EUV) Imaging Spectrometer (EIS) has been designed and developed to execute spectroscopic observations of the dynamical solar upper atmosphere, the transition region and corona, in two EUV wavelength ranges, 17-21 nm and 25-29 nm. These bands contain strong emission lines that are formed at $10^{4.7}$ - $10^{7.3}$ K. EIS has been observing the Sun in the solar activity minimum phase since the start of its observation in Dec 2006. The EIS high-throughput performance with good spectral resolution has led to detection of jets on the quiet Sun, discovery of upflows at active-region loop footpoints, measurements of velocity fields in flare loops and their surroundings including CME associated dimming regions, and so on. In addition, a simultaneous observation of emission lines that are formed at different temperatures enables us to investigate the temporal variation of the heating/cooling processes. In the present paper we show the first scientific achievements form the Hinode EIS.