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

Bright points and jets in polar coronal holes observed by the Extreme-ultraviolet Imaging Spectrometer on Hinode

George A. Doschek
Naval Research Laboratory, USA

Enrico Landi
Naval Research Laboratory, USA

Harry P. Warren
Naval Research Laboratory, USA

Louise K. Harra
Mullard Space Science Laboratory, UK

Abstract. We discuss observations of polar coronal hole bright points made with the Extreme-ultraviolet Imaging Spectrometer (EIS) on the *Hinode* spacecraft. The data consist of raster images in multiple spectral lines from mostly coronal ions, e.g., [Fe x] - [Fe xv]. The bright points are observed for short time intervals, and thus the data are snapshots of the bright points recorded during their evolution. The images show a complex unresolved temperature structure (EIS spatial resolution is about $2''$), with the highest temperature being about 2×10^6 K. Some bright points appear as small unresolved loops with temperatures that are highest near the top. But other bright points appear more point-like with extended structures surrounding them. We discuss a bright point with an associated jet that is bright enough for statistically meaningful measurements. The jet Doppler speed along the line-of-sight is approximately 15-20 km s^{-1}. Electron densities of the bright points and the jet are near 10^9 cm^{-3}, which implies path lengths along the line-of-sight on the order of a few arcsec. We have also constructed differential emission measure curves for two of the best observed bright points. We find that high spatial resolution (significantly better than $1''$) is required to fully resolve the bright point structures.