

Fine-scale Fluctuations in the Corona observed with Hi-C Amy Winebarger and Timothy Schuler

The High-Resolution Coronal Imager (Hi-C) flew aboard a NASA sounding rocket on 2012 July 11 and captured roughly 345 s of high spatial and temporal resolution images of the solar corona in a narrowband 193 Angstrom channel. We have analyzed the fluctuations in intensity of Active Region 11520. We selected events based on a lifetime greater than 11 s (two Hi-C frames) and intensities greater than a threshold determined from the average background intensity in a pixel and the photon and electronic noise. We find fluctuations occurring down to the smallest time scale (~ 11 s). Typical intensity fluctuations are 20% background intensity, while some events peak at 100% the background intensity. Generally the fluctuations are clustered in solar structures, particularly the moss. We interpret the fluctuations in the moss as indicative of heating events. We use the observed events to model the active region core.