

Evidence for Impulsive Coronal Heating from EUNIS: Past (2013) and Future (2017)

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The broad spectral coverage (303-370 Å, 527-635 Å) and unprecedented dynamic range of the Extreme Ultraviolet Normal Incidence Spectrograph (EUNIS) 2013 sounding rocket observations includes emission lines of ionization stages from He I to Fe XX, and thus a wide temperature range of 0.03 to 10 MK. Pervasive, faint Fe XIX 592 Å line emission was observed in active regions and comparison of observed line intensities with calculations demonstrates that the Fe XIX emission, formed at temperatures around 8 MK, is evidence of the faint hot emission predicted by impulsive heating models of the solar corona (e.g., 'nano-flares'). The 2017 flight will use the 527-635 Å channel and a new channel including Fe XVIII 94 Å and Fe XIX 108 Å, thus providing higher sensitivity to this hot plasma and further constraints on impulsive heating models. The calibration and availability of the EUNIS datasets for use by the coronal loops community is presented as well.