



Contribution ID: 208

Type: Poster

NuSTAR Observations of the Quiet Sun

Monday, 6 September 2021 12:03 (13 minutes)

The Nuclear Spectroscopic Telescope Array (NuSTAR) is a hard X-ray focusing telescope designed to observe astrophysical sources, but with the capability of observing the Sun. NuSTAR's higher sensitivity in the HXR range compared to previous solar X-ray instruments, such as RHESSI, combined with the recent solar minimum has provided a unique opportunity to study the faint HXR emission from features on the quiet Sun. We present analysis of such features from several of the NuSTAR quiet Sun observations from the recent minimum. The X-ray spectra of these events have been fit, allowing their temperatures and emission measures to be determined. The contribution of these faint features to heating the solar atmosphere is investigated by finding the highest temperatures they can reach, as well as searching for the presence of any non-thermal emission. In order to study the multithermal emission from the features, the NuSTAR results are combined with corresponding observations from SDO/AIA and Hinode/XRT to produce Differential Emission Measures.

Primary author: Ms PATERSON, Sarah (University of Glasgow)

Co-authors: Dr HANNAH, Iain (University of Glasgow); Dr GREFENSTETTE, Brian (California Institute of Technology); Dr HUDSON, Hugh (University of Glasgow/University of California Berkeley); KRUCKER, Samuel (University of Applied Sciences and Arts Northwestern Switzerland/University of California Berkeley); GLESENER, Lindsay (University of Minnesota Twin Cities); Dr SMITH, David (Santa Cruz Institute of Particle Physics and Department of Physics)

Presenter: Ms PATERSON, Sarah (University of Glasgow)

Session Classification: Poster Session 1.3

Track Classification: Session 2 - The Solar Atmosphere: Heating, Dynamics and Coupling