Jacob Parker

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Current position

2014- Present *Graduate Research Assistant*, Montana State University Physics

Areas of specialization

Image Data Analysis • Correlation
Physics • Magnetic Reconnection
Opto-mechanical Design and Simulation
Sounding Rocket Science

Research Experience

2011-2014 Undergraduate Research Assistant: Work with the *Multi-Order Solar Extreme Ultraviolet Spectrograph* (MOSES) sounding rocket on mechanical ground support and instrument calibration

2014-2016 Identifying Extra Spectral Content in MOSES images using cross-correlation and CHIANTI.

2015-2016 Created a linear MHD model of the Tearing Mode instability with equilibrium shear flow with Dana Longcope to analyze elliptical motions in a flare ribbon observed by IRIS.

2016-Present Managing the mechanical design team for the *Extreme-Ultraviolet Snapshot Imaging Spectrograph* (ESIS) a sounding rocket mission.

2017-Present Focus, Alignment, and Optical Testing of ESIS.

Present Statistical survey of the temporal evolution of explosive events observed by IRIS.

Education

2014 BS in Physics (Highest Honors), Montana State University

2016 MS in Physics, Montana State University

Fellowships

Fall 2017 Montana Space Grant Consortium Graduate Fellowship

Publications & talks

Journal articles

2017 Jacob Parker and Dana Longcope (2017), "Modeling A Propagating Sawtooth Flare Ribbon Structure as a Tearing Mode in the Presence of Velocity Shear", *ApJ*

2018 Jacob Parker and Charles Kankelborg (2016), "Determining the Spectral Content of MOSES images", *In preparation for Solar Physics*

Posters

2016 Jacob Parker and Charles Kankelborg (2016), "Determining the Spectral Content of MOSES images", AAS/Solar Physics Division Meeting, Number 47. LINK

2017 Jacob Parker and Dana Longcope (2017), "Modeling A Propagating Sawtooth Flare Ribbon Structure as a Tearing Mode in the Presence of Velocity Shear", IRIS-8/HINODE-11 Meeting LINK

Talks

2017 Jacob Parker, Dana Longcope, and Sean Brannon "Modeling A Propagating Sawtooth Flare Ribbon Structure as a Tearing Mode in the Presence of Velocity Shear", 48th Annual SPD Conference (Portland Oregon)

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