



Contribution ID: 49

Type: **Invited talk**

Observational Constraints on Flare Energy Release

Monday, 24 May 2021 11:30 (25 minutes)

Energy release in solar flares is governed by fast magnetic reconnection taking place in the corona. Energy flux streams down along reconnecting field lines to the chromosphere, producing flare ribbons or kernels of impulsively enhanced optical, ultraviolet, and hard X-ray emissions. Therefore, reconnection and energy release events in the Sun's corona can be mapped, tracked, and measured with observations of the flaring lower atmosphere. Flare ribbons map topological boundaries that are dynamically evolving due to reconnection, and the tempo-spatial evolution of flare ribbons reflects the structure and dynamics of reconnection in the corona. In this talk, we will discuss the capabilities and prospects of using flare ribbon observations to infer properties of magnetic reconnection and to diagnose flare energetics. Through these exercises, we hope to determine when, where, by how much, and in what form flare energy is released, and probe how flare energetics are possibly governed by reconnection properties, based on the recent progress in observations and models.

Primary author: Dr QIU, Jiong (Montana State University)

Presenter: Dr QIU, Jiong (Montana State University)

Session Classification: Science Question 1

Track Classification: Fast Release Mechanisms