

Abstract Submitted
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Magnetic Reconnection in Filaments and Solar Coronal Loops¹

M. ASGARI-TARGHI, CfA-Harvard, MIT, B. COPPI, B. BASU, MIT, A. FLETCHER, Boston University, MIT, L. GOLUB, CfA-Harvard — We propose that a magneto-thermal reconnection process is relevant to the physics of solar coronal loops. In this adopted model, magnetic reconnection is associated with electron temperature gradients, anisotropic electron temperature fluctuations and plasma current density gradients. Based on this model, we show that magnetic energy can be converted into electron thermal energy and (heating the corona [1]) and high energy particle populations. The input parameters for our model are based on the observations of the corona from the Atmospheric Imaging Assembly (AIA) on the Solar Dynamics Observatory (SDO). We compare the results of our modeling with measurements of temperature, density and energy from relevant observations.

1. Beaufumé, B. Coppi and L. Golub, *ApJ*.**393**, 396 (1992).

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