Geophysical Research Abstracts
Vol. 18, EGU2016-2363, 2016
EGU General Assembly 2016

Predicting the Electron Diffusion Region in Asymmetric Magnetic Reconnection

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The launch of the Magnetospheric Multiscale mission is leading to a revolution in our understanding of the way magnetic reconnection works. During the first orbit phases, MMS science focuses on asymmetric reconnection, as is commonly found at the Earth's magnetopause. MMS observations have begun to support the view that reconnection operates primarily as a quasi-laminar process, supporting one class of theoretical precitions and a number of concurrent simulations. In this presentation, we present a brief overview of these theoretical and modeling predictions, and we present a comparison to recent MMS observations.