



Kinetic Structure of the Reconnection Diffusion Region

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We present high-resolution multi-spacecraft observations of electromagnetic fields and particle distributions by Magnetospheric Multiscale (MMS) mission throughout a reconnection layer at the sub-solar magnetopause. We study which terms in the generalized Ohm's law balance the observed electric field throughout the region. We also study waves and particle distribution functions in order to identify kinetic boundaries created due to acceleration and trapping of electrons and ions as well as mixing of electron populations from different sides of the reconnecting layer. We discuss the interplay between particles, waves, and DC electric and magnetic fields, which clearly demonstrates kinetic and multi-scale nature of the reconnection diffusion region.