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# Structure of the electron diffusion region during magnetic reconnection

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## Abstract

We review recent developments in our understanding of the electron diffusion region (EDR) of magnetic reconnection, focusing on how the structure and dynamics of the EDR vary with the background plasma conditions. We highlight results from the Magnetospheric Multiscale (MMS) mission, a four-satellite NASA mission that measures plasma particles and electromagnetic fields in and around Earth's magnetosphere. Theoretical and modeling-driven predictions regarding the structure of the EDR and the key processes that enable reconnection are compared and contrasted with observational studies using in-situ MMS measurements. In particular, we focus on the dynamics & force balance of guide-field EDRs, highlighting gaps in our current understanding and analyzing additional events.

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