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Energetic electron acceleration at reconnection jet fronts in planetary magnetotails

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Magnetic reconnection plays a crucial role for energetic particle acceleration in many astrophysical environments. Important examples are the solar corona and planetary magnetospheres. A number of recent numerical simulations as well as in situ observations in planetary magnetotails indicate that strong acceleration occurs at reconnection jet fronts, the boundary separating jetting from ambient plasma, and in jet braking regions, where jets eventually stop/dissipate. Yet the details of the acceleration mechanisms are not completely understood. Here we present observations of jet fronts and associated energetic electron acceleration in both Earth's and Saturn's magnetotails, by using Cluster and Cassini spacecraft data. We discuss differences/similarities in the properties of accelerated electrons and electromagnetic fields between the two cases.