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Observations of Magnetic Reconnection in the Earth's Magnetosphere

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Magnetic reconnection is a universal plasma process which converts stored magnetic energy into fast flows and energetic particles. It is the most important process by which the solar wind enters the Earths magnetosphere where the solar wind energy is subsequently dissipated in auroras and magnetic storms. The magnetosphere provides a unique opportunity to study the reconnection process by in-situ measurements, thereby allowing quantitative comparison with theory. In this talk I will present highlights of recent findings on the large-scale consequences of reconnection in the magnetosphere, as well as fortuitous observations of microphysical processes in the minuscule diffusion region where reconnection takes place.