Title: Fundamental properties of three-dimensional magnetic reconnection

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Abstract:

Magnetic reconnection is believed to be a fundamental process in astrophysical plasmas that facilitates energy release of magnetic field through the change of magnetic topology. Much of previous work on reconnection focused on the two-dimensional (2D) problem. However, 3D reconnection has crucially different features from the planar 2D case. In this talk, I will introduce the concept of General Magnetic Reconnection (GMR) put forward by Schindler and Hesse. I will also give a review of several 3D kinematic models to illustrate some qualitative properties of 3D magnetic reconnection.