

Title: Magnetic reconnection in the (3D) solar corona

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Magnetic reconnection is of fundamental importance in the Solar corona. It plays a role in heating the coronal plasma and is thought to be responsible for many dynamic phenomena observed there. The magnetic field in the corona has a highly complex structure that is clearly three-dimensional. Recent advances in theory and computational experiments have shown that the nature of reconnection in 3D is fundamentally different from 2D models. Here we describe a selection of new 3D reconnection models that illustrate the current state of the art, as well as highlighting the complexity of the process in complicated 3D magnetic fields. Recent efforts to apply these theories and models to interpret solar observations will also be discussed.