

## **MHD Simulations of a Current Sheet with Initial Finite Perturbations – Dependence on resistivity and guide field**

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The magnetic reconnection is considered to be the main engine of the energy release in solar flares. The detailed structure and dynamics of the reconnection, especially its diffusion region is, however, not still understood under the circumstances with enormously large magnetic Reynolds number as the solar corona. It is generally believed that the MHD turbulence should play a role in the intermediate scale. In the previous two-dimensional MHD simulations, a dynamic behavior appears in a current sheet with intermittent generations and ejections of magnetic islands with enhanced reconnection rate.

We have been studying the temporal evolution of a current sheet with initial perturbations by using the three-dimensional resistive magnetohydrodynamic (MHD) simulations. In this talk, we will report the results on the parameter survey in which the effects of the resistivity and the guide field are investigated.