

Self-organization of x-lines in 3D fast magnetic reconnection

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In our previous numerical MHD simulations, it was shown that 2D spontaneous fast magnetic reconnection is unstable in 3D, and hence, intermittent and random 3D fast magnetic reconnection occurs. In this presentation, the dynamics and self-organization of x-lines observed in the 3D fast magnetic reconnection are reported. This study is important for how the 3D fast magnetic reconnection occurs in 1D current sheet in geomagnetotail and solar flares.