

X-line sliding in the magnetopause-like reconnected layer

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We have performed two-dimensional full-particle simulations of reconnected current sheet with a large asymmetric current layer like the Earth's magnetopause. Effects of an out-of-plane guide field (BG), and bulk flow along the sheet of the high density (e.g. magnetosheath) side (V_{sh}) on the X-line motion have been investigated. In the presence of BG, the X-line starts to slide at roughly the same speed of the ion bulk flow at the X-line. In the presence of V_{sh} , the X-line starts to slide at roughly $\sim V_{sh}/2$. Detailed parameter dependence of both the X-line sliding and structural evolution on BG and V_{sh} will be talked in the presentation.