

A hybrid simulation on three-dimensional structure of magnetotail reconnection region

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Recent Geotail statistical survey on the structure of the magnetotail reconnection region reveals that clear dawn-dusk asymmetry in the ion in/out-flow structure around the X-lines is identified. Particularly, the ion flow structure shows a remarkable edge effect on the dusk-side, while no clear edge effect is found on the dawn-side. In order to address what collisionless plasma physics would be taking place at the edges, we are carrying out a three-dimensional hybrid simulation on the magnetotail reconnection. In this paper, we will introduce observational facts and initial results of the numerical simulation.