

PEM029-08

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地球磁気圏近尾部領域における高速プラズマ流の衛星観測と数値計算

Numerical Simulations and Satellite Observations of Fast Plasma Flow in the Near-Earth Magnetotail

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Earthward fast plasma flow in the near-Earth plasma sheet is studied using three dimensional magneto-hydro-dynamics (MHD) simulations on the basis of spontaneous fast reconnection model. The cross tail component of the fast flow (V_y) is particularly studied in this study. Large enhancements of them in the BBF events are frequently observed by in-situ satellites. The time variations of V_y component observed by satellites are quite different at the each observation position. It is suggested in this study from the simulations and satellite observations that those variations depend on the sheared component of magnetic field (B_y). The B_y component twist the shape of plasmoid and the channel of fast flow. As a results of this twist, slow shock lean to the direction of B_y . The plasma accelerated by the slow shock flows toward the negative direction of B_y .

キーワード: 磁気再結合, 磁気流体計算, 高速プラズマ流, 地球磁気圏近尾部, 衛星観測

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