

Variation of the thickness of dayside magnetopause current layer associated with the IMF direction and plasma structure difference

Motoharu Nowada[1], Toshifumi Mukai[1], Kiyoshi Maezawa[2]

[1] ISAS, [2] Dept of Physics, Nagoya Univ

<http://stp-www.geoph.s.u-tokyo.ac.jp/~moto/>

Using 44 magnetic field and plasma moment data of GEOTAIL dayside magnetopause crossing, the thickness of the current layer was analyzed in terms of the magnetosheath ion gyroradius. As a result, when the IMF was northward, the thickness of current layer is 2 - 4 times magnetosheath ion gyroradius, while it is 0.4 - 2 times under southward IMF. By examining the correlation between the magnetic field rotation angle and the thickness of current layer, we will confirm whether the dayside reconnection will contribute to the dependence on the IMF direction of the current layer thickness or not. Thus, the relationship between the difference of plasma structure and the current layer thickness will also examine.