

On IMF Control of Dayside Ion Conics

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Ion conics are frequently observed in the cusp/cleft region.

The ions are supposed to be energized by an input of energy from the dayside magnetospheric boundary region. We examined possible influence of the IMF on dayside ion conics observed by polar-orbiting Akebono satellite. We found the effect of B_y and B_z on the energy flux of ion conics.

B_z effect is believed to be attributed to the energy input to the ion acceleration region. B_y is usually supposed not to control the energy input to the auroral oval. One of the possible interpretations of the B_y effect is that the convection pattern may affect the efficiency of the ion acceleration. We found that the polarity of B_y control asymmetrical MLT distribution of ion conics around local noon, which is probably due to the change of convection pattern. We will discuss further the possible interpretations.