

The Dynamical Behavior of the Earth's Plasmasphere Detected by the AKEBONO Satellite

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The dynamical features of the plasmaspheric density profiles including the "donkey ears" phenomena [Oya, 1991] have been studied, which were detected by the PWS experiment aboard the AKEBONO satellite. Although the positions of the plasmopause usually correspond to the K_p indices which reflect the intensities of a large-scale convection electric field, the positions of the pronounced low density regions within the plasmasphere, which characterize the "donkey ears" structures, never do so. We confirmed that the "betatron drift" [Oya, 1997] contributes effectively to these density structures. In addition to the drifts driven by the convection and corotation fields, it is necessary to take account of the betatron drift.