

ON THE INFLUENCE OF THE RESISTIVE
IONOSPHERE ON THE BALLOONING
STABILITY OF A MAGNETOSPHERIC PLASMA

O.K. Cheremnykh, A.S. Parnowski

Space Research Institute, Nat. Acad. Sci. of Ukraine
and Nat. Space Agency of Ukraine
(40, Academician Glushkov Prosp., Kyiv 03680,
Ukraine; e-mail: ch_ol@space.is.kiev.ua)

S u m m a r y

We investigate the stability of pressure-driven MHD perturbations of the magnetospheric plasma in the framework of a dipolar model of the geomagnetic field with regard for the boundary conditions of the ionosphere. We consider the latter as a thin layer with finite conductivity. We especially emphasize the investigation of the influence of the ionospheric conductivity on the plasma stability. We demonstrate that the stability criterion does not depend on the ionospheric conductivity and is determined by flute modes. An analytical stability criterion is derived.