

## **Field-aligned currents under various geophysical conditions**

A.A. Ostapenko, Yu.P. Maltsev  
(Polar Geophysical Institute, Apatity)

On satellite data we found field-aligned current distribution at the ionosphere level and in the magnetosphere as a function of geomagnetic activity and solar wind parameters. We confirmed the fact of enhancement of Region 1 and 2 currents after southward IMF turning. The IMF Y-component leads to arising of two sheets of field-aligned currents not only in the dayside polar cusps but also in the nightside auroral magnetosphere. A dawn-dusk asymmetry of the Region 2 field-aligned currents in the equatorial magnetosphere is found. The Pointing vector distribution over the ionosphere is obtained for several levels of geomagnetic activity.