

Ionospheric currents induced by Dst field and their effects on the geomagnetic field variation

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Ionospheric currents induced by Dst field were simulated, and their effects on the geomagnetic field variation was estimate. It was found that a vortex current system is induced in the dayside ionosphere for the variation of less than 10 minutes because of the lower nighttime conductivity, and causes geomagnetic field variation in the Y-component.

Keywords: Dst field, induced ionospheric currents, geomagnetic field variation