Dependence of distribution of the sudden impulse ionospheric currents of on IMF orientation during periods of growth of the solar wind dynamic pressure

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By using geomagnetic global network data the distributions of an equivalent current system at high latitudes ($\Phi' \geq 60^{\circ}$) are compared at positive and negative values of IMF Bz-component taking into account the sign By of IMF during periods of sharp compression of the magnetosphere by the solar wind. It is shown, that independently of the sign Bz on a dayside of the magnetosphere at latitudes ~70-80º the westward and eastward currents with the greatest intensity in afternoon and prenoon sectors are enhanced, correspondingly. At lower latitudes (~60-70º) during the periods of positive IMF Bz in all temporal sectors the eastward currents are registered. In periods of negative IMF Bz at these latitudes the currents of westward direction in the morning-prenoon sector are enhanced. It is supposed, that during the periods of $Bz>0$ the ionospheric currents from field-aligned currents of zones 0 and 1 make the main contribution into SI. A $Bz<0$ currents connected with an amplification of field-aligned currents of zone 1 and 2 do it. The work is supported by RFBR grant 01-05-64710.