

Dependence of the spatial distribution of ionospheric electric fields on various parameters

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The electric field measurements obtained by the Dynamics Explorer 2 satellite for one and half year have been processed. The electric field distribution at the high latitudes of the ionosphere is obtained under average geomagnetic conditions as well as when the solar wind parameters and indices of the geomagnetic activity are changed. The spatial distribution of the electric potential in the high latitudes is restored by integration of the electric field along the geomagnetic meridian, the potential at 50° of latitude being assumed to be zero. The potential pattern has a two-cell structure. The position of the convective cell centers as well as the potential drop between the centers are found as functions of the geomagnetic activity and solar wind parameters.