## Relation of the polar cap voltage to the geophysical activity

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In this paper we studied the polar cap electric potential using the observations detected by the Dynamics Explorer 2 satellite during one and a half years. We have examined the satellite flights only in dawn - dusk sectors namely 03-09 MLT и 15-21 MLT. Thus it was obtained more than 700 values of the electric potential difference between the dawn and dusk sides of the polar cap. Hourly-averaged solar wind parameters IMF vertical componente Bz , solar vind velocity V, proton flux f, and geomagnetic indices Dst, Kp, AE have been used for studying statistical relations by the least squares technique. An index of electrical activity (EA) determined as average electric field in high latitudes was also examined. EA correlates strongly with the convection potential. Owing to a large number of EA measurements (> 5000) statistical relations become more reliable.