

## **MAGNETOSPHERE SIZE AND GEOMAGNETIC ACTIVITY AT EXTREME VALUES OF THE SOLAR WIND PARAMETERS**

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We used the dynamical pressure  $P$  of the solar wind (SW) and  $B_z$  component of interplanetary magnetic field as the main SW parameters for analysis of the magnetosphere size and geomagnetic activity. The most probable value of  $P$  is equal to 2 nPa. At such a value and at  $B_z > 0$  the distance to sub-solar point of the magnetopause  $R_{ss}$  is equal to 11  $R_E$  ( $R_E$  is the Earth's radius). At  $B_z < 0$  the  $R_{ss}$  value is 20% less. We defined as the extreme the calculated values of  $R_{ss} < 6.6 R_E$  and  $> 16 R_E$ . The  $P$  values in these cases differ from the mean value by a factor of 10 and more. The  $R_{ss} < 6.6 R_E$  corresponds to  $P > 18$  nPa at  $B_z > 0$  or  $P > 4$  nPa at  $B_z < 0$ . The  $R_{ss} > 16 R_E$  corresponds to  $P < 0.2$  nPa. We analysed the Kp-index and Dst during these periods. At low SW pressure the weak geomagnetic activity is observed, Dst and  $B_z$  are near 0. At high pressure especially coupled with  $B_z < 0$  the high activity and developed geomagnetic storms are observed.