**Geomagnetic characteristics of the magnetospheric ring current and plasma parameter β of the solar wind**

G.A. Makarov

Federal Research Centre “The Yakut Scientific Centre of the Siberian Branch of the Russian Academy of Sciences”, Yu.G. Shafer Institute of Cosmophysical Research and Aeronomy of SB RAS. Yakutsk, 677980, Russia.

Based on average annual values, the relationships between the geomagnetic indices Dst, SYM-H and ASY-H with the plasma parameter β of the solar wind in the period from 1981 to 2015 are considered. It was found that with increasing solar activity the parameter β decreases, which means an increase in the magnetic pressure of the solar wind and, accordingly, an increase in geomagnetic activity due to an increase in the level of solar wind turbulence. It has been established that the indices depend on the parameter β: their absolute values decrease with increasing β, regardless of the sign of the north-south component of the interplanetary magnetic field. The decrease in indices with increasing β is probably due to the transition of the magnetosphere to a quiet state due to the increasing predominance of thermal pressure over magnetic pressure in the solar wind and a decrease in the level of solar wind turbulence.