

## **RELATION THE FORBUSH EFFECTS TO THE INTERPLANETARY AND GEOMAGNETIC PARAMETERS.**

**A. V. Belov, E. A. Eroshenko, V. A. Oleneva, V. G. Yanke**

*Institute of Terrestrial Magnetism, Ionosphere and Radiowave Propagation Russian Academy of Sciences (IZMIRAN), 142190 Troitsk, Moscow region, Russia*  
[abelov@izmiran.troitsk.ru](mailto:abelov@izmiran.troitsk.ru)

Properties of the Forbush effects (FE) and their relation to the sources and different parameters of the interplanetary medium remain many questions till now due to the great variety of these effects and their manifestation. More definite relations appear to be derived employing the FEs observations and different related parameters of the space and Earth's environment. To provide the statistical estimations a special database is created, which includes variations of the cosmic ray density and anisotropy, solar wind characteristics, interplanetary magnetic field, solar and geomagnetic data throughout more than 1500 events observed in 1977-1980 and 1986-1998. The preliminary analysis allowed the main characteristics of the FEs and their relation with the solar wind and geomagnetic parameters to be derived and studied. A parameter of the interplanetary disturbance was found which is most closely correlated with the magnitude of FE. A relation of the FE magnitude to the geomagnetic activity was derived as a dependence of the FE amplitude on the maximal  $A_p$ -index throughout the associated magnetic storm.