

ORIGIN OF HIGH-ENERGY CHARGED PARTICLE BURSTS IN THE NEAR-EARTH SPACE

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For the first time high-energy charged particle bursts in the near-Earth space were discovered in the Mariya experiment on orbital station Salyut-7, continued on Mir orbital station later on. In this work processing of experimental data obtained on the various space vehicles: orbital station Mir, Meteor-3, Gamma and SAMPEX satellites with instruments, registering high-energy charged particles, was carried out for purpose of looking for particle bursts. In each considered experiment the bursts of the high-energy electrons were selected. Spatial and temporal distributions of the particle bursts were studied. It was shown that strong bursts of electrons have peculiarity in local time distributions of their appearances and can be caused by geomagnetic pulsations. Whereas the significant part of weak and moderate particle bursts is correlated with seismic activity, and at that the particle bursts were observed several hours before strong earthquakes. This result is in accordance with conclusion made earlier on the basis of analysis of Mariya experimental data. Some features of physical model of seismic disturbance of radiation belt particles were considered.