

## **Using of different magnetospheric models for analysis of relativistic cosmic ray events**

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Definition of cosmic ray asymptotic approach directions for the neutron monitor stations by a particle trajectory computations in a model geomagnetic field is an important task in analysis of the ground level enhancements (GLE) caused by relativistic solar cosmic rays. The right choose of a geomagnetic field model play here a key role. During the period late October – early November 2003 three GLE occurred: 28, 29 October and 2 November strongly differed by a disturbance level in interplanetary and geomagnetic conditions. As the GLEs 28.10 and 2.11 occurred on a relatively quiet background, the 29.11 GLE accompanied by the solar wind speed exceeded 1000 km/s, Dst ~ -300 nT and Bz component of IMF ~ -30 nT. The results of using the Tsyganenko 2001 (T01) model in the first case and the “disturbed” T03 (Tsyganenko 2003) model in second case is described.