Geophysical Research Abstracts,
Vol. 10, EGU2008-A-06974, 2008
SRef-ID: 1607-7962/gra/EGU2008-A-06974
EGU General Assembly 2008

Magnetospheric magnetic field validating by the use of cosmicray experimental data

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We have analyzed feasibility and limitations of using observational cosmic ray data for validating magnetospheric MF models. Our approach is based on the fact, that variations of cosmic rays registered by worldwide network of neutron monitors are related to changes in geomagnetic cutoff rigidities. We have compared the cutoff rigidity changes obtained by the trajectory tracing mrthod in the model magnetospheric magnetic field with those obtained on the base of experimental cosmic ray neutron monitor data.The models were Tsyganenko 1989 and its upgrated version Tsyganenko 1996. Our aim was to study if the "cosmic ray tools" is able to detect this upgrading. The obtained results have shown that cosmic ray experimental data can be successful used for estimation of dynamic aspects of magnetospheric magnetic field models at mid latitudes. The use of cosmic ray data for evaluation of amplitude accuracy of the model magnetic field requires furthe research.