

# **On magnetospheric transmissivity of low energy cosmic rays**

K. Kudela, R. Bucik, P. Bobik

IEP SAS Kosice, Slovakia

The interpretation of energetic particle measurements at low orbit satellites, the ground based observations of galactic and solar cosmic rays as well as the radiation dose estimates on the aircraft require the knowledge of the transmissivity function of low energy cosmic rays through the magnetosphere. A review of earlier results on the subject is presented. In addition, the transmissivity function for selected points on the ground as well as for a low altitude polar orbiting satellite is computed during quiet time periods and for strong geomagnetic disturbances occurring in the disturbed periods during years 2003-2005. The computation is based on different available models of geomagnetic field of external sources (e.g. Tsyganenko codes of the models T89c, T96\_01, T01\_01, T04\_s available at <http://nssdc.gsfc.nasa.gov/space/model/magnetos/data-based/modeling.html>). Comparison with predictions obtained from IGRF is done. The implications of the results for the observations is discussed. The work is supported by VEGA grant agency, project 4064.