



Two dimensional model of the long period Variations of the Galactic Cosmic Ray Intensity

M. Siluszyk (1,2)

(1) University of Podlasie, Institute of Mathematic and Physics, Siedlce, Poland (sil_m@ap.siedlce.pl), (2) The College of Finance and Management in Siedlce, Siedlce, Poland (Marek.Siluszyk@wsfiz.siedlce.pl)

We solve numerically two-dimensional (2-D) Parker's Transport Equation describing the long period variations of the Galactic Cosmic Ray (GCR) intensity; in the model are including diffusion, convection, drifts, adiabatic cooling and the changes of the exponent ν of the power spectral density (PSD) of the interplanetary magnetic field turbulence as a time dependent parameter. A comparison of the results of solution with the neutron monitors experimental data shows a good compatibility of the proposed model of the long period modulation of the GCR intensity.