## WAVELET-BASED FILTERING OF INTERMITTENT EVENTS FROM GEOMAGNETIC TIME-SERIES

**P. Kovács** (1,2), V. Carbone (2) and Z. Vörös (3)
(1) Eötvös Loránd Geophysical Institute, H-1440 Budapest, POB 35, Hungary, (2) Dipartimento di Fisica, Universitá della Calabria, 87036 Roges di Rende, Italy, (3) Geophysical Institute of SAS, 94701 Hurbanovo, Slovakia.
kovacs@elgi.hu/Fax: (36 1) 384 3306

The aim of the present study is to investigate the macroscopic dynamics of the Earth's magnetosphere with a special consideration to its permanent energetic interaction with the solar wind. The major difference between the two systems is, that unlike the solar wind, the magnetosphere can not be considered as a flow system in a classical sense. Because of the close energetic connection, however, some statistical similarities are expected between the dynamical behaviour of the two systems. Through the scale-by-scale representation of the physical field, the wavelet analysis has been proved to be a successful tool for the investigation of turbulent HD or MHD flows. Within the frame of the present work we used the minute-mean time series of the geomagnetic field from several observatories. A discrete, orthonormal wavelet transformation and filtering, presented by several authors, have been carried out in order to separate intermittent, coherent structures connected to turbulent phenomena from the homogeneous, noise-like background of the data set. The probability distribution of waiting time, duration and energy content of the intermittent events have been computed for each time scale. The results are discussed in the light of the 'sandpile' model that is currently preferred for the description of the dynamics of the magnetosphere.