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Fractal analysis of signals of the seismic acoustic emission

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Paper is devoted to analysis fractal properties of signals of the seismic acoustic emission in periods between earthquakes. Earlier it has been carried out an analysis of natural data on distribution of the earthquake hypocenters (Mukhamedov, 1992; Salimi et al, 1993). To reveal the fractal properties for signals of the seismic acoustic emission the joint wavelet analysis is carried out by using the non-decimated wavelet transform (Glushkov et al, 2004, 2005). We present the fractal processing data for envelopes of signal of the seismic acoustic emission in different ranges of frequencies. The dependences of the Herst indicator and fractal dimension curve on the lengths of considered intervals are presented. It takes a place crossover upon a behaviour with the Herst indicator $H=0,4-0,6$. It is given the physical interpretation of the seismic acoustic emission. References: Mukhamedov V.A., *Izv. Russian Acad.Sci.* 3, 39 (1992). Salimi M., Robertson M., Sammis S., *Phys.Rev.Lett.* 70, 2186 (1993). Glushkov A.V. et al, *Nonlinear Processes in Geophys.* 11, 285 (2004). Glushkov A.V. et al, *Atmospheric Res. (Elsevier).* 77, 100 (2005).