## Main field of study: 010700/19 “Physics”

Area of specialization: « Wave Processes and Methods of Their Investigation»

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# Study of fluctuations of transionospheric signals by methods of spectral and multifractal analysis.

## Zherebchikov Aleksandr Sergeevich

The work is devoted to the study of phase fluctuations of the transionospheric signal with a carrier frequency of 1.5 GHz in the polar and mid-latitude ionosphere. The subjects of the study are the spectral and fractal characteristics of random processes, which represent phase of the signals, recorded by the receivers of satellite navigation systems. Employing the programs that implement multi-fractal analysis the parameters characterizing the width of the multifractal spectrum, i.e. the degree of multifractality of the process were obtained. Data were also processed employing the classic spectral method, and the parameters characterizing power spectrum of phase fluctuations were estimated.

The list of publications

1. A.S. Zherebchikov. Spectral estimates of fluctuations of the transionospheric signals.. XV National Scientific Conference of Students-Radiophysicists, 2011.