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**WAVELET ALGORITHMS FOR ESTIMATION OF NONSTATIONARY PROCESSES WITH FRACTAL STRUCTURE AND HAVING HETEROGENEITY AND DISORDERS**

The article investigates wavelet based estimation algorithms of nonstationary processes with fractal structure and having local heterogeneity and disorder. The authors offered a solution of nonlinear estimation problem with minimization of mean square criterion on the basis of synthetic algorithms including wavelets, both within the Bayesian approach using the training set in the off-line mode, and within the least squares method in the absence of the training set but with the measurement equation in on-line mode. We accomplished the research and comparison of wavelet algorithms with algorithms of Kalman type for estimation of nonstationary processes with fractal structure and having heterogeneity and disorders.

**Keywords:** estimation, nonstationary processes, heterogeneity, disorder, fractality, wavelet.

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