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Guaranteed estimation of signals with bounded variances of derivatives. (English. Russian original) [Zbl 1156.93394](#)

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Summary: Consideration is given to the problem of signal estimation against the background of the white noise when the information about the signal is represented in the form of numerical characteristics such as constraints on the variance of the signal itself and variances of some its derivatives. We propose a method to solve this problem using the technique of filtering in the time domain by minimizing the functional that is a combination of the H_2 -norm of the transfer function from the measurement noise to the error of estimation and the H_∞ -norm of the transfer function from the generating noise to the error of estimation.

MSC:

[93E10](#) Estimation and detection in stochastic control theory
[93E11](#) Filtering in stochastic control theory

Cited in **2** Documents

Keywords:

[signal estimation](#); [technique of filtering](#)

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