

Dobrovidov, A. V.

Nonparametric methods of nonlinear filtering of stationary random sequences. (English. Russian original) [Zbl 0539.93076](#)

Autom. Remote Control 44, No. 6, 757-768 (1983); translation from *Avtom. Telemekh.* 1983, No. 6, 85-98 (1983).

A nonlinear method is proposed for filtering of strictly stationary ergodic random Markov sequence observed in noise. The state equation and the distribution of the signal is assumed to be unknown. The conditional probability density of observations is assumed to be of exponential type. The mean-square convergence of nonparametric estimates of a multivariate probability density and the convergence of the gradient in the uniform metric are proved.

Reviewer: [M.Mokljacuk](#)

MSC:

- [93E10](#) Estimation and detection in stochastic control theory
- [60G35](#) Signal detection and filtering (aspects of stochastic processes)
- [62M20](#) Inference from stochastic processes and prediction
- [62G05](#) Nonparametric estimation

Cited in **1** Review
Cited in **6** Documents

Keywords:

[nonlinear filtering](#); [mean-square convergence](#); [nonparametric estimates](#)