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Differentiation of a signal with bounded variances of derivatives in the presence of noise.

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Summary: A procedure is proposed for parametric design of a digital differentiating filter under limited information about signal properties. The potential accuracy of differentiation of a random signal with known power moments of the spectral density is analyzed.

MSC:

93E11 Filtering in stochastic control theory

Keywords:

parametric design of a digital differentiating filter; spectral density