

论文与报告

非平稳ARMA信号自校正滤波器及其应用

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摘要

本文处理带白色观测噪声的非平稳ARMA信号估计问题.应用状态空间方法和现代时间序列分析方法[1],基于ARMA新息模型,提出了非平稳ARMA信号自校正滤波器,推广了 Hagander和Wittenmark的结果[2],并给出了在雷达跟踪系统和检测数据数字滤波方面的应用.仿真结果说明了本文结果的实用性和有效性.

关键词 [信号估计](#) [数据处理](#) [非平稳ARMA信号](#) [自校正滤波器](#) [雷达跟踪系统](#)

分类号

A Self-Tuning Filter for Nonstationary Arma Signals and its Applications

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Abstract

This paper deals with the estimation problem of nonstationary ARMA signals with white observation noise. Using the state space method and the modern time series analysis method, based on ARMA innovation model, a self-tuning filter for nonstationary ARMA signals is presented. Hagander and Wittenmark's result for stationary ARMA signals is extended. Two simulation examples with application to the radar tracking system and the measurement data filtering are given, which show the applicability and usefulness of the proposed results.

Key words [Signal estimation](#) [data processing](#) [nonstationary ARMA signals](#) [self-tuning filter](#) [radar tracking systems](#)

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