

研究简报

基于递归最小二乘的DS-SS系统抗窄带干扰技术

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摘要

该文针对DS-SS系统的未知窄带干扰, 通过分析接收信号统计特性, 提出递归最小二乘(RLS)滤波的干扰抑制算法。与盲递推最小二乘算法相比, 减少了约束条件, 降低了复杂度, 而且克服了LS滤波算法不能实时处理的弱点, 可以实现快速算法。仿真结果表明, 该算法抑制干扰对DS-SS系统性能改善优于自适应线性滤波算法, 而且不用考虑算法的收敛性, 更利于工程应用。

关键词 [扩频](#) [递归最小二乘](#) [最小二乘](#) [窄带干扰](#)

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The Technique of Narrowband Interference Rejection for DS-SS Systems Based on RLS Algorithm

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Abstract

The algorithm of RLS to suppress unknown narrowband interference is proposed by analyzing the received signals's statistical character when the narrowband interference is unknown in DS-SS systems. Compared with Blind Recursive Least-Square, it doesn't need limiting condition and reduces the complication. What is more, it makes up the shortcoming that the algorithm of LS cannot process the real-time signal, and is implemented with fast algorithms. The simulation results show that the performance to suppress narrowband interference for DS-SS systems by the algorithm is better than the one of adaptive linear filter, and the convergence is not cared. It's easier to be applied.

Key words [Spread spectrum](#) [Recursive Least-Square\(RLS\)](#) [Least Square\(LS\)](#) [Narrowband interference](#)

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