

论文

## 基于有限字符特性的空时OFDM系统决策反馈信道估计

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摘要

该文提出了一种适用于空时编码正交频分复用(STC-OFDM)系统盲信道估计算法, 利用信号的字符有限特性获取粗信道估计, 进而利用映射星座先验知识, 采用决策反馈方法得到信道精估计。充分利用了信号的先验知识, 以较高的计算复杂度为代价, 提高了盲信道估计精度, 因此能较好地适用于具有慢时变频率选择性较强的信道, 且子载波数不大的系统。与基于子空间盲信道估计算法比较验证了该算法性能。

关键词 [空时编码](#) [正交频分复用](#) [信道估计](#) [字符有限特性](#) [决策反馈](#)

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## Finite-Alphabet and Decision-Feedback Based Channel Estimation for Space-Time Coded OFDM Systems

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Abstract

A novel blind channel estimation scheme is presented for Space-Time Coded OFDM (STC-OFDM) systems. This scheme is composed of rude channel estimation by exploiting the finite-alphabet property of information signals and fine channel estimation by using decision-directed method, which employs the priori knowledge of the transmitted signals other than the finite-alphabet property of mapping constellation. At the cost of a little more computational complexity, it achieves better performance than the competitive one, hence it is suitable for STC-OFDM systems with a small number of subcarriers in slowly time-varying and not severely frequency selective channels. The scheme is tested with simulations and also compared with the subspace-based channel estimation.

Key words [Space-Time Coding \(STC\)](#) [Orthogonal Frequency Division Multiplexing \(OFDM\)](#) [Channel estimation](#) [Finite-alphabet property](#) [Decision-directed method](#)

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