

基于分布式空频码的协作通信系统的信道估计及优化

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Channel Estimation and Optimization for Cooperative Communication Systems Based on Distributed Space-frequency Coding

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摘要

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摘要 该文研究了协作通信中分布式空频码系统的信道估计问题。为使信道可辨识,在中继节点处加入了循环卷积滤波器(CCF)。推导了训练模式中导频序列和中继节点处CCF的准最优设计方案,并由此得到了源节点与中继节点之间功率分配的闭合表达式。计算机仿真验证了本文工作的有效性。

关键词: 协作通信 正交频分复用 信道估计 分布式系统

Abstract: In this paper, the issue of channel estimation is investigated for distributed space-frequency coding system in cooperative communications. To make the channel being identifiable, Cyclic Convolution Filters (CCF) are utilized at the relay nodes. In the training stage, the suboptimal design is derived for both the pilot sequence and CCFs adopted at relay nodes. Furthermore, the closed expression of power allocation between source node and relay nodes is obtained. Finally, computer simulations demonstrate the effectiveness of the proposed approach.

Keywords: Cooperative communications OFDM Channel estimation Distributed systems

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