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分布式空频编码协同通信系统分段ML迭代检测算法

俞晓帆 赵春明*

东南大学移动通信国家重点实验室 南京 210096

Segmented Maximum Likelihood Iterative Detection of Distributed Space-frequency Coded Cooperative Communication System

Yu Xiao-fan Zhao Chun-ming*

National Mobile Communication Research Lab., Southeast University, Nanjing 210096, China

摘要 该文针对频率选择性衰落下的多中继分布式空频编码协同通信系统，提出了一种分段最大似然迭代检测算法。目的节点将每一个分布式空频编码的频域向量划分成若干小段，分别对其进行最大似然迭代检测。理论分析和仿真结果表明，该迭代最大似然检测算法收敛速度快，且显著降低了分布式空频编码协同通信系统检测算法的复杂度，具有较高的实用价值。

关键词： 无线通信 协同通信 迭代检测 分布式空频编码 最大似然

Abstract： A segmented maximum likelihood iterative detection algorithm is proposed for distributed space- frequency coded cooperative communication system with multiple relay nodes over frequency-selective fading channels. The destination node divides each distributed space-frequency coding vector into several sub-segment evenly in frequency domain, and performs maximum likelihood detection on them respectively. Theoretical analysis and simulation results confirm the fast convergence speed, the low complexity and the high practicality of the proposed iterative detection algorithm.

Keywords： Wireless comm unication Cooperative communication Iterative detection Distributed space- frequency coding Maximum likelihood

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通讯作者: 俞晓帆 Email: yuxiaofan1111@gmail.com

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