论文

选择性放大传送协同通信在Nakagami信道中的性能分析

方朝曦, 单杭冠, 王宗欣

复旦大学通信科学与工程系 上海 200433

摘要
该文根据两个统计独立非负随机变量的调和平均值的概率密度函数在零点的变化特性，分析了选择性放大传送协同协议在Nakagami衰落信道中的性能，得出了高信噪比时系统误符号率的闭合表达式。理论分析和数值仿真结果表明，在Nakagami信道中选择性放大传送协同协议可获得和传统放大传送协同协议一样的分集阶数，并且具有更优的误符号率性能。

关键词　协同通信　选择性放大传送　调和平均　误符号率

分类号　TN929.5

Performance Analysis of Selection Amplify-and-Forward Cooperative Communication in Nakagami Fading Channels

Fang Zhao-xi, Shan Hang-guan, Wang Zong-xin

Department of Communications Science and Engineering, Fudan University, Shanghai 200433, China

Abstract
The behavior of the probability density function of the harmonic mean of two independent distributed non-negative random variables at the origin is analyzed. This result is then applied to study the performance of selection amplify-and-forward cooperation protocol in Nakagami fading channel and closed-form expression of the Symbol Error Rate (SER) in high SNR region is also provided. Both analytical and numeric results show that the selection amplify-and-forward cooperation protocol maintains the same diversity order as the conventional amplify-and-forward protocol, and has better SER performance.

Key words　Cooperative communication　Selection amplify-and-forward　Harmonic mean　Symbol Error Rate (SER)

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通讯作者

作者个人主页　方朝曦; 单杭冠; 王宗欣

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