

论文

基于V-MIMO的广义混合转发PCR方案

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摘要

传统的包冲突解析(PCR)方案一般采用抛弃重传策略,性能差强人意。该文对基于虚拟多入多出技术的广义混合转发PCR方案进行了研究,建立了此类方案的一种理论分析模型,对已有的两类协同节点选择算法进行改进,提出了两种广义混合转发PCR方案,并对方案的平均容量、丢包率、时隙等效吞吐量及节点最佳发送概率进行了理论分析和推导。所提方案可以支持任意个节点同时接入信道,通过选择协同节点构建等效并行通道,解决了包冲突问题。理论分析和仿真结果表明,所提方案与传统方案及其它同类方案相比,可在系统容量及吞吐量方面获得显著的性能提升,且应用范围更广。

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Generalized Hybrid Forward Packets Collision Resolution Scheme Based on Virtual MIMO Techniques

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Abstract

In the traditional schemes, the collided packets will be discarded and retransmitted, which results in a lower performance. In this article, Generalized Hybrid Forward Packets Collision Resolution (GHF-PCR) scheme based on virtual-MIMO techniques is studied and discussed. A kind of theoretic analytic model is established, and two kinds of cooperative nodes selection algorithms are also improved. Two PCR schemes are proposed and the average capacity, packets error rate, slot equivalent throughput and optimal transmission probability are analyzed. The proposed schemes could support random amount of collided nodes by selecting cooperative nodes to form virtual parallel channels and hence can deal with the collisions. The simulation results show that the proposed schemes can obtain better performance gain and be used in broader domain of application comparing with traditional schemes and other congener ones.

Key words [Virtual MIMO](#) [Cooperative communication](#) [Cooperative nodes selection](#) [Packets collision resolution](#)

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