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论文

协同分集和截断ARQ在单中继无线网的使用：一种交互层研究

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摘要
该文着重研究了无编码两跳中继网中考虑各节点的最大传输次数受限时的一种交互层协同设计，提出了两种类型的简单自适应中继协同策略以探索一种合并的空间分集与时间分集。分析与计算机仿真表明：在非对称的多跳无线网和块衰落信道下，尽管基于截断ARQ (Automatic Repeat Request)的重传将带来一定的平均吞吐量下降，但该协同策略在实现有效的天线与能量共享的同时,也显著地改善了系统的帧误码性能。

关键词 协同分集 中继信道 截断ARQ 交互层设计

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On The Effectiveness of Cooperation Diversity and Truncated ARQ in Single Relay Wireless Networks: A Cross-Layer Study

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Abstract
In this paper, a cross-layer cooperative design is developed under the constraint of maximum transmission number per node in an uncoded two-hop relay network. Two-type simple single-relay adaptive cooperative protocols are proposed in order to exploit a combined spatial and time diversity. Analysis and simulation show that for the asymmetric multi-hop relay wireless networks, the cooperative protocols enable effective antenna/energy share and remarkable frame error rateperformance gain in block fading channels at the moderate loss of average throughput due to truncated ARQ(Automatic Repeat Request) re-transmissions.

Key words Cooperative diversity Relay channel Truncated ARQ Cross-layer design

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