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AF中继下行链路系统的能效资源分配方案

Energy efficient resource allocation schemefor AF relay downlink system

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英文关键词:AF relay energy efficiency resource allocation cell zooming

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中文摘要:

为最大化放大转发中继系统的下行链路总能效，结合系统的电路功率，提出了一种基于能效的中继选择和功率分配联合方案。为降低复杂度，采用分步式次优化方案，利用虚拟信道增益得到中继选择方法，并将中继系统转换为单跳系统；然后利用凸规划得到最优功率分配。此外，为适应不同的用户分布，提出联合小区呼吸机制的分配方案。仿真结果表所提次优联合方案逼近最优值，联合小区呼吸的方案可适应不同的用户分布并进一步提升能效。

英文摘要:

In order to maximize the total energy efficiency of amplify-and-forward relay downlink system, a joint scheme of relay selection and power allocation was proposed with the circuit power of system. For reducing the computational complexity, a step-by-step suboptimal allocation scheme was provided. Firstly, the virtual direct channel gains were adopted to select appropriate transmi link. Meanwhile, relay system was converted to the single hop system. Then, the power allocation could be solved by convex optimization. Besides, in order to accommodate different user distrib a resource allocation scheme based on cell zooming was also proposed. Simulations demonstrated that the solution of the proposed suboptimal scheme approaches the optimal solution. Additiona scheme with cell zooming is adaptable to different user distributions and further improves the total system energy efficiency.

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