论文

一种低反馈开销多用户MIMO-OFDM系统功率最小化方案

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Minimizing Power Scheme with Low Feedback Overhead for Multiuser MIMO-OFDM Systems

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摘要 该文利用凸规划理论中的库恩-塔克条件，为基于TCM编码的多用户MIMO-OFDM系统中实时业务资源优化问题提出了一种低反馈开销的功率最小化方案。该方案首先设计速率、功率和等效信道量化门限的码本，然后根据当前的信道状态信息分配子载波并对等效信道增益量化，最后基站给用户广播资源分配结果。仿真结果表明：相比其它方案，该文提出的方案有效降低系统能耗并且具有反馈开销低的特点。

关键词： MIMO-OFDM 低反馈开销 库恩-塔克条件 实时业务

Abstract： This paper utilizes the Karush-Kuhn-Tucher condition of convex programming issue and proposes a minimizing power scheme with low feedback overhead for multiuser MIMO-OFDM systems based on trellis coded modulation. Firstly, the scheme designs the codebook of rate and power and equivalent channel quantization threshold. Secondly, the subcarrier is allocated according to current channel state information and the equivalent channel gain is quantized. Finally, the base station broadcasts the result of resource allocation to users. The simulation results prove that comparing to other schemes the proposed scheme not only saves efficiently energy but also has advantage of low feedback overhead.

Keywords： MIMO-OFDM Low feedback overhead Karush-Kuhn-Tucher condition Real-time service

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