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基于LDPC编码的自适应数据重传方法

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摘要：

提出一种新的基于低密度校验(low density parity check, LDPC)码的自适应数据重传方法。在信道条件差（信噪比低）时， 该方法采用母码为低码率的LDPC码编码，校验位打孔的重传方式；在信道条件好（信噪比高）时,采用母码为高码率的LDPC码编码，信息位打孔的重传方式。该方法既能提高硬件利用率、节约能耗，又能保证在最差信道下数据传输的可靠性。

关键词： 低密度校验码 混合自动重传 信息位打孔 校验位打孔

LDPC-based adaptive hybrid automatic retransmission request method

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Abstract:

A novel low density parity check (LDPC) based adaptive hybrid automatic retransmission request (HARQ) method is proposed. A few mother LDPC codes with different code rates can be used for the automatic modulation coding-HARQ procession. When the channel is bad, e.g , the SNR is low, the low-code-rate mother LDPC code is chosen, and the parity-puncturing HARQ should be used for the retransmission. When the channel is good, e.g., the SNR is high, the high-code-rate mother LDPC is selected, and the data-puncturing HARQ should be utilized. This method can improve the efficiency of hardware implementation, save energy consumption, and ensure a good performance even when the channel is very bad.

Keywords: low density parity check (LDPC) code hybrid automatic retransmission request (HARQ) data-puncturing parity-puncturing

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