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Using Adjacent Data Retransmission to Improve the Transmission Efficiency of Multi-hop Relay Networks

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Data transmission systems are widely used in various aspects of life, industry, research and other fields, many of them require multi-hop transmission to achieve coverage extension and throughput enhancement, such as Wireless Mesh Network (WMN), Mobile Ad-hoc Network (MANET), Wireless Sensor Networks (WSN) and so on. The biggest problem of multi-hop transmission lies in that end-to-end transmission reliability and bandwidth utilization decrease since data transmission failures occur more frequently due to bit error rate (BER). This paper analyzes the impact of BER on the utilization of multi-hop relay transmission bandwidth and proposes a simple and flexible transmission mechanism suitable for multi-hop transmission scenarios. The simulation results of the proposed scheme show that the scheme can greatly improve the transmission efficiency under the scenario of high BER compared with the end-to-end transmission.

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Description

transmission efficiency

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