

Research on the application of LDPC codes in wireless communications

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Abstract: This topic focuses on researching and applying LDPC (Low-Density Parity-Check) codes in the field of wireless communication transmission. In the current context, the efficiency of wireless data transmission is becoming increasingly important due to the rising demand for mobile networks. The objective of this topic is to build a transmission system based on LDPC codes with the ability to improve service quality and save energy. The research method combines coding theory and practical implementation to evaluate effectiveness through real-world experiments. This topic not only affirms the high applicability of LDPC codes in wireless transmission but also contributes to the development of modern wireless communication technology.

Keywords: LDPC codes, wireless communication, transmission performance, coding techniques