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Performance Analysis of IDMA Scheme Using Quasi-Cyclic Low Density Parity Check Codes

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Abstract : The next generation mobile communication systems i.e. fourth generation (4G) was developed to accommodate the quality of service and required data rate. This project focuses on multiple access technique proposed in 4G communication systems. It is attempted to demonstrate the IDMA (Interleave Division Multiple Access) technology. The basic principle of IDMA is that interleaver is different for each user whereas CDMA employs different signatures. IDMA inherits many advantages of CDMA such as robust against fading, easy cell planning; dynamic channel sharing and IDMA increase the spectral efficiency and reduce the receiver complexity. In this, performance of IDMA is analyzed using QC-LDPC coding scheme further it is compared with LDPC coding and at last BER is calculated and plotted in MATLAB.

Keywords : 4G, QC-LDPC, CDMA, IDMA
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