

Efficient Iterative V-BLAST Detection Technique in Wireless Communication System

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Abstract : Recently, among the MIMO-OFDM detection techniques, a lot of papers suggested V-BLAST scheme which can achieve high data rate. Therefore, the signal detection of MIMO-OFDM system is important issue. In this paper, efficient iterative VBLAST detection technique is proposed in wireless communication system. The proposed scheme adjusts the number of candidate symbol and iterative scheme based on channel state. According to the simulation result, the proposed scheme has better BER performance than conventional schemes and similar BER performance of the QRD-M with iterative scheme. Moreover complexity of proposed scheme has 50.6 % less than complexity of QRD-M detection with iterative scheme. Therefore the proposed detection scheme can be efficiently used in wireless communication.

Keywords : MIMO-OFDM, V-BLAST, QR-decomposition, QRDM, DFE, iterative scheme, channel condition

Conference Title : ICCCI 2014 : International Conference on Computing, Communications and Informatics

Conference Location : London, United Kingdom

Conference Dates : January 20-21, 2014