Whenever size, power or other constraints precluded the use of multiple transmit antennas, wireless systems cannot benefit from the well-known advantages of space time coding methods. Cooperation between wireless users has been proposed as a means to provide transmit diversity in the face of this limitation. This paper firstly analyse an ad-hoc network with a sender, a destination and a third station acting as relay is analyzed. Secondly in this paper Cooperative communication is performed with various well-known codes like convolution code and Turbo code. Using convolution code with cooperative communication provides full diversity and excellent coding gain. Turbo code offer better performance than Convolutional coding, Punctured Convolutional coding, Alamouti Scheme. [3] The turbo like decoding algorithm generally does not converge to a maximum-likelihood solution, although it is able to it is able to provide a good performance in practice. In this paer mostly extrinsic information transfer charts is used as tool to analyze the convergence behavior. We first design a PCCC-ID scheme for the sake of achieving decoding convergence at low SNR, using EXIT charts. Then invoke this PCC-ID scheme for cooperative communication, where the source employ PCCC-ID encoder and the relay encoding, interleaving and re-encoding which is then combined at destination using MRC. [5]


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Performance Analysis of Turbo Code using EXIT Chart in Cooperative Communication

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Index Terms

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Keywords