

MULTI CHANNEL EQUALISATION IN CHANNEL CODES FOR MULTIPLE ANTENNA SYSTEMS

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ABSTRACT

Multiple antenna system can be used to increase the information transmitted with negligible error in a wireless communication system significantly without need to increase bandwidth or transmitted power. Actually multiple antenna systems provide a high capacity wireless network. Since they allow for an increase in rate, improvement in robustness and more users in a cell. Channel codes are used reduces the transmission error rate. The use of channel codes in combination with multiple transmit antennas achieves diversity. For multiple antenna systems to provide the kind of performance promised above the system needs to be constructed in such way that it improves the power and bandwidth efficiency by using specially designed codes. In this paper FER(Frame Error Rate) performance of channel codes for multiple antenna system in FS(Frequency Selective) and flat(non frequency selective) fading channel has proposed . The specially designed channel codes are STTC (Space Time Trellis Codes), STBC (Space Time Block Code), and SOSTTC (Super Orthogonal Space Time Trellis Code). These channel codes have been designed with the assumption that channel is both FS and flat fading. Simulation results are presented multichannel equalization in channel codes for multiple antenna systems with and without knowing the channel state information.

Keywords: *channel equalization, STTC, STBC, SOSTTC.*