Abstract

A robust progressive compressed image using Punctured Turbo Codes (PTC) is considered while the image is transmitting over Space Time Coded (STC) Orthogonal Frequency Division Multiplexed (OFDM) systems. The Set Partitioning in Hierarchical Trees (SPIHT) technique is used regarding to image coding and compression. SPIHT compression technique fits to be best in this scheme for quality improvement. The BER performance of the PTC over Gaussian noisy channel is first evaluated by assuming perfect channel state information at the receiver for coherent detection. Then this PTC applied to end to end system over wireless fading channel. In simulation results, BER performance of PTC SPIHT system evaluated and Punctured Convolutional Coded (PCC) scheme compared with PTC scheme. Generally, Turbo codes stands to combat the interference of the fading channel. Thus, the simulation results show the effectiveness of our proposed practical image transmission system.
- J. Hagenauer, "Rate Compatible Punctured Convolutional Codes (RCPC Codes) and Their Applications," IEEE Transactions Communications, 36, 389-400, 1988.

Index Terms

Computer Science

Image Processing
Keywords

OFDM  Space Time Coding  MIMO  Turbo Codes  Image Transmission  SPIHT Coding