Abstract

The demand of wireless communication is high data rate along with error free communication. An error in communication can be reduced by employing proper channel coding techniques. In this paper, authors have proposed the hybrid channel coding scheme in which convolution codes and turbo codes are combined to perform together. This scheme helps to provide smooth communication with high data rate even under different channel conditions. The SNR is the threshold parameter for adaptive encoding which can be measured by the channel estimation techniques for mobile WiMAX system. Authors have also taken efforts for adding adaptive code rate and modulation schemes for optimizing the mobile WiMAX system. Use of proper adaptive coding for optimizing the performance of mobile WiMAX system can be achieved. For this newly introduced hybrid scheme, the analysis and simulation are carried out with respective to standard AWGN channel which shows improved Bit Error Rate performance and also overcomes the drawbacks such as high complexity, decoding delay and power requirement.
Performance Evaluation of Physical Layer of Mobile WiMAX System by Implementing Hybrid Channel Coding Scheme

Index Terms

Computer Science

Wireless

Keywords

Mobile WiMAX  FEC codes  Convolution codes  Turbo codes  Channel estimation.