Abstract

Error correction codes are used in digital communication system when channel is noisy. An error correction code removes errors induced in communication and make possible error free transmission. By use of such error correction codes signals can be sent at lower transmit power as compared to un-coded system. Convolutional code corrects both type of errors random and burst and used in deep space and wireless communication. This paper introduces convolutional encoders for various code rates and generator polynomials and calculates BER performance for coded and un-coded system. Generator polynomials were selected for code rate 1/2, 1/3, and 1/4 on the basis of BER performance. Signal power consumption gain was calculated by convolutional code as compared to un-coded system.

References


**Index Terms**

Computer Science

Communications

**Keywords**
Reduction of Signal Power Consumption in a Digital Communication using Convolutional Code

Convolutional Encoder, Viterbi Decoder, Code Rate, Generator Polynomials, EbN0, and BER.