Abstract
In this paper we have compared two digital modulation techniques QPSK and DQPSK used for digital transmission of data. Error correction technique used here is convolutional encoding with \( \frac{1}{2} \) (1 input 2 output) coding. Our main objective to develop this configuration is to compare the performance of each modulation techniques. Comparison is done by Bit Error Rate analysis of both modulation techniques with stated coding technique. We have developed existing configurations and improved them with high quality senders and receivers using MATLAB technology. By comparison, it is observed that different modulation techniques struggles neck to neck for getting low BER, but still with the slight change in BER the quality changes many folds. If these PSK techniques are used in designing the wireless transmitter, then BER further increases due to system complexity. Therefore there is a requirement of designing the new applications/transmission system having the basis as PSK modulation, so that BER at least remains constant, if not decreases.

Reference

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Performance Analysis of QPSK and DQPSK Modulation with Block Level and Convolutional Coding Technique


Index Terms

Computer Science                Wireless

Key words

BER- Bit Error Rate
QPSK- Quadrature Phase Shift Keying
DQPSK- Differential Quadrature Phase Shift Keying
Convolutional Encoding
Eb/No- Signal energy to Noise ratio