Abstract

In the current scenario so many advanced techniques are finding a way as a substitute for complex DFT - based OFDM system. One of such type of technique is Discrete Hartley Transform. The requirement of only real arithmetic computations for the proposed technique makes it more advantageous in terms of simplicity and computational speed than conventional one. This technique is very closely related to Discrete Fourier Transform. The performance of DHT based OFDM system is carried out using raw data as well as with some images as the sources and after processing at the transmitter end, the signals are then transmitted through channel. Additive White Gaussian Noise (AWGN) has been considered for channel modeling. For accuracy of this simulation, the measurement of parameters has been repeated multiple times. The simulated resulting graph between Bit Error rate and SNR shows the improvement of performance. The system performance was analyzed for M-PSK mapping schemes with various values of M, where M is order of modulation technique used. Simulation has been performed on MATLAB 7.0.
Performance Comparison of Discrete Hartley Transform (DHT) and Fast Fourier Transform (FFT) OFDM System in AWGN Channel

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Index Terms

Computer Science

Communication Systems

Keywords
DHT-OFDM FFT-OFDM AWGN BER