Abstract

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Performance comparison of differential and non-differential synchronous downlink MC-CDMA systems with random spreading

The BER performances of differential and non- differential synchronous downlink multi-carrier code division multiple access (MC-CDMA) systems that employ random spreading are studied and compared using Standard Gaussian Approximation (SGA) in AWGN channel. Furthermore, Monte-Carlo simulations were carried out to compare the BER performances of these systems in AWGN and in frequency selective Rayleigh fading channels considering a various number of interferers in the system. Various modulation schemes were considered namely, BPSK, QPSK, OQPSK, DBPSK, and DQPSK modulation schemes.