Bit Error Rate Expression of MC-CDMA System in α-μ Fading Channel

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Abstract— **Multicarrier code division multiple access (MC-CDMA) is a technique that combines orthogonal frequency division multiplexing (OFDM) and CDMA. The performance analysis of MC-CDMA system with correlated fading channels with α-μ distribution is investigated in this paper. We employ the binary phase shift keying (BPSK) modulation scheme and the maximal ratio combing (MRC) technique at the receiver. By using the definition of Q function expression together with the moment generating function (MGF) method, a simple form of the bit error rate (BER) performance is derived. The results show that the more subcarriers the better BER. The influence of MAI on the system performance is significant and BER saturates at high SNR.**

Keyword— α-μ distribution, multicarrier CDMA, bit error rate, maximal ratio combining

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