

# Abstract

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## **Effect of MAI and frequency offset on the performance of coded MC-CDMA synchronous downlink systems with MSK modulation**

Effects of multiple access interference (MAI) and frequency offset on bit error rate (BER) performance of synchronous coded minimum shift keying/multi-carrier code division multiple access (MSK/MC-CDMA) systems were considered using standard Gaussian approximation (SGA). Simulations were carried out in AWGN and frequency selective Rayleigh fading channels. Results showed that the un-coded MSK/MC-CDMA system under investigation outperforms the corresponding system with BPSK modulation. Furthermore, coded MSK/MC-CDMA can achieve a better performance than the theoretical performance in AWGN channel for a single user, even in the presence of MAI.