

Abstract:

LTE which stands for Long Term Evolution is now an agreed-upon protocol that aims at supporting various high data rate applications particularly encompassing current and multimedia features. It relies on the merging of OFDMA and MIMO abilities for affording high rates in frequency selective channels (ISI), thus efficiently combating inter-symbol interference. The performance of this protocol has been studied for various channels, however, no study reports such an issue for Nakagami channel. In this paper, the BLER performance and the achievable throughput are evaluated in Nakagami-m fading channel with 3 different transmission modes, namely, SISO, transmit diversity and open loop spatial multiplexing (OLSM). The OFDM channel is estimated using the least square approach and the very recently proposed K Best-Soft Sphere Decoder (KBSSD) is adopted at the receiver side. Also, the impact of the number of retransmissions on the BLER performance is reported herein.