On the Impact of Correlation Coefficient for OFDM Systems over Correlated Branches with Gaussian Distribution

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ABSTRACT

The performance analysis is for OFDM (orthogonal frequency division multiplexing) system which is working in correlated-Nakagami-m channel with correlated branches in this paper. The correlated-branch is assumed correlated-Gaussian model. The received signals will cause correlation phenomenon in OFDM system when the antennas are with closely space. From the results analyzed in this paper, it is worth to note that not only the correlation will impact on the performance, but the fading parameter of Nakagami-m distributed will also dominate the system performance of OFDM system. By computing the bit error rate of the receiver, we study the relation between the performance and Nakagami-m channel of fading parameter m value and correlated-Gaussian coefficient. Keywords OFDM correlated-Nakagami-m channel correlated-Gaussian coefficient

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