By Using of Laguerre Polynomial in Solving JPDF for Investigation of MC - SS - CDMA System with EGC Diversity

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ABSTRACT

In this paper, the impact of the correlation on the performance of multiple-cell SS-CDMA cellular systems over correlated fading channels is investigated. A new closed-form formula for the joint probability density function (joint pdf) of the diversity combiner with arbitrary correlation coefficients in terms of the generalized Laguere polynomial and the new expressions of average bit-error rate (BER) for the MC-CDMA system are given in this paper. The results demonstrate that the BER is significantly dependent on the correlation characteristic of diversity branching for multiple-cell environments.

Keywords : multiple-cell ; correlated Nakagami-m fading ; DS-CDMA ; Laguerre polynomial

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