The Investigation of MC-CDMA Systems in FBS Environment with Fading Channels

謝孟村、陳雍宗

E-mail: 9805883@mail.dyu.edu.tw

ABSTRACT

In this paper, the impact of the correlation on the performance of multiple-cell MC-CDMA (multiple-cell codel-division multiple-access) cellular systems in FBS(further base station) environment with 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 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 : Laguerre polynomial、multiple-cell、correlated Nakagami-m fading、MC-CDMA system

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