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Abstract

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Research Article

BEP/SEP and Outage Performance Analysis of L-Branch Maximal-Ratio Combiner for κ - μ Fading

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Abstract

Maximal-ratio combiner (MRC) performances in fading channels have been of interest for a long time, which can be seen by a number of papers concerning this topic. In this paper we treat bit error probability (BEP), symbol error probability (SEP) and outage probability of MRC in presence of κ - μ fading. We will present κ - μ fading model, probability density function (PDF), and cumulative distribution function (CDF). We will also present PDF, CDF, and outage probability of the L-branch MRC output. BEP/SEP will be evaluated for broad class of modulation types and for coherent and noncoherent types of detection. BEP/SEP and outage performances of the MRC will be evaluated for different number of branches via Monte Carlo simulations and theoretical expressions.