

Comparison and Investigation with Average LCR and AFD of Dual MRC and SC Diversity in Correlated Small-Scale Fading ...

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ABSTRACT

In this paper, the performance of average level crossing rate (LCR) and average fade duration (AFD) of the output signal of the maximum ratio combining (MRC) and the selection combining (SC) with a dual-branch receiver was analyzed. We derived some of the expressions with average LCR and AFD for both MRC and SC schemes operating in the correlated fading channel. The channel model of the diversity branches are assumed characterized as correlated Nakagami-m statistics. The results from the numerical analysis indicate that the average LCR and AFD of MRC and SC schemes are significantly affected by the correlation between each branch when they are working in the correlated environments.

Keywords : MRC, SC, Level Crossing Rate, Average Fade Duration, Correlated Nakagami-m Channels

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