The Combining Diversity Techniques Frequently Applied in Wireless Radio System over Frequency Selective Fading ...

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ABSTRACT

The channel capacity of dual-branch MRC (maximal ratio combining) diversity system over correlated waveform intensity, which is characterized as correlated-Nakagami-m fading (the power is modeled as the correlated-Gamma statistics), is evaluated in this paper. The formulas of channel capacity performance are provided with a pdf (probability density function)-based approach. The pdf of sum of Gamma variates based on the representation of the Moschopoulos single gamma series is adopted in the report. The corresponding expressions for Rayleigh fading are obtained as a special case of Nakagami-m fading. Finally, the numerical examples are presented for illustrating the purpose of the validation of the channel capacity equations derived in this paper.

Keywords : MRC diversity, channel capacity, Gamma variates, Nakagami-m fading

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