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Performance of Dual-Hop Wireless Communication Systems over the alpha-mu Fading Channels

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Abstract: In this paper, we consider a dual-hop wireless communication system with non-regenerative relay node and we study its performance over the alpha-mu fading channels. Specifically, we derive a closed-form expression for the moment generating function (MGF) of the harmonic mean of end-to-end signal-to-noise ratio (SNR) assuming the alpha-mu fading models. We also derive closed-form expressions for the end-to-end outage probability and average bit error rate of coherent modulation techniques. The obtained expressions can be reduced to study the performance of dual-hop communication systems over other fading channel models by using the proper values for the alpha and mu parameters. Numerical results are provided and conclusion remarks are drawn