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Closed-form Expression for Outage Probability in Relay-Based Cooperative Diversity Systems over Rayleigh Fading Channels with Interference

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Abstract: Incremental relaying was firstly introduced in order to compensate for the deficiencies associated with the regular cooperative schemes, namely, the fixed relaying schemes where the node helps the source in relaying its signal to the destination regardless of the channel conditions. In this paper, the performance of a two-hop Decode-and-Forward incremental relaying over Rayleigh fading channels with the presence of the multiple L interferers located near the destination which will degrade the overall behavior of the system taking into consideration that the fading channels from the interferers to the destination is assumed to be a sum of identically and independently distributed Rayleigh random variables is introduced.