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Performance Analysis of Multiuser Diversity in Multiuser Two-Hop Amplify and Forward Cooperative Multi-Relay Wireless Networks

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Abstract: To adapt for the fading impairments and to provide a higher data rates wireless systems, a new shift in the perspectives came in the form of proposing a new evolving technology such as the multiuser diversity and the cooperative wireless networks which combines the features of the (MIMO) system without confronting the physical layer constraints by providing multiple copies of the transmitted signal from the source to the destination with the help of the relay node. In this paper, we present an analysis of a two hop cooperative multi-relay communication networks, derive a tight closed form expression of outage probability and symbol error probability (SEP) for the amplify-and-forward (AF) protocol with MUD.