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Abstract

Relay selection is a challenging issue in cooperative communication networks. Cooperative diversity uses relays to assist source destination transmissions to reduce link outage rates in multipath fading environments. In this paper an Amplify-and-Forward (AAF) cooperative communication system over Rayleigh fading channel is considered where a source node communicates with a destination node directly and indirectly (through multiple relays). The relay node that achieve the highest signal-to-noise ratio (SNR) at the destination node is selected. The relay selection reduces the amount of required resources. Closed form expressions for outage probability and symbol error probability are obtained from relay selection. Using numerical results, the performances of different cases are evaluated which shows the significant advantages of the relay selection in a cooperative communication.

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Index Terms

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Keywords

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selection