

A fair opportunistic relaying algorithm using an adaptive selection region in cooperative networks

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Abstract

This work proposes a new relay selection algorithm in an opportunistic cooperative network, which aims to establish fairness among the users. Our approach provides the same overall outage probability for users at different locations. To this end, we first define a selection region containing Amplify-and-Forward (AF) relays with a superior channel quality. Then, opportunistic relay selection from the region is applied. The fairness is achieved by adapting the size of the selection region according to the user location. Our analytical result provides a guideline to implement the proposed relay selection algorithm at each user.

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