

Performance improvement by MRC combining with multiple relays and receives antennas in AF relay networks

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(Abstract—Cooperative networking schemes provide cooperative diversity gain using differently located antennas that combat fading induced by multipath propagation in wireless networks. In this paper, we present the optimal weight design for the destination in AF (Amplify and Forward) relay system, where the optimally designed MRC (Maximum Ratio Combining) is employed at the destination for $S \rightarrow D$ link (direct link between source and destination) and $R \rightarrow D$ links (indirect links between relays and destination). Simulation results are presented to verify our analysis.

Keywords—AF relay, MRC, diversity, multiple relays & antennas



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