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Improved Performance of Cooperative Scheme in the Cellular and Broadcasting System

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Abstract : In the cooperative transmission scheme, both the cellular system and broadcasting system are composed. Two cellular base stations (CBSs) communicating with a user in the cell edge use cooperative transmission scheme in the conventional scheme. In the case that the distance between two CBSs and the user is distant, the conventional scheme does not guarantee the quality of the communication because the channel condition is bad. Therefore, if the distance between CBSs and a user is distant, the performance of the conventional scheme is decreased. Also, the bad channel condition has bad effects on the performance. The proposed scheme uses two relays to communicate well with CBSs when the channel condition between CBSs and the user is poor. Using the relay in the high attenuation environment can obtain both advantages of the high bit error rate (BER) and throughput performance.

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