

## Adaptive Cooperative Scheme Considering the User Location

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**Abstract :** In this paper, an adaptive cooperative scheme in the cell edge is proposed. The proposed scheme considers the location of a user and applies the suitable cooperative scheme. In cellular systems, the performance of communication is degraded if the user is located in the cell edge. In conventional scheme, two base stations are used in order to obtain diversity gain. However, the performance of communication is not sufficiently improved since the distance between each base station and a user is still distant. Therefore, we propose a scheme that the relays are used and the cooperative scheme is adaptively applied according to the user location. Through simulation results, it is confirmed that the proposed scheme has better performance than the conventional scheme.

**Keywords :** adaptive transmission, cooperative communication, diversity gain, OFDM

**Conference Title :** ICICE 2015 : International Conference on Information and Communication Engineering

**Conference Location :** Paris, France

**Conference Dates :** July 20-21, 2015