

Interference avoidance by adopting MC-TH-hopping schemes in two-tier femtocell

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ABSTRACT

To achieve at the expectation of fluently transmitting the radio signal can be transmitted everywhere, by using of constructing the femtocell networks is a best way. Furthermore, adopt the OFDMA (orthogonal frequency division multiplexing access) and the MC-CDMA (multi-carrier code-division multiple access) systems, which are developed based on the OFDM (orthogonal frequency division multiplexing) technical, as the protocol of the 4G (4-th generation) wireless communication networks. In implementing the evaluation of channel capacity will be held in the scenario with different coverage areas of two-tier macrocell and femtocell cellular environments. Moreover, a designed adaptive interference avoidance algorithm will be proposed for the purpose of avoiding the CCI (cross-tier co-channel interference) and ICI (inter carrier interference). On the other hand, in the paper the proposed interference avoidance method is going to increase the channel capacity of OFDMA/MC-CDMA systems. Nowadays, the WiMAX is popular and going to land the market, the results from this project are able to either provide the system models for research in the wireless multiple access technical and serve to the commercial applications in advance. KeyWords : femtocell, OFDMA, MC-CDMA systems, inter-carrier interference.

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