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Interference coordination mechanism based on soft frequency reuse for LTE heterogeneous networks

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The small cell technology for 4G, B4G and 5G wireless communications aims at enhancing indoor coverage, increasing capacity, and offloading the overlay eNodeB traffic. However, the interference between small cell and eNodeB can dramatically decrease the overall capacity of the network. A solution for such scenario is emergently necessary. In this paper, we first give a multiple objective formulation for interference management. We then propose an interference coordination mechanism based on Soft Frequency Reuse (SFR) for LTE heterogeneous network consisting of eNodeB and small cells. Comparing with existing solutions, the proposed scheme has better system throughput, what is more, it also guarantees the QoS and fairness of cell-edge mobile users.

Biography

Chung-Nan Lee has been with the National Sun Yat-sen University, Kaohsiung, Taiwan, where he was an Associate Professor with the Department of Computer Science and Engineering from 1992 to 1999, was the Chairman of the Department of Computer Science and Engineering from August 1999 to July 2001, and is currently a Professor. His current research interests include multimedia over wireless networks, bioinformatics, evolutionary computing and 4G communication technology.

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