

Dynamic Frequency Reuse: A Method for Interference Mitigation in OFDMA Based LTE-A Networks

By: Reza, A (Reza, Asif)^[1]; Bin Abdullah, K (Bin Abdullah, Khaizuran)^[1]; Bin Ismail, AF (Bin Ismail, Ahmad Fadzil)^[1]; Raisa, F (Raisa, Farah)^[1]; Ramli, HABM (Ramli, Hudah Adibah Bt. Mohd.)^[1]; Hashim, W (Hashim, Wahidah)^[2]

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Abstract

Spectrum scarcity is one of the most discussed restraining aspects in wireless communication system. To solve this issue Frequency Reuse (FR) concept is introduced. It is a promising development to fulfil the requirement of Long Term Evolution Advanced (LET-A). With the introduction of FR comes the problem of Inter Cell Interference as the neighboring eNodeBs (eNB) which uses the same frequency band that will act as an interference source. In this paper, a Dynamic Frequency Reuse (DFR) method is anticipated. Continuous optimization of resource allocation of each cell is considered in this method. The important focus of the paper is to expand the capacity of the users placed in cell edge areas by reducing out of cell interference. Simulation has been done to prove that the proposed scheme leads to efficient resource management.

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Author Information

Reprint Address: Reza, A (reprint author)

+ Int Islamic Univ Malaysia, Dept Elect & Comp Engn, Kuala Lumpur 53100, Malaysia.

Addresses:

+ [1] Int Islamic Univ Malaysia, Dept Elect & Comp Engn, Kuala Lumpur 53100, Malaysia

+ [2] Univ Tenaga Nas, Coll Comp Sci & Info Tech, Kajang, Selangor, Malaysia

E-mail Addresses: asif.a.reza@ieee.org; khaizuran@iium.edu.my; af_ismail@iium.edu.my; f.r.farah@ieee.org;

hadibahmr@iium.edu.my; wahidah@uniten.edu.my

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