CHAPTER FIVE

CONCLUSION AND RECOMMENDATIONS

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Conclusion and Recommendations

5.1 Conclusion:

In this project heterogeneous networks have been evaluated as a part of LTE-Advanced features to meet IMT-Advanced requirements, range expansion has been introduced as an advanced technique to lighten the load of the MBS and increase the utilization of PBS to get more benefits from heterogonous networks.

The summarized Conclusion from the project is that Range expansion technique enhance coverage and achieves kind of load and traffic balance between macro cell and Pico cell by attracting more user equipment's to Pico cell, which is considered as a significant improvement of heterogonous networks deployments. The simulation result showed that by increasing the range of the Pico cell and balancing the load among the network; the network performance and the user experiences will enhance through achieving (at number of users equal to 40 users) 60% higher data rate, 17% higher throughput, 22% better bandwidth utilization and 2% enhanced spectral efficiency.

5.2 Recommendations:

To get the most benefits from cell range expansion there are some recommendations should be taken under consideration in future research activities. To the best network performance Its better to choose the optimal bias value that minimizes the number of outage user equipment's for each base station individual, however when a large bias is adopted a slight degradation appears due to inter cell interference hence it is not advisable to increase the bias unlimitedly.

Macro base station's strong transmit power harms the expanded region of user equipment that select Pico base station by bias value, inter-cell interference coordination (ICIC) is needed to eliminate the interference.