# ABSTRACT

Femto is the development of base stations in cellular networks using low power levels and has a smaller coverage than macro. Femto is the perfect solution to enhance coverage and capacity on the network, especially in indoor areas.

In this thesis discusses the algorithm to cope with Co-Channel Interference (CCI) in the placement LTE femto (HeNB) on LTE macro (eNB). The algorithm used to use scenarios FFR (Fractional Frequency Reuse) that divides the frequency bandwidth into multiple frames to be allocated at the center of the cell (cell center) and edge (cell edge).

FFR algorithm is simulated with the simulator **Matlab 7.8** and **Mentum Planet 5.0** for the determination of SINR and data rate. The simulation results show that the scenario of FFR with the method of allocating 50% of the bandwidth of the macro-cell center is an effective method used in the deployment of femto in macro networks. This is due to the balance between cell centers, macro-cell edge, and with the addition of femto at the cell edge. With these scenarios the increase occurred with an average of 2% per multiple of an extra 20 femto on the macro cell edge.