LTE UL Power Control Evaluation in a System Level Simulator for Synthetic and Realistic Scenarios

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Abstract:

The research involved in this study comprises the analysis of the impact of the power control algorithm and its performance in the system level. Following our work in TD 01040, the LTE system level simulator has been equipped with a power control block that enables interference management at the same time that controls the fairness among users. Rising from the fact that it is very sensitive to the environment, the algorithm is tested in two different scenarios in a comparative way. First, the conventional synthetic scenario, with regular hexagonal base stations distribution, and then a piece of the scenario of Vienna, developed during the COST 273 action in the MORANS initiative. This dissimilarity in simulation environment leads to strong differences in the system performance. Results show how the real scenario is not so sensitive to interferences and so that the major issue is the availability of transmission power at the cell edge.