



TeamUp5G

Early Stage Researcher 4

PHY/MAC Design of Future Small Cells Adopting Multi-Packet Reception and Full- Duplex Communication

Motivation

- With the advent of IoT, the need to share data between a massive number of wireless devices as seen an unprecedented growth rate.

Goal

- The research plan aims at the analysis of innovative wireless communication schemes where a massive number of nodes can communicate with efficient coordination, preferentially avoiding the adoption of centralized medium access policies

Objectives

- Investigation of innovative PHY/MAC architectures that may support a Multi-Packet Reception (MPR) communication paradigm in a decentralized way.
- Characterization of the influence of the interference when unconventional PHY technologies and MAC policies are jointly considered.
- Exploring of MAC policies with the purpose of decreasing protocol's time overhead.

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