



PAWR Project Office

Physics-Informed and AI-Assisted Channel Prediction for Reduced SRS Overhead in 5G NR

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My poster will present our work on reducing SRS overhead in 5G NR by predicting full-band channel information from partial-band measurements. We use the PAWR POWDER platform to collect and validate channel data in several environments, including an indoor OTA lab, the Flux Lobby, and an outdoor link at MEB using the Benetel O-RU. Our setup also includes OCUDU and Amarisoft UE components. Measurements collected at 40 and 80 MHz help us understand the real multipath structure and build realistic synthetic data for training a physics-informed AI model. The goal is to maintain accurate channel estimates for beamforming and scheduling while using fewer SRS resources, allowing more wireless resources to be used for user data.