

‘Channel Estimation and Prediction for 5G radio systems’

Zirwas, Wolfgang (NSN - DE/Munich)

Current focus of research in mobile radio is on future 5G systems, which should provide – beside others - lower latency, higher flexibility and 1000 times capacity. The last point is expected to require significant more spectrum, higher number of smaller cells as well as significant progress with respect to the spectral efficiency. Most relevant for improving spectral efficiency might be massive MIMO as well as tight cooperation between cells, often termed joint transmission cooperative multi point (JT CoMP). JT CoMP as well as massive MIMO rely on accurate channel estimation and prediction of a high number of channel components with high accuracy. Therefore in the EU FP7 project METIS channel prediction has been identified as one of the main enablers for such techniques. In the presentation the novel concept of coded CSI RS will be explained, allowing the estimation of a set of N UE individual channel components out of overall N^2 channel components, thereby overcoming the well known pilot contamination issue. Furthermore the intermediate status of parameter based channel prediction applying virtual beamforming and bandwidth enlargement will be provided.