

3rd mmW RCN Workshop
Jan 18-19, 2018
U. Arizona, Tucson

CSP-NET Interface Breakout Discussion

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This breakout will build on the fruitful discussions from the 2nd workshop on the important research and development opportunities at the interface of communication and signal processing (CSP) techniques at the PHY layer and networking (NET) protocols at the MAC and higher layers. The development of accurate network simulators for end-to-end performance assessment was identified as an important and concrete research problem for exploring the CSP-NET interface. Key underlying issues include the role of channel models in network simulation, the appropriate PHY abstraction for network simulation, the role of channel and system measurements from sounders and testbeds, and the role of ray tracing in channel modeling.

Summary of Discussion Points:

- PHY layer abstraction
- Blockage characterization and modeling
- Antenna radiation patterns – modeling and abstraction
- The role of ray-tracing in developing channel models
- How to combine measurements and ray-tracing?
- Calibrating simulation models with emerging experimental results
- Beam training/tracking abstraction for simulators
- How can channel/network simulators complement hardware testbeds?
- How can hardware testbeds be leveraged for accurate network simulation?
- Role of machine learning at PHY/NET interface