Characteristics of physically large array channels, comparison: 2.6 GHz versus 5 GHz

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Abstract:

The knowledge of cluster behavior is essential for realistic geometry based stochastic channel modeling. In this paper, propagation measurements were performed using a physically large array (7 m. long) in order to study key propagation characteristics of massive MIMO channels. The measurements were performed at two frequency bands (2.6 GHz, and 5 GHz) with both vertical and horizontal polarizations. Consequently, the effect of polarization and frequency on statistical models of the number of clusters, their delay and angular spreads, as well as the length and the gain of their visibility regions at the b ase station are reported. The results of this work are essential for the extension of the well-known cluster-based COST 2100 channel model for the massive MIMO case.