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Multi-path Components Fluctuation Analysis for 28 GHz Outdoor Radio Channel Measurement Based on Mobile Scenario

For fulfilling ubiquitous throughput demand, the fifth generation (5G) mobile will explore new frequency bands typically above 6 GHz and several important technical issues related to the radio channel have to be investigated. Based on radio channel measurement where the Tx is mobile, this TD discusses the multi-path components (MPCs) fluctuation observed during an outdoor pedestrian measurement campaign performed at 28 GHz. We describe the tracking of the multi-path components over delay and time that used to interpret the observed MPCs contributions. The measurement confirms the high sparsity of the channel impulse response. In the first part of the proposed trajectory, 4 main MPCs are tracked, exhibiting large scale and small scale coherent fluctuations. The small delay variations around each MPC are shown to be strongly correlated (or anti-correlated depending on the geometry), and their spectrum is probably strongly correlated to the specific pedestrian body motion. The presented results should be of interest for deriving spatial consistent channel model for 5G applications at 28GHz.

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