DIRECTIONAL MEASUREMENTS AND MODELLING OF INDOOR ENVIRONMENTS AT 5.2GHZ (MonAmOR6)

Author(s) :

David Irvine Laurenson (The University of Edinburgh, United Kingdom)
Chor Min Tan (University of Bristol, United Kingdom)
Chia Chin Chong (The University of Edinburgh, United Kingdom)
Mark A. Beach (University of Bristol, United Kingdom)

Abstract :

State of the art antenna array systems require detailed information about the channel in order to maximise usable capacity. Such systems require both detailed analysis and realistic simulation based testing. To date there has been little work carried out in the area of directional channel characterisation when one of the terminals is in motion. This paper will describe a dynamic measurement campaign, conducted at Bristol University, employing antenna arrays, both for a SIMO configuration with a ULA, and a MIMO configuration employing CUBAs. Associated with the SIMO measurements, a modelling strategy was developed for simulating directional multipath propagation. The model is based on stochastic processes controlling the birth and death of observable multipath components, the temporal and spatial correlation of multipath components, the variation of the spatial and temporal properties of components as the terminal moves, and the spectral characteristics of these components. The generic framework is fitted to the measurements obtained, and the resulting parameters are presented.

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