

Cross-correlation Models of Angular Spreads Based on Measurements in Dual-link Communication Scenarios

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Abstract—In this paper, we propose stochastic cross-correlation models of angular spreads between two links, i.e. the Base Station (BS)- Mobile Station (MS) link and the Relay Station (RS)-MS link. It is based on measurement data collected by using the wideband multiple input multiple output (MIMO) relay-Band-Exploration-and-Channel-Sounder (rBECS) system at 3.7 GHz. The angular spreads include the azimuth of arrival (AoA) spread, the azimuth of departure (AoD) spread and the elevation of arrival (EoA) spread. The statistics of these cross-correlation models are investigated as a function of geometrical features of the dual-link. It is extracted from a large amount of observations of the cross-correlation, which are obtained in three measurement sites along more than one hundred measurement routes.

Keyword—channel model, channel measurement, angular spread



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