

A TDL Based Non-WSSUS Vehicle-to-Vehicle Channel Model

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Abstract:

This paper proposes a non wide-sense stationary uncorrelated scattering (WSSUS) channel model for vehicle-to-vehicle (V2V) communication systems. The proposed channel model is based on the tapped-delay line (TDL) structure and considers the correlation between taps both in amplitude and phase. Using the relationship between the correlation coefficients of complex Gaussian, Weibull and Uniform random variables (RVs), the amplitude and the phase of taps with different delays are modeled as correlated RVs to reflect the Non-WSSUS properties of V2V channels. The effectiveness of the proposed channel model and simulation method is validated by the measurements in different scenarios.