Signal-to-Noise Ratio Modeling for Vehicle-to-Infrastructure Communications

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Abstract:

In this contribution we propose an extension to the range- dependent modified Gilbert model introduced in [1]. With the pro- posed extension, the model can be used to generate realistic vehicle- to-infrastructure signal-to-noise ratio (SNR) traces along with the corre- sponding error patterns. We model the SNR as a combination of corre- lated large scale fading and small scale fading. The model parameters are derived from real-world measurements at 5.9 GHz. The accuracy of our simple and yet effective modeling approach is confirmed by comparing the model generated SNR traces to the measured performance.