Development of Radio Transmission Line Simulator along a Railway

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When railway operators introduce and modify the radio communication systems for railways, it is necessary to design the radio circuits. The circuit design needs a great effort, and it is occasionally difficult to design with a high quality. In this paper, we report for developing the radio transmission line simulator along a railway to support the radio circuit design. First, we made a model that consists of three sub-models for radio transmission line. This model enables to consider the effect of the noise adjacent to the railway environment. Eventually, we developed a simulator based on the prepared model, and performed a basic simulation.