

**Development of an Radio Communication System Simulator
for Railway Applications**

Kunihiro KAWASAKI Kiyotaka SEKI

Various radio communication systems have been used in railway systems such as Communication Based Train Control (CBTC) systems, passenger information service systems, wireless sensor networks, etc. Designing or evaluating work to build up radio communication systems used in railway systems costs in terms of time and money in the present circumstances. Thus, for the purpose of helping these work, authors have been developed a simulation method to calculate transmission quality (bit errors, packet loss rates, latency, etc.) with consideration for railway-specific environment and usage. This paper outlines features of the developed simulator and some examples of simulation results.