

## **Development of Method on Reduction of Surge Voltage on AC Railcar's Body**

Satoru HATSUKADE

Surge voltage is generated on an AC railcar's body while the train raises its pantograph or its main circuit breaker is switched. The surge voltage expands and vibrates at the end car according to reflection effect of distributed-parameter circuit theory. The extreme surge voltage causes damages and malfunctions of on-board equipment, especially electronic devices such as train signaling system and brake control system. This paper shows mechanism of phenomena of surge generation on an AC railcar's body, experiment results of improvements of ground systems of the AC railcar, and discussion of ideal ground systems for preventing extreme surge voltage.