

**An Influence of the Ground/Rail Potential Rise due to Lightning on Railway
Signalling Equipments, and its Protection Measures**

Hideki ARAI Masato HAJI Hiroyuki FUJITA

Lightning protection measures are required for railway signalling systems because the suspension of operation or delays of train due to failure of signalling systems brought about by lightning may cause social confusion. We carried out the field test to examine an influence of the ground/rail potential rise due to lightning on railway signalling equipments. In addition, we implemented experiments for finding out any suitable countermeasures to suppress lightning overvoltage in the train detector for the railway level crossing system as a typical example of wayside signalling equipment. This paper describes the factors to cause lightning damage and effective lightning protection measures for railway signalling equipments.