Evaluation of Impact of Volcanic Ash on Railway Electric and Signal Equipment and Proposal of Utilizing Information on Ash Fall

Yuichiro NISHIKANE Natsuki TERADA Takeshi KONISHI
Takuya URAKOSHI Shoichi KAWAMURA

Ash fall could have critical impacts on railway such as the failure of shunting of the track circuit and the decrease in insulation performance of insulator. In this study, we experimentally investigated conditions that cause these impacts of volcanic ash. Then, we clarified that over 0.05 mm thick volcanic ash causes the malfunction of shunting and that 1.2 mm thick volcanic ash containing saltwater causes the insulator flashover. Based on the results, we propose prevention actions against ash fall for railway companies to mitigate the impacts, using public information on eruption.