Snow Falling Experiments and Modeling to Simulate Phenomena of Snow Falling from Railway Vehicle

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In order to elucidate the mechanism of snow-falling from railway vehicles in winter, a mathematical model was studied to estimate the time taken for snow to fall in a warm tunnel. In addition, to validate the model which is based on the heat balance to the accreted snow plate, snow-falling experiments were carried out in a low-temperature room, and the onset time of snow-falling was compared between the model and the experiments. The result showed that it was possible to estimate the onset time when snow-falling begins, by setting the appropriate influence range on snowmelt at the interface between the plate and the accreted snow in the model.