

Measurement of Under-floor Air Flow on Board the Train and on the Ground

Atsushi IDO

Complex air flows arise between the underside of trains and the track because of the interaction between them. These flows may cause the phenomena of ballast flying, snow-accretion to the underside of the cars, aerodynamic drag, noise, etc. In order to clarify the under-floor air flow, the velocity profiles of the air flow beneath the cars were measured in field tests. The velocity profiles were obtained on board the train and on the ground. It was confirmed that smoothing the underside of the cars reduce the velocity of the air flow near the ground surface.