

## **Numerical Simulation of the Wind Tunnel Tests on the Aerodynamic Characteristics of Trains in Crosswind**

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In order to evaluate the running safety of railway vehicles under strong wind, it is necessary to estimate the aerodynamic force acting on trains. In the past, numerous wind tunnel tests were conducted for this purpose. Meanwhile, computational simulations have been applied to the engineering problems through the use of high-performance computers in recent years. In this report, computational fluid dynamics simulations (RANS on unstructured grids and LES on a Cartesian mesh) were carried out to reproduce the wind tunnel tests, and the aerodynamic force coefficients obtained by the simulations were compared to those obtained by the wind tunnel tests.