

**Estimation of Aerodynamic Drag Reduction and Energy Saving of  
Meter-gauged Railway Vehicles**

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Measures to reduce aerodynamic drag have been hardly applied to most of meter gauged railway vehicles because their speed is much lower than that of Shinkansen vehicles. Therefore, we can have ample possibility for reducing the aerodynamic drag of the meter gauged railway vehicles. In this study, we proposed improvement of upper roof and under floor shape to reduce it and carried out wind tunnel tests to estimate their reducing effect. Furthermore, we calculated the saved amount of energy consumption for running. We found out that the improvement of upper roof and under floor shape could reduce the aerodynamic drag by 22% and the energy consumption by 5.4%.