

Current Status of Research and Development on Railway Aerodynamics

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Aerodynamic phenomena in railways range widely, related to almost every aspect of the fundamentals of railways: safety, environment, energy-saving and comfort. Aerodynamics particularly has a great impact on high-speed railways like Shinkansen. This article reviews recent research activities on railway aerodynamics at RTRI: (1) vehicle aerodynamic characteristics such as cross-wind stability and resistance, (2) the effects of train slip stream, pressure variations, under-floor flow, etc. on nearby people and ground structures, (3) wayside environment impacts by tunnel micro-pressure wave and infrasound.