

**Contribution of Rolling Noise and Aerodynamic noise to the Total Noise Generated from the
Lower Part of Shinkansen Cars Running at High-speed**

Toshiki KITAGAWA Kiyoshi NAGAKURA Takeshi KURITA

In order to reduce Shinkansen noise, it is important to develop appropriate countermeasures for pantograph noise and the noise generated from the lower part of cars. The noise generated from the lower part of cars mainly consists of aerodynamic noise and rolling noise. In this paper, an attempt is firstly made to estimate the contribution of rolling noise quantitatively. Next, the contribution of aerodynamic noise to the total noise generated from the lower part of cars is determined by a comparison of measured noise and analytically estimated rolling noise. It is concluded that, above 335km/h, the aerodynamic noise has a much greater contribution to the total noise generated from the lower part of cars than the rolling noise.