

**Development of a Vibration Evaluation System for Railway Vehicles by Stationary Tests  
with Field-Portable Actuators**

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The authors are developing a vibration evaluation system, which consists of field-portable actuators (exciters) and data processing software, to estimate vertical vibration and riding quality of railway vehicles. One of the major characteristics of the system is that the acceleration power-spectral-density (PSD) at an arbitrary point on the carbody while running is synthesized numerically from measured data obtained in the stationary excitation tests. In this paper, we performed excitation tests using an actual commuter car and the estimated PSD and ride quality level ( $L_T$ ) are compared with those substantially measured under the running conditions.