

Propagation Characteristics of Horizontal and Vertical Component of Train-induced Ground Vibration

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Field measurements were carried out at four sites to estimate the propagation characteristics of train-induced ground vibration along two Shinkansen lines. According to the measurements, train speed and axle arrangement, which determines the basic characteristics of exciting force, hardly affected both horizontal and vertical components of the attenuation spectra of ground vibration. Therefore, the attenuation spectra of these sites can be estimated with a simple simulation model without incorporating exciting force characteristics. Most of the vibration attenuated within 10 meters from the track center.