

**Attenuation Characteristics and Resistance Forces of the Ballast Layer
against Traffic Impact Loads Based on *In-situ* Measurements**

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The author performed a fundamental examination of the attenuation characteristics and resistance forces of the ballast layer against traffic impact loads based on field measurements. The results indicated that for the impact load components over 100 Hz, the ballast layer resists because of its high rigidity. However, the ballast layer is almost non resistant against the low frequency load components. The low frequency load components are not reduced. Moreover, the results were roughly divisible into two features related to the stiffness characteristics of the ballast layer. While the ballast layer has high rigidity and resists loads sufficiently in the frequency region higher than about 100 Hz, the resistance force is extremely weak at lower frequencies.