

**Evaluation of Vibration Characteristics of Viaducts and the Ground with Relation between Those Characteristics and Distribution of Ground Vibration Using Simultaneous Multipoint Measurement**

Masanori NOYORI    Hidefumi YOKOYAMA    Seiji TSUNO

Elucidating the mechanism of ground vibration is an important issue. In particular, there are many unsolved issues related to ground vibrations caused by trains, including interfere from multiple waves propagating through viaducts and the ground. Therefore, using simultaneous multipoint measurement data, we evaluated the vibration characteristics of the viaducts and the ground and the relation between those structural characteristics and distribution of ground vibration. The result of the evaluations of the vibration characteristics of the viaducts and the ground showed that variation of the vibration of the viaducts and the ground depends on the locations for measurement. It showed that the phase differences of the ground near pillars and the interference fringes of the ground vibration are related.