

Method of Prediction for Structure-Borne Noise Radiated from Railway Concrete Viaduct

Masanori HANSAKA Daigo SATO Shogo MAMADA

Minoru SUZUKI Kiyoshi NAGAKURA

Prediction for structure-borne noises has been a significant issue for railway viaducts, since they cause an excessive degree of noise attributable to vibrations of the structural members such as floor slabs. We have therefore developed a new method, where the structure is divided into some members represented by simple models such as beam and plate, and its solution is obtained by an analysis of flexural vibration. As the result of the calculation and measurement of the noise adjacent to a floor slab of concrete viaduct constructed on Shinkansen line, it has been revealed that the proposed method was capable of predicting in general the structure-borne noises.