

Evaluation of the Effect on Seismic Response Characteristic of a Viaduct by an Adjacent Building

Kazunori WADA Keigo TSUKIOKA Seiji YAMADA
Yoshitaka MURONO

In the large metropolitan areas, there are many cases where large buildings are built adjacent to a railway viaduct. These buildings are quite massive compared to the size and weight of a railway viaduct. In an event of an earthquake, response of such buildings may have a significant effect on the railway viaducts; such effect is too serious to be ignored. In this paper, we executed FEM analysis for investigating kinematic and inertial interaction among a railway viaduct, soil and an adjacent building. The results of analysis indicate that the effective input motion to the viaduct is reduced considerably due to the presence of an adjacent building.