

Evaluation Method of Seismic Behavior of Bridge Restrainers in Steel Railway Bridges

Mamoru FUKUMOTO Masamichi SAITO

Kazunori WADA Manabu IKEDA

In railway steel bridges, bolt-type bridge restrainers are installed between girders in order to prevent falling of the girders. However, it is unclear how to evaluate seismic performance of those restrainers. To obtain the seismic behavior of the bridge restrainers, elasto-plastic finite element analyses of the restrainer were carried out considering strain-rate-dependency. As a result, the nonlinear behaviors of the restrainer and the girder webs around the restrainer were clarified. Based on the result, seismic response analyses of the whole bridge model with restrainers were conducted and the seismic response behavior of the restrainers was clarified. Considering these results, an evaluation method of the restrainers was discussed.