

**Seismic Retrofitting Effects of Reinforcement of Over-Track Building  
with Knee Brace Dampers**

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The study presented in this paper verifies seismic retrofitting effects of reinforcing over-track building with knee brace dampers. At first, we executed the shaking table test with the large-scale test models, which simulate over-track buildings reinforced with knee brace dampers. From the test results regarding responses or hysteresis loops, we confirmed seismic retrofitting effects of knee brace dampers. In addition, we estimated natural frequencies and damping factors of the models by ARX model. Furthermore, by analytic studies on the over-track building models simulating true structures, we confirmed the seismic retrofitting effects of knee brace dampers.