

List of Dissertation Abstract

Name	Supervisor	Title	Abstract
Tomoki SAKURAI	Shin MORISHITA	Seismic Response Reduction of Buildings by MR Grease Damper	<p>This paper describes an application of magneto-rheological (MR) grease dampers as seismic dampers for a three-story steel structure. MR fluid is widely known as a smart material with rheological properties that can be varied by magnetic field strength. However, the ferromagnetic particles dispersed in MR fluid settle out of the suspension after a certain interval because of the density difference between the particles and their carrier fluid. To overcome this defect, we developed a new type of controllable working fluid using grease as the carrier of magnetic particles. MR grease was introduced into a cylindrical damper, and the seismic performance of the damper was subsequently studied via numerical analysis. We confirmed that the MR grease damper is an effective seismic damper.</p>