

An Experimental Study For The Damping Of Earthquake Effects In Buildings By Magnetic Forces

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In this study, the effectiveness of magnetic dampers to control the behavior of structures under harmonic effects was investigated experimentally. The building model used in the experiment was a 3-story frame. The harmonic behavior was improved by placing neodymium magnets on the structure model fixed on the shaking table. Neodymium magnets were placed on the second floor of the structure as magnetic damper, and optimum values were obtained by testing the earthquake effects in one and two directions. Acceleration measurements of the building model under harmonic behavior were made, and the effect of magnetic force on the behavior of structure was investigated. In this experimental study, the inter-story displacements between the floors were reduced by creating a magnetic effect with the magnets placed between the structures, and accordingly the damage to the structures was reduced. In addition, it was tried to determine the optimum magnetic damper parameters experimentally.