# Earthquake Suppression for a Scale Building Model Employing Inclined Inerter

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## Abstract

This paper investigates vibration suppression of a building model employing inerter. The inerter is a two-terminal mechanical device that substitutes the mass element in the mechanical networks. The inerter has been applied to many systems, including vehicle suspensions, train hunting dynamics, and optical tables. This paper applies the inerter to buildings for repressing earthquake vibration. In this paper, we derive the dynamics of a one-layer building model and discuss the improvement of vibration control by the inerter. Then we build a scale building model, and apply a shaker to conduct experimental verification. In addition, we discuss the effects of the inclined inerters. Based on the results, the inerter is deemed effective in suppressing building vibration.