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TITLE OF PROJECT: “An Experimental Investigation of a Structure Using Combination of Spring and Rubber Base Isolation Technique”

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ABSTRACT (150-300 words):

Earthquake can cause significant or severe structural damages. To protect the structure from severe damages, different kind of structural design techniques are used such as providing shear wall, bracing in building, use of base isolation device and dampers etc. This study presents a brief history of isolation techniques and preliminary design of high damping rubber bearing and lead rubber bearing isolator with the help of provisions provided in uniform building code (UBC -1997).

The code designed fixed-base and base-isolated Rubber frames are compared. The purpose of the investigation is to compare in a quantitative manner the relative performance of code-designed frames, and to determine approximately the design force level for an isolated frame that will result in performance comparable to that of the fixed-base frame.

The results of numerical study showed that Hybrid controls are more effective in controlling the response as compared to Semiactive control. Further, influence of device parameters on control performance has been investigated through a parametric study

KEYWORDS: Seismic Behavior, Wind Loading, Response Reduction Factor, Fixed Rubber Base Isolations.

CATEGORY: STRUCTURE , EARTHQUAKE ENGINEERING