

عنوان مقاله:

Seismic Rehabilitation of RC Frames Using Steel Brace Systems

محل انتشار:

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خلاصه مقاله:

Many existing reinforced concrete (RC) structures performed poorly and sustained severe damage during recent earthquakes. Existing nonductile RC buildings are considered to be a significant hazard during seismic events. In this study, the design and effectiveness of concentric and eccentric steel bracing systems for the seismic rehabilitation of low-rise nonductile RC buildings are investigated. The distribution of the steel bracing system over the building height was found to have a significant effect on the characteristics of the developed plastic mechanism under the effect of lateral seismic load. Adding steel bracing uniformly along the height of an existing nonductile building may not represent the optimum solution. It is suggested that the distribution of brace strength over the height of the building should be selected to obtain a uniform distribution of storey drift. In effect the damage distribution over the building height will be uniform instead of concentrated damage that may lead to collapse. This can be accomplished by minimizing the value of the proposed drift distribution parameter

کلمات کلیدی:

Reinforced concrete, rehabilitation, steel bracing, seismic design

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