عنوان مقاله:

The Effect of Local Fuse on Behavior of Concentrically Braced Frame by a Numerical Study

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خلاصه مقاله:

The concentrically braced frames (CBFs) are one of the most widely used lateral load-resisting systems. Seismicperformance of these structures has a weakness that is due to the brace buckling at a lower loading than the ultimatecompressive loading capacity. In this paper, attempt is made to enhance the seismic response of CBFs through utilizing alocal fuse. For this purpose, first the formulation of fuse area and length are presented. Then based on this formulation,several numerical models have been built and analyzed to examine the effect of implementing this fuse on seismic responseof CBFs. From the analyses results, it is found that if the reduced cross-section fuse (RCF) is properly designed and alsothe end of brace is fixed, the CBFs with equal energy dissipation capacity, that are equipped with this fuse exhibit a betterductility than the customary CBFs.

کلمات کلیدی:

Concentrically Braced Frame; Reduced Cross-Section Fuse; Ductility; Energy Dissipation Capacity