ATC40 FEMA

Evaluation Of Seismic Performance Of RCMRFs Using Damage Indices

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ABSTRACT

Determination and prediction of damage imposed on the structures is one of the most important topics related to the performance based design. In this regard, the standards regarding the performance based design have introduced some levels & limitations. The main objective of this research is to evaluate these levels by comparison of damage indices calculated from dynamic & pushover analysis. IN addition, performance of ABA & 2800 codes in limiting damage of structures is evaluated. For this purpose, seven earthquake records, which are appropriate for site effects under consideration, are selected & scaled in such a way that average response spectrum of them has minimum difference with Iranian code 2800 design spectrum, then damage analysis is performed on several reinforced concrete moment resisting frames. Results represented that drift criterion introduced by standards such as FEMA273 & ATC40 can lead to incorrect results in determination of seismic performance of structures, it was illustrated that ABA & 2800 codes have proper performance in limiting damage of structures at Life Safety level.

KEYWORDS

damage, performance base design, Dynamic Analysis, Pushover Analysis, Drift Criterion

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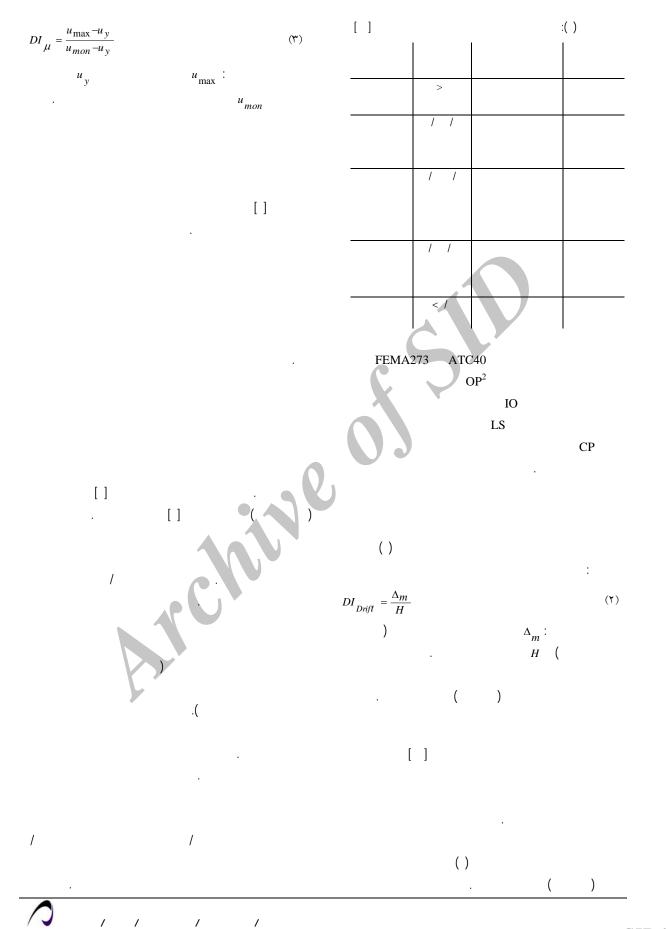
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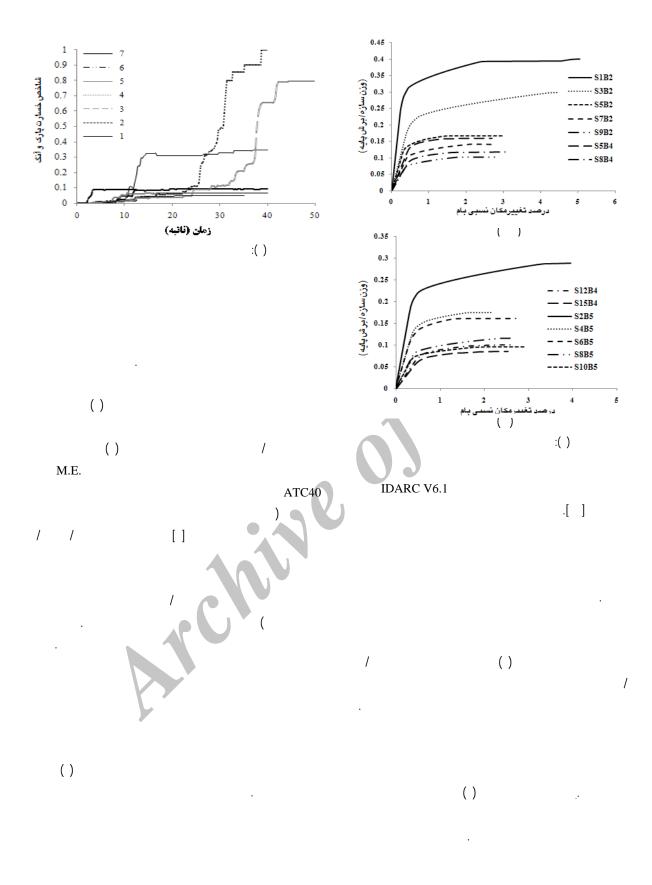
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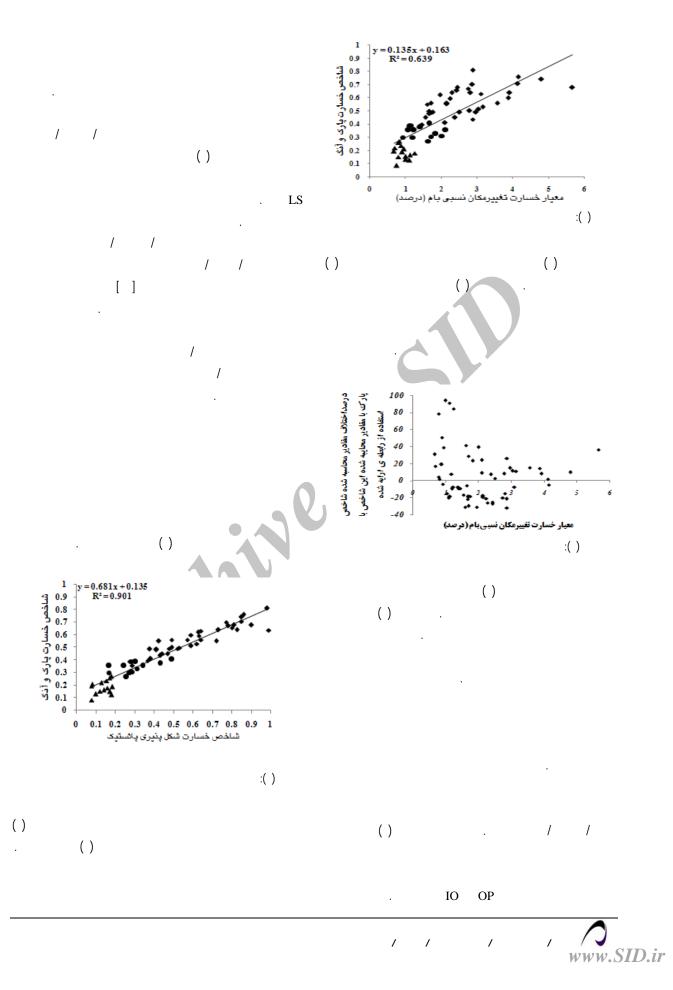


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