

عنوان مقاله:

Comparison the structural nonlinear response under traditional IDA and Conditional Spectrum-based selected earthquakes for use in IDA

محل انتشار:

سومین کنفرانس ملی زلزله و سازه (سال: 1391)

تعداد صفحات اصل مقاله: 11

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خلاصه مقاله:

Selecting sufficient number of appropriate ground motions compatible with regional tectonic condition is a major step in Incremental Dynamic Analysis of structures (IDA). The article is intended to compare the nonlinear structural response of the selected four frames (two steel moment-resisting frames and two RC Special Moment Frames) through performing IDA using the traditional and Conditional Spectrum methods. First, the CMS and CS approaches are briefly explained and discussed. Theselected frames are dynamically nonlinearly analyzed using the traditional IDA and CS methods for four hazard levels (50%, 10%, 2%, and 1 %). The plots of results obtained from the two approaches, in the form of mean curve, are compared and assessed. It is concluded that the CS method ends up with more reasonable results except in case where the frame shows structural instability as the result of using CS method. The necessity of performing more research work in this area is highlighted.

کلمات کلیدی:

IDA, spectral shape, ground motion selection, Non-linear dynamic analysis, CS

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