عنوان مقاله:

EXPLICIT DEMAND MODEL FOR MULTI- STORY STEEL MOMENT RESISTING FRAMES

محل انتشار:

هفتمین کنفرانس بین المللی زلزله شناسی و مهندسی زلزله (سال: 1394)

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خلاصه مقاله:

Probabilistic structural deman d models are considered as an essential ingredie nt for a seismic fragility analysis. This concept is commonly developed using statistics which needcollecting data in large quantities. Preparation of such a data-base is often costly and time-consuming. In this pap er, generic seismic drift demand model for regular-multi-st ory steel moment resisting frames is presented to eliminate the need of time-consuming analyses. The demand model defined as a linear function of inten sity measure,the spectral acceleration at fundamental period (Sa (T1)) , in logarithmic space predicts overall maximum inter-story drift.In addition,the model is coupled wit h a set of relations to directly estimate unknown statistical characteristics of the model parameters. These rel ations are developed using a Bayesian regression technique to explicitly address uncertainties arise from r andomness and lack of knowledge. The developed demand model is employed to perform Seismic Frag ility Analysis (SFA) for three designed buildi ng. The accuracy of the results is assessed by comparison with the results directly obtained from Incremental Dynamic .analysis as an alternative

کلمات کلیدی:

Probabilistic Models, Incremental Dynamic Analysis, Generic Steel M oment Resisting Frame, Bayesian Regression