SEISMIC NON-LINEAR TIME HISTORY ANALYSIS OF MULTI STORIED RCC RESIDENTIAL BUILDING SUBJECTED TO DIFFERENT EARTHQUAKE GROUND MOTIONS USING ETABS

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Abstract - Seismic analysis of reinforced Concrete (RCC) buildings are one of the research interests nowadays and it is because of, earthquake causes lots of damage and losses with respect to life and damage of structures. The present study is limited to reinforced concrete multi-storied residential building under influence of three different earthquake ground motions. In this study, a nonlinear time history analysis is performed on eight storey RCC building frame considering time history of Landers earthquake 1992, Kobe earthquake 1995 and ChiChi earthquake 1999 using ETABS software. Analysis also performed to study the behavior of building under the seismic and gravity loads as per the IS-1893:2002. All analysis are compared for outcomes such as storey drifts, storey displacements and base shear. From the study it is recommended that analysis of multistoried RCC building using Time History method becomes necessary to ensure safety against earthquake force.

Keywords - Time History Analysis, Multistoried RCC Building, ETABS, IS-1893:2002, Storey Drifts, Storey Displacements, Base Shear.