## Comparison of the Seismic Response of Planar Regular and Irregular Steel Frames

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**Abstract :** This study compares the seismic response of regular and vertically irregular steel frames determined by nonlinear time history analysis and by using several sets of earthquake records, which are divided in two categories: The first category having 20 stiff-soil ground motion records obtained from the NGA database, and the second category having 30 soft-soil ground motions recorded in the Lake Zone of Mexico City and exhibiting a dominant period (Ts) of two seconds. The steel frames in both format regular and irregular were designed according to the Mexico City Seismic Design Provisions (MCSDP). The effects of irregularity throught the height on the maximum interstory drifts are estimated.

Keywords : irregular steel frames, maximum interstory drifts, seismic response, seismic records

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