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Comparative Seismic Analysis of Structure Having Vertical Irregularities and Varying Configuration

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Abstract: *Linear dynamic analysis is an improvement in linear static analysis, as this analysis gives the effect of higher vibration modes and the actual distribution of forces in the elasticity range in the best way. The houses are designed according to the design-based earthquake (DBE), but the actual forces acting on the structure are much larger than those of the DBE. Thus, in higher seismic zones, a plastic-based approach is preferable because the plasticity of the structure narrows the gap. This work is related to the analysis of a structure that has inequality, different models are compared graphically, and a tabular comparison is prepared. Various models include a structure 24 m, 33 m and 45 m high. The earthquake zone also varies from II, III, IV and V for those structures with inequalities. The 9 to 12 model gives the maximum time period (sec), while the 1 to 4 models give the minimum time period value (sec). Maximum participation in the mass, while the models 1 to 4 give a minimum value of mass participation. Maximum frequency (Hz), while models 9 up to 12 give a minimum frequency value (Hz).*

Keywords: Base Shear; base shear; displacement; time period; Vertical Irregularity

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