

Impact of Natural Period and Epicentral Distance on Storey Lateral Displacements

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Abstract : This paper deals with the effect of the building design and epicentral distance on the storey lateral displacement, for several reinforced concrete buildings (6, 9 and 12 stories), with three floor plans: symmetric, mono symmetric, and unsymmetrical. These structures are subjected to seismic accelerations from the Boumerdes earthquake (Algeria, May 21st, Mw=6.5). The objective of this study is to highlight the impact of the fundamental period and epicentral distance on storey displacements for a given earthquake. The seismic lateral displacement is carried out in both longitudinal and transverse direction by the response spectrum method.

Keywords : natural period, epicenter distance, reinforced concrete buildings, storey displacement

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