

Influence of Slenderness Ratio on the Ductility of Reinforced Concrete Portal Structures

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Abstract : The ductility is an important parameter in the nonlinear behavior of portal structures reinforced concrete. It may be explained by the ability of the structure to deform in the plastic range, or the geometric characteristics in the map may influence the overall ductility. Our study is based on the influence of geometric slenderness (L_x / L_y) on the overall ductility of these structures, a study is made on a structure has 05 floors with varying the column section of 900 cm², 1600 cm² and 1225 cm². A slight variation in global ductility is noticed as (L_x/L_y) varies; however, column sections can control satisfactorily the plastic behavior of buildings.

Keywords : ductility, nonlinear behavior, pushover analysis, geometric slenderness, structural behavior

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