

عنوان مقاله:

A REDUCED METHOD FOR SOLVING THE DYNAMIC LATERAL TORSIONAL COUPLING IN TALL BUILDINGS

محل انتشار:

چهارمین کنفرانس بین المللی زلزله شناسی و مهندسی زلزله (سال: 1382)

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خلاصه مقاله:

In this article, simple models are developed to solve the lateral-torsional response interaction problem for uniformly and non-uniformly eccentric buildings. For non-uniformly eccentric buildings, three D.O.F.s are considered for each floor and for the uniformly eccentric buildings one D.O.F. is considered for each floor plus three D.O.F.s for the whole building rendering in both models much smaller number of D.O.F.s compared with the general 3-D solution. Using these models, a number of problems are solved and results are checked against the general solutions and experimental results with favourable conclusions. A parametric study is then undertaken to investigate some parameters influencing the level of interaction including; the ratio of uncoupled torsional and lateral frequencies, the ratio of uncoupled lateral frequencies in x and y directions and the level of damping. It is noted, amongst other notions, that coupling reduces with increasing damping but will have a profound effect on the response when eccentricity is large.

کلمات کلیدی:

لینک ثابت مقاله در پایگاه سیویلیکا:

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