

TORSION EFFECT ON BUILDINGS SUBJECTED TO SEISMIC LOAD

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Abstract:

Complex forms are often used for the design of buildings. This induces the torsion phenomenon which could be disastrous in case of seismic event. To reduce its effects, the torsion must be taken into account through either regulation or modelling. This paper deals with the last one. A simplified method including the torsion effect is used. This method is based on the theory of Lie's groups. This model considers the six degrees of freedom of a structure, then the deformations, the internal efforts, the dynamic eccentricity and the mass participation factors are determined. The results obtained, on a building of the research centre ISPRA in France and a building with three columns, are satisfactory.