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Behaviour of Diaphragm Irregular Steel Building with Concentric Bracing

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ABSTRACT: When a structure is subjected to lateral or torsional deflection under the action of earth shaking, the resulting rotational movement can cause wide reactions from the minor inconvenience to the people living in the building due to acute nausea. As a result, lateral stiffness in the design of tall buildings is a big idea. Bracing is a highly efficient and economical way to oppose the lateral forces in one frame structure because the diagonals work in axial stress and therefore demand minimum member size to provide hardness and strength with horizontal shear. In this research study, four different types of concentric bracings are used to analyze a structure with diaphragm irregularity and the obtained results were compared. Dynamic analysis method response spectrum analysis is being performed to know the best type of bracing using structural software ETABs.

KEYWORDS: Diaphragm Irregularity, Response Spectrum Analysis, Steel Structure, Vertical Irregularity, Asymmetrical Plan, Bracing System, ETABs.

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