

Comparative Study of Diaphragm Irregularity in Steel Building

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Abstract— Steel frame is a building technique with the skeleton frame of steel columns and I-beams, constructed in a square or rectangular grid for supporting the floors, walls and roofs of a building which are all attached to the frame. Due to high strength to weight ratio, Steel plays an important role in construction industry. A study regarding the seismic response of steel structures is necessary. In the present study, G+14 steel building with diaphragm irregularity is analyzed using Response Spectrum Analysis. Six models with diaphragm irregularity are compared with same loading and same structural member sections. The aim of the study is to find which configuration of diaphragm irregularity could yield most appropriate system. The response spectrum analysis was performed by using structural software ETAB.

Key words: Diaphragm Irregularity, Response Spectrum Analysis, Steel Structure, ETAB

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