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Seismic Response of Belt Truss System in Regular RC Frame Structure at the Different Positions of the Storey

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Abstract : This research paper is a comparative study of the belt truss in the Regular RC frame structure at the different positions of the floor. The method used in this research is the response spectrum method with the help of the ETABS Software, there are six models in this paper with belt truss. The Indian standard code used in this work are IS 456:2000, IS 800:2007, IS 875 part-1, IS 875 part-1, and IS 1893 Part-1:2016. The cross-section of the belt truss is the I-section, a grade of steel that is made up of Mild Steel. The basic model in this research paper is the same, only position of the belt truss is going to change, and the dimension of the belt truss is remain constant for all models. The plan area of all models is 24.5 meters x 28 meters, and the model has G+20, where the height of the ground floor is 3.5 meters, and all floor height is 3.0 meters remains constant. This comparative research work selected some important seismic parameters to check the stability of all models, the parameters are base shear, fundamental period, storey overturning moment, and maximum storey displacement.

Keywords : belt truss, RC frames structure, ETABS, response spectrum analysis, special moment resisting frame
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