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Guided By

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Project Title

PREPARATION AND STUDY OF DIFFERENT STRUCTURES BY DEVELOPING EARTHQUAKE SHAKE TABLE

Abstract:

Among the natural calamities, earthquakes are the most destructive, in terms of loss of life and destruction of property. The rising frequency of earthquake has made it imperative to focus our attention on all aspects of pre-disaster preparedness from seismic studies as if we are standing on earth earthquakes do not harm us much, but if we are standing inside a building then we do need to worry as the brutal impact of earthquake is seen on the buildings. So we do need to study the building and for that the structural aspects are to be taken into consideration. To study the structural aspects of the buildings we need to study models of buildings , and the effect of earthquake on models can be analysed by Earthquake shake table. In this research, a uniaxial earthquake shake table that can generate seismic waves of different frequencies equivalent to the original earthquake is to be developed. This system is to be implemented at original by making a working model. The possibility of using the developed model for effect of shaking due to earthquake on various building models can also be demonstrated. In this uniaxial earthquake shake table stepper motor is to be used to provide motion to the shake table. Lead screw is to be used to give horizontal motion to the main plate of the shake table as the lead screw is the connection mode between the shake table and the stepper motor. Various models such as framed structures, structures with dampers, village houses .etc are the case study. The effect of liquefaction is also studied and analysed visually.

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