

International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)

International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal

Volume 4, Issue 2, December 2024

Seismic Evaluation of RC Asymmetric Building Consisting of Floating Column and Passive Device

Panchal Bhavika Rajendrakumar¹ and Mr. Jigar Zala² P.G. Student¹ and Assistant Professor²

SAL Institute of Technology and SAL Institute of Technology and Engineering Research, Ahmedabad, India bhavupanchal1899@gmail.com and jigar.zala@sal.edu.in

Abstract: The abrupt slip on a fault that causes earthquakes causes the ground to tremble. Earthquakes have been happening frequently all around the planet over the past several decades. Nearly all earthquakes cause direct damage to the buildings, which results in the destruction of life and property. Due to lack of following structural guidelines which lead to collapse, so carried out modern seismic reduction techniques base isolation, shear wall, dampers, which helps in earthquake resistant structures for better performance during seismic events. The energy dissipation devices are easy to installed in existing or new building with low construction cost. So past studied has been done on fluid viscous damper, Tune mass damper, viscous damper with multi storied regular building. In present study comparing with fluid viscous damper in RC Asymmetric layout C & H shape having G+12storey building with consisting Floating column at alternative floor. Time-History analysis has been done by using two different earthquakes taken from PEER ground motion having high and low Pga value. To learn the analytical effects like change in Axial force, Bending moment of Floating column with fluid viscous damper at different location. Also, Optimization of Damper position has been carried out using parameters like storey displacement, storey drift, storey stiffness

Keywords: Time-History analysis, Asymmetric Layout, Floating column, Fluid Viscous Damper



