**ANALYSIS AND DESIGN OF MULTI STORIED BUILDING FOR VERTICAL AND HORIZONTAL
LOADING WITH AND WITHOUT DAMPERS USING SAP2000**

**ABSTRACT**

The current trend toward buildings of ever increasing heights and the use of lightweight, high strength materials, and advanced construction techniques have led to increasingly flexible and lightly damped structures. Understandably, these structures are very sensitive to environmental excitations such as wind, ocean waves and earthquakes.

In this study a Tuned mass damper proposed as energy dissipation devices for buildings subjected to earthquake loads. The springs of the Tuned mass damper are placed between the structure and the mass of the damper to eliminate or minimize the damage due to earthquake loads. To reduce the response of displacement, The Tuned mass damper are introduced as energy dissipation devices. The Tuned mass damper (with spring and dashpot) is sufficiently flexible to reduce the response of acceleration. The response of displacement due to provided flexibility is effectively controlled by the addition of energy dissipation devices,

In this study the Response Spectrum Analysis are used. SAP 2000 is an extremely versatile and powerful program with many features and functions. This manual does not attempt to fully document all of those features and functions. Rather, we briefly show how to work with the program, providing some commentary along the way. A TMD system using spring units and visco-elastic dampers can reduce vibration in a building, and it is become more safety during the earthquakes. For applying this system in India, it is necessary to confirm the seismic safety.