

Using MTMD to obtain Simultaneous Energy Absorption and Displacement Reduction in Concrete Moments Resisting Frames

[Maryam Daei [- Assistant Professor, Department of Civil Engineering, Faculty of Engineering, University of Isfahan, Isfahan, Iran

[Valialah Janghorbani Ghahe [- MSc Student, Department of Civil Engineering, Faculty of Engineering, University of Isfahan, Isfahan, Iran

[Hossein Tajmir Riahi [- Assistant Professor, Department of Civil Engineering, Faculty of Engineering, University of Isfahan, Isfahan, Iran

[Saber Ale Saheb Fosoul [- Research assistant, Department of Civil Engineering, Faculty of Engineering, University of Isfahan, Isfahan, Iran

چکیده :

Application of multiple tuned mass damper (MTMD) can be a useful passive control method in the improvement of structural seismic behavior. In this paper, the effect of MTMD in reducing the response of reinforced concrete moment resisting frames under earthquake excitation is discussed. For this purpose, the structural peak displacement and the dissipated energy in the main structural members of several concrete moment resisting frames with and without MTMD have been investigated, and the results are compared. Structural modeling is done by using OpenSees software. The non-linear analyze is performed for several reinforced concrete moment resisting frames under earthquake excitations and the influence of MTMD on the structural behavior is discussed. The results indicate that generally effect of this system is significant to improve the seismic response of the structure and this system can be applied to design of the new structures or seismic retrofit.

کلید واژه : Passive control system, Tuned mass damper, Reinforced concrete moment resisting frame, Energy dissipation in structure, Non-linear analyze

[برای دریافت اطلاعات بیشتر اینجا را کلیک کنید](#)