

## عنوان مقاله:

Optimal Design of a Nonlinear Eddy Current Tuned Mass Damper for Single Story Structures Subject to Base Excitation

## محل انتشار:

سومین کنفرانس بین المللی پژوهش های کاربردی در مهندسی سازه و مدیریت ساخت (سال: 1398)

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## خلاصه مقاله:

In this work, a nonlinear tuned mass damper (TMD) is developed using cost effective eddy current damping element for single story structures subject to harmonic base excitation. After developing the design, the governing differential equations are solved using Runge-Kutta method and acceleration of the structure is minimized through simplex optimization algorithm. After finding the optimal function for damping coefficient with more than 15% increase in efficiency comparing the optimal linear case, the required damping element is designed base on aluminum and copper belts. The mechanical design and the results are compared with other references to prove what is claimed

## کلمات کلیدی:

Eddy current TMD, Nonlinear damping, Single story structures, Optimal design

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/917443>

