

## عنوان مقاله:

Numerical Investigation of a Horizontally Baffled Rectangular Tank Subjected to Seismic Excitation

## محل انتشار:

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## خلاصه مقاله:

In this study, the damping effect of the horizontal baffles inside a liquid storage tank is investigated. For this purpose, a numerical model based on the finite volume method is established. The numerical model is used to evaluate the accuracy of the analytical model developed to estimate the hydrodynamic damping caused by wall bounded baffles. For this purpose, several full-scale baffled tanks with different aspect ratios are numerically analyzed, and the validity of the analytical model is discussed with respect to the numerical results. Next, the reduction in sloshing wave height due to the presence of the baffles is considered for selected tanks subjected to seismic excitations. Finally, a simple procedure to seismically evaluate the reduction of sloshing amplitude due to the presence of baffles is proposed and validated using the time history numerical results.

## کلمات کلیدی:

Damping, Horizontal Baffles, Rectangular Tank, Earthquake, Sloshing

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/1303266>

