

## عنوان مقاله:

Estimation of Sloshing Wave Height in Broad Cylindrical Oil Storage Tanks Using Numerical Methods

## محل انتشار:

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## خلاصه مقاله:

Cylindrical steel tanks are important components of many industrial plants such as oil refineries and chemical plants. Usually failure of cylindrical tanks leads to serious consequences. During the past earthquakes such as 1964 Alaska and 1999 Turkey seismic performance of cylindrical tanks revealed that tanks are seismically vulnerable. Therefore, evaluation of seismic performance of these structures is an important task in seismic prone areas. During an earthquake, a sloshing motion may occur in upper parts of the liquid. In storage tanks during earthquake if fluid wave height in tank increases, the fluid wave may damage the roof or some parts of roof holders. The tanks should resist against unfavourable impacts such as earthquakes. In this paper, 5 tanks with different H/D ratios in an oil refinery complex in Iran were studied using static and dynamical analysis (linear and non-linear). Spectrum and time history linear and non-linear analysis was completed in order to find the fluid wave height and also ratio of wave height to the tank diameter.

## کلمات کلیدی:

Seismic Sloshing Wave, Vulnerability, Cylindrical Tanks, Fluid Wave Height, H/D Ratio

## لینک ثابت مقاله در پایگاه سیویلیکا:

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