عنوان مقاله:

Study of wall thickness interaction with fluid wave height on aboveground cylindrical steel tanks under earthquake

محل انتشار:

دومین کنفرانس بین المللی و ششمین کنفرانس ملی زلزله و سازه (سال: 1394)

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نویسندگان:

Seyed Mahdi Hashemi Sohi - *M.Sc., Dept. of civil, Islamic Azad University of Kerman, Kerman, Iran*

Seyed Sadegh Naser Alavi - *Assistant Prof., Dept. of civil, Vali-e-Asr University of Rafsanjan, Rafsanjan, Iran*

خلاصه مقاله:

Seismic performance of storage tanks as one of the main lifeline elements has attracted the interestof many researchers. Sloshing phenomenon in these kind of tanks is considerable in the sense of creationof axial and hoop stresses in the tank's wall. The study of wall thickness effect on sloshing response ofaboveground cylindrical steel tanks under the seismic load under earthquake is the principal purpose ofthis research. The Finite Element Modeling (FEM) method is applied to simulate dynamic response andsloshing phenomenon. Abaqus is used as the main finite element simulation software to make a nonlineardynamic analysis. The obtained results revealed that in anchored .wide tanks the wave height value in thecase of variable thickness is much higher than the case of constant

کلمات کلیدی:

Steel tanks, Fluid-Structure interactions, Absorbent boundaries, Sloshing, Explicit dynamic analysis