Fluid-structure vibration and liquid sloshing

## American Society of Mechanical Engineers - Vibrations in Fluid

Description: -
-
Lysias
Social policy -- Congresses
Population aging -- Economic aspects -- Congresses
Labor market -- Congresses
Social security -- Congresses
Older people -- Employment -- Congresses
Investments, Foreign -- Latin America -- Congresses.
Vibration -- Congresses.
Pressure vessels -- Fluid dynamics -- Congresses.
Sloshing (Hydrodynamics) -- Congresses.
Fluid dynamics -- Congresses.Fluid-structure vibration and liquid sloshing
-
PVP (Series) -- vol. 128.
PVP -- vol. 128Fluid-structure vibration and liquid sloshing
Notes: Includes bibliographies.
This edition was published in 1987
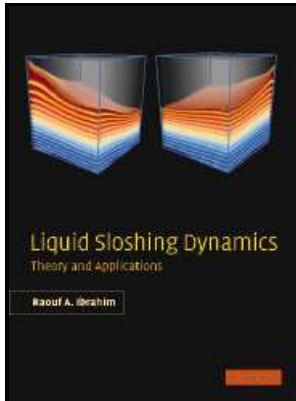
Filesize: 9.43 MB

Tags: #Slosh #dynamics

Vibrations in Fluid

Material constants of Mooney-Rivlin are shown in Table 2.

Coupling Analysis of Liquid Sloshing and Structural Vibration Using General Software

An adaptive finite element method for fluid-structure interaction problems based on a fully eulerian formulation. The dynamic responses of base-isolated rectangular liquid storage structure RLSS under two types of resonance are studied comparatively. To validate the results, a standard FEM program has been elaborated, where 2100 axisymmetric liquid elements with four nodes were used.

Free Vibration Analysis of a Liquid in a Circular Cylindrical Rigid Tank Using the Hierarchical Finite Element Method

The main conclusions are as follows: 1 When the external excitation frequency is equal to the first order vibration frequency of structure, wall tensile stress, structure displacement, base shear force and liquid sloshing wave height will suffer resonance amplification phenomenon, and the wall tensile stress is close to concrete tensile strength, as a result, wall cracking will be easily caused. As the fluid-structure interaction increases and the problem needs more detailed evaluation, ANSYS has an automated, easy-to use-solution called one-way coupling.

Free Vibration Analysis of a Liquid in a Circular Cylindrical Rigid Tank Using the Hierarchical Finite Element Method

Furthermore, it is possible to idealize the liquid by using only one element.

Slosh dynamics

At present, literatures about two kinds of resonance responses of rubber base-isolated LSS is quite rare.

Related Books

- Future of natural fibres - papers presented at a Shirley Institute Conference on 29-30 November 1977
- Souvenirs de la Cour dassises
- Integration of design, implementation and application in measurement, automation and control
- Stolet′ia ne sotrut - russkie klassiki i ikh chitateli
- Old Provenc ′al Vidas - a textual analysis.