

# The Two-dimensional Study of the Interaction between Liquid Sloshing and Elastic Structures<sup>(PDF)</sup>

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Title: The Two-dimensional Study of the Interaction between Liquid sloshing and Elastic Structures

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摘要: Sloshing phenomenon in the liquid cargo carriers has caught the attention of researchers as the interaction between the sloshing waves and structure is one of the key point and difficulty in the study of sloshing. In this paper, we captured the free surface with a volume of fluid (VOF) method and then calculated the motions and responses of the structure by adopting the Reynolds-averaged Navier – Stokes (RANS) equations for the whole fluid domain. With the use of user defined functions (UDF) in Fluent, the interaction between fluid and structure was then simulated. As a reasonable simplification, the authors studied the response of a single cantilever in a tank under sloshing loads; Further study should pay more attention to the mechanisms of interaction between sloshing waves and elastic structures.

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备注/Memo: -

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