

(1) The CLSVOF method is capable of tracking the fluid interface accurately, which is used for more precise simulation of liquid tank sloshing.

(2) The sloshing load increases with the decrease of the excitation centre position, and the nonlinear phenomenon of the liquid surface movement becomes more obvious. When the excitation centre is outside the tank, the influence of the tank sloshing on the structure would weaken under the same condition.

(3) Research on the excitation centre demonstrates that the position of the excitation centre significantly affects the tank rolling, which provides the theoretical foundation for the design of the octagonal tank structure.

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