عنوان مقاله:
Experimental Analysis of Liquid Sloshing Using an Image Processing Technique

محل انتشار:
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تعداد صفحات اصل مقاله: 4 صفحه

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خلاصه مقاله:
In this study the graph of vibration of individual components of a fluid sloshing versus time, is provided using image processing and coding techniques on the captured video of the fluid motion. The main stage of image processing has been developed in Simulink workspace. In this level the components of the surface are detected and distinguished from the other layers and their related pixels’ coordinates are achieved. During the next stage using concise professional coding techniques noise reduction has been performed and then the absolute data of each frame is coordinated precisely and the graph of longitudinal vibration of a specific component is achieved. Although most of the research has been progressed with matlab various image processing features, the main body of noise reduction method has been done by self-innovative solutions. To check the result accuracy another graph is drawn representing the position of all particles in a specific moment of the fluid motion; both particle position in the x direction of the first graph and the specific moment of the fluid motion in the second graph will be provided by the user meaning that the code is capable of providing both the longitudinal vibration of all particles for the whole captured movie duration and the position of all fluid particles in every individual moment of the motion.

کلمات کلیدی:
Liquid Sloshing, Image processing, Matlab R2009a, Simulink, Noise Reduction

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