

DESIGN AND MODELLING OF ULTRASONIC TOMOGRAPHY FOR TWO-COMPONENT HIGH-ACOUSTIC IMPEDANCE MIXTURE

Abstract:

This paper describes the design and modelling of ultrasonic tomography for two-component high-acoustic impedance mixture such as liquid/gas and oil/gas flow which commonly found in chemical columns and industrial pipelines. The information obtained through this research has proven to be useful for further development of ultrasonic tomography. This includes acquiring and processing ultrasonic signals from the transducers to obtain the information of the spatial distributions of liquid and gas in an experimental column. Analysis on the transducers' signals has been carried out to distinguish between the observation time and the Lamb waves. The information obtained from the observation time is useful for further development of the image reconstruction