

The Condition Testing of Damaged Plates Using Acoustic Features and Machine Learning

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Abstract : Acoustic testing possesses many benefits due to its non-destructive nature and practicality. There hence exists many scenarios in which using acoustic testing for condition testing shows powerful feasibility. A wealth of information is contained within the acoustic and vibration characteristics of structures, allowing the development meaningful features for the classification of their respective condition. In this paper, methods, results, and discussions are presented on the use of non-destructive acoustic testing coupled with acoustic feature extraction and machine learning techniques for the condition testing of manufactured circular steel plates subjected to varied levels of damage.

Keywords : plates, deformation, acoustic features, machine learning

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