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AUTOMATIC DETECTION AND CLASSIFICATION OF DAMAGE MECHANISMS IN GLASS FIBERS/EPOXY COMPOSITE USING ACOUSTIC EMISSION ANALYSIS

M. Benantar, M.A. Belouchrani, S. Benmedakhene, A. Labed, Z. Aboura

Abstract : In this paper, we present a general approach for automatic detection and classification of damage mechanisms in composite materials. To show the effectiveness of this approach, a series of tension test is realized on glass fibers/epoxy composites. These tests are followed by an acoustic emission technique which helps estimating the acoustical parameters of each damage mechanism. The resulting features are used as the input of support vector machines (SVM) classifier designed and trained to be able to detect and classify damage mechanisms

Keywords : glass fibers/epoxy, acoustic emission, damage mechanisms, classification, SVM