

عنوان مقاله:

Classification of acoustic emission signals collected during tensile tests on unidirectional glass/epoxy composites using principal component analysis

محل انتشار:

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خلاصه مقاله:

This paper focuses on the use of principal component analysis (PCA) to classify different fracture signals from background noises. PCA is a method used to simplify high order data sets to lower dimension for a simpler analysis. Tensile tests carried out on glass fiber reinforced epoxy composites and acoustic emissions recorded from these tests. The aim of this study is to classify the acoustic emission (AE) signal using PCA. To reduce the multi linearity among AE parameters (such as peak amplitude, frequency, duration time, count, etc) and extract the significant AE parameters, correlation analysis utilized. The experimental results show the successful separation of experimental .fracture mode signals from the background noise

کلمات کلیدی:

Damage mode; glass/epoxy composite; Acoustic emission; principal component analysis

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