

## عنوان مقاله:

IDENTIFICATION OF DAMAGE MECHANISMS IN GLASS/POLYESTER COMPOSITES UNDER BUCKLING LOADS BY MEANS OF ACOUSTIC EMISSION

## محل انتشار:

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## خلاصه مقاله:

The non-destructive Acoustic Emission (AE) techniques acquire and analyse the signals emitted from the deformation or fracture of materials under external loading. In this study, the AE techniques with statistical analysis were used to study the damage process of composite laminate under buckling loads. Different damage mechanisms are activated within the composite laminate during loading scenario. These "damage entities" are acting in different space and time scales within the service life of the structure and may be interdependent. Loading of composite laminates in particular leads to the accumulation of distinct damage mechanisms, such as matrix cracking, delamination between successive plies and fibre rupture at the final stage of loading. The tested of glass/polyester composite specimens include three lay-up patterns: [0/90]6s, [Woven]6s and [0]6s. Moreover, the microscopic properties of different composite specimens after fracture are watched and analysed by scanning electron microscope (SEM). Based on the SEM conception, the controlling failure mechanisms of composites including the splitting matrix cracking, fibre/matrix interface debonding, fibre pull-out and breakage as well as delamination are identified. Such damage detection of composite parts is very important. Continue to compare our results with The results of the acoustic signal analysis methods in relation to the failure of the buckling load of composite materials such as: The signal processing method, using scanning electron microscope the result of many investigations in the past, has been paid

## کلمات کلیدی:

Acoustic Emission, Composite Material, Damage Mechanism, SEM

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/247893>



