عنوان مقاله:

Dependency of damping changes to mode shape in glass fiber reinforced plastics containing compression damage

محل انتشار:

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خلاصه مقاله:

Damage detection in Fiber Reinforced Plastics (FRPs), as modern synthesis materials, is difficult due to different damage mechanisms. Most of damage detection techniques are based on experimental modal analysis. This paper presentsa study on Glass Fiber Reinforced Plastics (GFRPs) toillustrate the dependency of damping changes due to damages respect to mode shape. Damages in FRPs are introduced in one methods: a real scenario compression damage. An innovative modified modal analysis method for modal parameters' extraction from frequency response functions has been developed. At initial damage state, GFRP, compressiondamage has identical damping variations for similar modeshapes. Results show that the dependency between damping change and mode shape does are strong and can be used for damage detection in structures.

کلمات کلیدی:

Multilayer Composites- Extended Line Fit Method- Natural Frequency- Modal Damping Factor- Damping Mechanisms