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Effect of Fiber Orientation on Dynamic Properties of Carbon-Epoxy Composite Laminate under Flexural Vibration

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Abstract : This study was aimed at investigating the effect of orientation fiber reinforced on dynamic properties of laminate composite FRP. An experimental investigation is implemented using an impulse technique. The various specimens are excited in free vibration by the use of bi-channel Analyzer. The experimental results are compared by model of finite element analysis using ANSYS. The results studies (natural frequencies measurements, vibration mode, dynamic modulus and damping ratio) show that the effects of significant parameters such as lay-up and stacking sequence, boundary conditions and excitation place of accelerometer. These results are critically examined and discussed. The accuracy of these results is demonstrated by comparing results with those available in the literature.

Keywords : natural frequency, damping ratio, laminate composite, dynamic modulus
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