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The Free Vibration Analysis of Honeycomb Sandwich Beam using 3D and Continuum Model

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Abstract : In this study free vibration analysis of aluminum honeycomb sandwich structures were carried out experimentally and numerically. The natural frequencies and mode shapes of sandwich structures fabricated with different configurations for clamped-free boundary condition were determined. The effects of lower and upper face sheet thickness, the core material thickness, cell diameter, cell angle and foil thickness on the vibration characteristics were examined. The numerical studies were performed with ANSYS package. While the sandwich structures were modeled in ANSYS the continuum model was used. Later, the numerical results were compared with the experimental findings.

Keywords : sandwich structure, free vibration, numeric analysis, 3D model, continuum model
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