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Modal Analysis For Composite Sandwich Plates Of Honeycomb Core

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Abstract : .The purpose of this work is to realize a vibratory study on panel's sandwiches established by the honeycomb core and aluminum skins, used in the conception of the aerospace structures; all the analyses are based on conditions in the embedded free limits (E-L-L-L). The aim is to compare the natural frequencies of the two plates with those obtained from the two simulation models. Two methods are used in modeling, 3D drawing of the sandwich structures and calculating an equivalent structure using the homogenization method based on representative elementary volume (REV) using ANSYS software. The modal resolution of these two configurations is performed by the finite element method. The comparison of numerical results shows excellent agreement.

Keywords : Sandwich plate, homogenization, FRF's, modal analysis, Finite element method.