MODELING AND ANALYSIS OF FGM STRUCTURES

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ABSTRACT

Development of new finite elements and other solution techniques for modeling linear and nonlinear behavior of Functionally Graded Material (FGM) beam and shell structures where continuously or discontinuously varying material properties occur. Elastostatics and vibration, elastic stability of structural elements. Homogenization of varying material properties of beams and shells. Inclusion of the shear force deformation effect, elastic foundation and large axial forces. Multiphysical analysis (thermoelasticity, electro-thermal-structural problem, the Thomson and Seebeck effects, electromagnetic-structural problems) of FGM structures. Experimental verification of the FGM structures behavior.

REFERENCES


