

Analysis on Buckling of Fiber-Reinforced Laminated Cylindrical Shells by Taking Account of Prebuckling Deformation under Thermal Loads

by

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Abstract

Advanced fiber-reinforced laminated composite materials have been used for structural members in various fields, because of their high specific strength and stiffness. In the present paper, the buckling problems of carbon fiber/epoxy (CFRP) laminated cylindrical shells under thermal loads are considered. That is, the effects of lamination angle and dimension of cylinders on the thermal loads are analysed by assuming a prebuckling deformation that satisfies the equilibrium equation based on Donnell-type expressions.

Keywords: *Structural analysis, Composite materials, Buckling, Laminated cylindrical shells, Thermal loads, Prebuckling deformation*

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