

Buckling Analysis of Composite Laminated Cylindrical Shells under Torsion

by

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Abstract

Advanced fiber-reinforced composite materials have been used for structural members in various fields because of their high specific strength and stiffness. In general, composite laminated cylindrical shells behave differently from homogeneous orthotropic cylindrical shells due to their anisotropy and unsymmetric lamination. In the present study, the buckling problems of carbon fiber/epoxy (CFRP) cross-ply and angle-ply laminated cylindrical shells under torsion are considered. That is, the effects of the stacking sequence, number of layers, lamination angle, buckling mode and dimensions of cylinders on buckling stress are analysed by assuming the buckling patterns that satisfy the equation based on Flügge-type expressions.

*Key words: Structural Analysis, Composite Materials, Laminated Cylindrical Shells,
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