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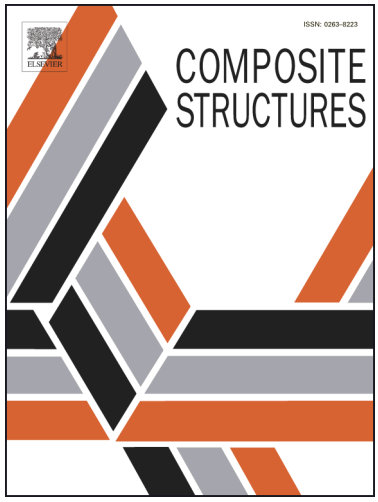

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PII: S0263-8223(17)30017-X
DOI: http://dx.doi.org/10.1016/j.compstruct.2017.02.085
Reference: COST 8307

To appear in: *Composite Structures*

Received Date: 3 January 2017

Please cite this article as: Aydogdu, M., Aksencer, T., Buckling of Cross-ply Composite Plates with Linearly Varying In-plane Loads, *Composite Structures* (2017), doi: http://dx.doi.org/10.1016/j.compstruct.2017.02.085

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Buckling of Cross-ply Composite Plates with Linearly Varying In-plane Loads

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Abstract

Buckling of composite plates with linearly varying in-plane loads has been studied. Loaded edges are assumed as simply supported and the remaining ones are arbitrary. First order and third order shear deformation plate theories are used in the formulation of the problem. Ritz method has been utilized with simple polynomials in displacement field. By modifying displacement field components, the continuity of transverse stresses is satisfied among the layers of cross-ply symmetric lay-up composite plates. Results are obtained for different material, geometrical properties and loading conditions.

Keywords:buckling; composite; linearly varying load;Ritz method

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