

The Effect of Biaxial Loading on the Buckling of Simply Supported Thick Rectangular Plates

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چکیده :

By increasing the thickness of plates, the effects of shear strains are more pronounced and implementing the thin-walled structure theories, which neglect the shear deformations, yield a high inaccuracy. On the other side, including the shear deformations in analyses, makes the process so difficult and in exact solutions somehow impossible to solve. Buckling analysis of structures is generally intricate, and for plates, even thin plates, finding buckling loads are probed by researchers. So it's clear that buckling analysis of thick plates especially in biaxially loaded plates by exact methods would be noteworthy, which is presented in this paper. Herein by implementing an efficient exact method, the effect of biaxial loading on the thick isotropic rectangular plates is considered. This is done by analyzing several cases of plates with different aspect ratios, different thickness ratios, and under the various combinations of uni- or biaxial loadings

کلید واژه : Thick Plates, Buckling analysis, Biaxial Loading, Exact solution

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