

عنوان مقاله:

Buckling analysis of rectangular sandwich plates with FGM core using second order shear deformation theory

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خلاصه مقاله:

In this paper, an analytical approach for buckling analysis of rectangular sandwich plates with functionally graded (FG) core is presented. Material properties of the FGM layer are assumed to vary in the thickness direction according to a power law distribution in terms of the volume fractions of the constituents. The equilibrium equations are derived according to the second order shear deformation theory (SSDT). Using Navier's type solution these equations are solved for the rectangular sandwich plate with simply supported condition. The excellent accuracy of the present analytical solution is confirmed by making some comparisons of the present results with those available in the literature. Finally the effects of side to thickness ratio, grading index and aspect ratio on the critical buckling load of rectangular sandwich plates with FG core are investigated.

کلمات کلیدی:

Buckling; Functionally Graded; SSDT

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