

POST BUCKLING ANALYSIS OF SANDWICH BEAMS WITH FUNCTIONALLY GRADED FACES USING A CONSISTENT HIGHER ORDER THEORY

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ABSTRACT

In this project work, a new consistent higher order theory has been developed for the buckling and post buckling analysis of sandwich beams having functionally graded faces. The model combines an approximation for the displacement fields with third order in the thickness direction. The governing equilibrium equations of motion and the related boundary conditions have been derived. The parametric study of the beam behaviors under different situations is performed and the important influencing parameters are identified.

KEYWORDS: Buckling, Post Buckling, Sandwich Beam, Shear Deformation Theory, Functionally Graded Faces