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Post-buckling analysis of the shape memory polymer sandwich composite beam under dynamic temperature variation

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Abstract

Post-buckling analysis of the shape memory polymer sandwich composite (SMPSC) beam under HSDT utilizing von Karman kinematics using FEM is performed in present analysis. The aim of the study is to develop a model which accurately perform the buckling analysis. The nondimensional critical buckling load (NCBL) evaluation under the action of inplane uniform load with different boundary conditions (BC), plate thickness ratio, under dynamic temperature variation for SMPSC. The study clearly reveled the differentiation between SMPC and SMPSC beam.