**Abtsract Guidelines for ICMEN 2019 (Title - 12pt Times New Roman BOLD)**

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**Abstract**

The thermal buckling behavior of laminated composite beam reinforced with Shape Memory Alloy (SMA) wires under a non-uniform temperature distribution is explored. The thermo-mechanical behavior of embedded SMA wires is formulated according to one-dimensional thermo-mechanical constitutive law proposed earlier by Brinson (1993). Local variation in volume fraction of phases due to spatial distribution of non-uniform temperature filed across the thickness is taken into account by employing the Layer-Wise Theory (LWT) of beams. The von Karman strain–displacement relation is used to account for the large deﬂection. The nonlinear governing differential equations of the embedded SMA composite beam are obtained by using the static version of virtual work principle. A closed-form solution of the resulting systems of nonlinear equations is obtained by employing analytical method. Exemplary case studies are assessed by comparing with available literature. The influence of positioning SMA reinforced lamina across the thickness and such parameters as the distribution of temperature filed, lamination schemes, SMA pre-strains level and SMA volume fractions on the thermal buckling of laminated beams are examined and discussed in detail.

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