

عنوان مقاله:

A Finite Element Model for Controlling Static and Dynamic Response of Composite Laminates through Piezoelectric Layers

محل انتشار:

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خلاصه مقاله:

Application of piezoelectric materials in forms of patches or layers, have gained significant attention in control and vibration attenuation of mechanical parts. In the present study, the effect of piezoelectric layers on static positioning and dynamic control of laminated plates through finite element analysis is investigated. The weak form of the governing equation, involving both composite laminae and piezoelectric layers are obtained from Hamilton's principle. The Newmark method is used to solve the dynamic control part of the paper. A finite element code is implemented in Matlab in order to solve the problem and finally, effects of material properties, the applied static voltage and gain factor of the control scheme on the results of corresponding solutions are studied.

کلمات کلیدی:

Dynamic Control, Finite Element Analysis, Piezoelectric Laminated Composites

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