عنوان مقاله:

THEORICAL ANALYSIS OF PIEZOELECTRIC HYBRID PLATES

محل انتشار:

چهاردهمین کنفرانس سالانه مهندسی مکانیک (سال: 1385)

تعداد صفحات اصل مقاله: 8

نویسندگان:

Tahani - *Assistant professor, Department of Mechanical Engineering, Faculty of Engineering, Ferdowsi University of Mashhad, Mashhad, Iran*

Naserian-Nik - *M.S. student, Department of Mechanical Engineering, Faculty of Engineering, Ferdowsi University of Mashhad, Mashhad, Iran*

خلاصه مقاله:

An analytical method is devlopteded to analyze piezoelectric hybrid laminated composite plates with arbitrary lamination and boundary conditions subjected to electromechanical loads. The method is based on separation of spatial variables of displacement field components. Within the displacement field of a first-order shear deformation plate theory and using the principle of minimum total potential energy, two systems of coupled ordinary differential equations with constant coefficients are obtained. These equations may be solved analytically with the help of state-space approach. Also a Levy-type solution is employed for verification the validity and accuracy of the proposed method. It is seen that the present results have close agreements with those obtained by Levy-type method.

کلمات کلیدی:

Analytical solution- Piezoelectric- Laminated plate- Boundary conditions

لینک ثابت مقاله در پایگاه سیویلیکا:

https://civilica.com/doc/27980