

عنوان مقاله:

Free Vibration Analysis of Functionally Graded Annular Plates on Two-parameter Elastic Foundation

محل انتشار:

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خلاصه مقاله:

Free vibration analysis of functionally graded (FG) thinto-moderately thick annular plates supported on twoparameter elastic foundation is investigated. The material properties are graded in the thickness direction. The equations of motion and the related boundary conditions are derived using the Hamilton's principle based on the first order shear deformation theory (FSDT). Differential quadrature method (DQM) as anefficient and accurate numerical tool is adopted to solve the equations of motion. The formulations are validated by comparing the results in the limit cases with the available solutions in the literature for isotropic and FG circular and annular plates. The effects of the elastic foundation coefficients, the material graded index and different geometrical parameters on the frequency parameters .of the FG annular plates are investigated.The new results can be used as benchmark solutions for future researches

کلمات کلیدی:

Free vibration, Functionally graded, Plate, Differential quadrature, Elastic foundation

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