Letter to the Editor

Comments on "A parametric study on vibrating clamped elliptical plate with variable thickness"

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In a most recent paper, Bayer and his colleagues [1] reported some interesting results on the free vibrations of an elliptical plate on the basis of the Lagrange model of plates with variable thicknesses. In the method of solution, they used both the method of moments and the Rayleigh–Ritz method. However, certain facts on the method are overlooked which obscure the importance of the method in treating the vibrations of structural elements.

The method of moments, as a weighted residual method, is a firmly established, fundamentally important numerical method in applied electromagnetics (e.g., Refs. [2–4]). The method is a numerical procedure for solving a linear operator equation by transforming it to a system of simultaneous linear algebraic equation (i.e., a matrix equation). Due to its tremendous versatility, conceptual simplicity and rapid convergence, the method is distinguished from other methods and used in radiation and scattering problems (e.g., Refs. [5,6]). Besides its extensive use in electromagnetic problems, the method was first introduced for numerical algorithms in piezoelectric structural elements [7] and now for the vibrations of plates by the authors. They are to be congratulated.

Another point of importance that is almost always omitted in the literature as well as in the paper is the reason for the choice of the method of solution.

References

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