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Wave Propagation in Anisotropic Layered 2D Structures Using Spectral Finite Elements

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The method of spectral finite elements applied to the numerical calculation of high-frequency Lamb wave propagation in thin-walled structures is presented. For this purpose, Gauss-Lobatto-Legendre points are used as interpolation points of the element shape functions formulated by Lagrangian polynomials as well as integration points for the numerical evaluation of the integrals for, e.g. stiffness and mass, matrices. The position of these points leads to a diagonalised mass matrix, which is advantageous for the time integration if an explicit time integration scheme is used. Numerical results of an undamaged and damaged anisotropic plate using a plane strain plate model are shown.

Ключевые слова:

Содержание.

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