SM19S_11238

XXI International Congress of Theoretical and Applied Mechanics
Warsaw, Poland, August 15–21, 2004

Meshless LBIE Formulations for Viscoelastic Thin Plates

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In this paper, simply supported and clamped thin viscoelastic plates are analyzed. Linear viscoelasticity has been considered for which the correspondence principle is applied. In Laplace transform domain the governing equation is the PDE of forth order. In case of plates with clamped edges and/or simply supported straight edges, it is possible to decompose the governing equation into a system of two Poisson equations for Laplace transforms of deflection and its Laplacian, respectively.In this paper a new approach based on local boundary integral equations (LBIEs) is presented. Nodal points are randomly distributed over the domain of the plate. Each node is the center of a circle surrounding this node. The LBIEs are applied to each circular subdomain.

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