



Analytical and Numerical Methods for Vibration Analyses (Hardback)

By Jong-Shyong Wu

John Wiley Sons Inc, United States, 2014. Hardback. Book Condition: New. 250 x 180 mm. Language: English . Brand New Book. Illustrates theories and associated mathematical expressions with numerical examples using various methods, leading to exact solutions, more accurate results, and more computationally efficient techniques This book presents the derivations of the equations of motion for all structure foundations using either the continuous model or the discrete model. This mathematical display is a strong feature of the book as it helps to explain in full detail how calculations are reached and interpreted. In addition to the simple uniform and straight beams, the book introduces solution techniques for the complicated non uniform beams (including linear or non-linear tapered beams), and curved beams. Most of the beams are analyzed by taking account of the effects of shear deformation and rotary inertia of the beams themselves as well as the eccentricities and mass moments of inertia of the attachments. * Demonstrates approaches which dramatically cut CPU times to a fraction of conventional FEM * Presents mode shapes in addition to natural frequencies, which are critical for designers * Gives detailed derivations for continuous and discrete model equations of motions * Summarizes the analytical...



Reviews

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