

Book Review

Non-Classical Vibrations of Arches and Beams: Eigenfrequencies and Eigenfunctions. By Igor A. Karnovsky and Olga I. Lebed. McGraw-Hill, New York, 2004

This book deals with effect of various complicating effects of the vibrations of structures. These additional effects are, for example, the effect of rotary inertia and shear force, effect of the axial load, genetic nonlinearity, elastic foundation, optimal design etc. Authors state that their “intent is to provide information that is not available in current handbooks and to provide solutions for the eigenvalues and eigenfunctions.

Problems that engineers and researches use for the advanced analysis of dynamical behavior of beams and arches”. They add: “The majority of the sources consulted have been published in the USA, Canada, England, Russia, Germany, Japan, Israel, and Netherlands over the past 40 years”.

Authors should be congratulated with the excellent accomplishment of their enormous task. This book will be an indispensable reference to anyone whoever deals with vibrations. It ought to be in the library of every self-respecting organization dealing with engineering.

Here is the list of topics covered: “Transverse Vibration Equations” (Chapter 1), “Bernoulli-Euler Beams on Elastic Linear Foundation” (Chapter 2), “Prismatic Beams Under Comprehensive and Tensile Axial Loads” (Chapter 3), “Bres-Timoshenko Uniform Prismatic Beams” (Chapter 4), “Non-Uniform One-Span Beams” (Chapter 5), “Optimally Designee Beams” (Chapter 6), “Nonlinear Transverse Vibrations” (Chapter 7), “Arches” (Chapter 8). There are 4 appences.

Professor Karnovsky and Lebed: Continue your work; we all need you.

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