Book Review

Vibration of Continuous Systems, S.S. Rao, John Wiley and Sons, Inc., New York, 2007, 720 pages, ISBN: 978-0471771715.

Professor Singiresu S. Rao is a master-writer of beautiful books in various aspects of theoretical and applied mechanics. This book is no exception. It represents a sequel to his market-leading introductory level text *Mechanical Vibrations* which appeared up to now in four editions. The present book is suitable for graduate or elective course; as the author stresses, "more than enough material is included for a one-semester course."

First two chapters represent a review of basic concepts and vibration of discrete systems. The third, fourth and fifth chapters deal with the derivation of equations of motion and continuous structures via the D'Alembert principle (chapter 3), the variational approach (chapter 4), and integral equation (chapter 5) methods. Next two chapters are devoted to the solution procedures, including the modal analysis (chapter 6) and integral transform methodology (chapter 7). Subsequent three chapters deal with transverse vibrations of strings, bars and shafts, respectively. Chapter 11 deals with beam vibration, whereas chapter 12 treats circular rings and curved beams. Two-dimensional problems are dealt with in chapter 13 (membranes) and 14 (plates). The book concludes with shell vibrations (chapter 15), elastic wave propagation (chapter 16), and approximate analytical methods (chapter 17).

It is pleasing that the author was not tempted to include the FEM, since there are specialized monographs on the topic.

This is an clearly-written, outstanding book that can also serve as a most useful reference for engineers and researchers alike. Large number of problems is included to facilitate its use as a textbook. The book is wholeheartedly recommended to all who deal with the topic of vibration in its multitude of forms.

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