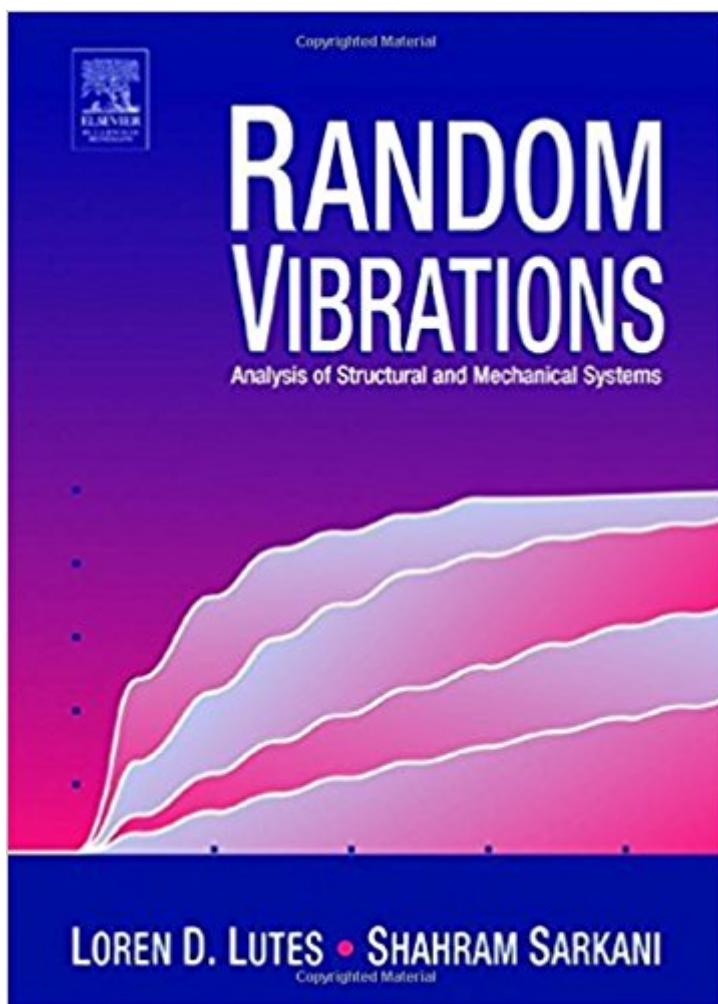


The book was found

# Random Vibrations: Analysis Of Structural And Mechanical Systems



## Synopsis

The topic of Random Vibrations is the behavior of structural and mechanical systems when they are subjected to unpredictable, or random, vibrations. These vibrations may arise from natural phenomena such as earthquakes or wind, or from human-controlled causes such as the stresses placed on aircraft at takeoff and landing. Study and mastery of this topic enables engineers to design and maintain structures capable of withstanding random vibrations, thereby protecting human life. Random Vibrations will lead readers in a user-friendly fashion to a thorough understanding of vibrations of linear and nonlinear systems that undergo stochastic random excitation. Provides over 150 worked out example problems and, along with over 225 exercises, illustrates concepts with true-to-life engineering design problems. Offers intuitive explanations of concepts within a context of mathematical rigor and relatively advanced analysis techniques. Essential for self-study by practicing engineers, and for instruction in the classroom.

## Book Information

Hardcover: 650 pages

Publisher: Butterworth-Heinemann; 1 edition (December 16, 2003)

Language: English

ISBN-10: 0750677651

ISBN-13: 978-0750677653

Product Dimensions: 7 x 1.4 x 10 inches

Shipping Weight: 3.4 pounds (View shipping rates and policies)

Average Customer Review: Be the first to review this item

Best Sellers Rank: #924,797 in Books (See Top 100 in Books) #46 in Books > Engineering & Transportation > Engineering > Civil & Environmental > Structural Dynamics #782 in Books > Science & Math > Physics > Dynamics #900 in Books > Textbooks > Science & Mathematics > Mechanics

## Customer Reviews

The textbook by Lutes and Sarkani is a timely and highly valuable addition to the short list of books on random vibrations (or stochastic dynamics) that have appeared in the past two decades. I stress the word "textbook"; rather than "book," since what they have produced is truly a textbook with numerous instructive examples and end-of-chapter exercises. This is a massive undertaking, with over 600 pages, covering a very broad scope of topics in stochastic dynamics. As the authors suggest, the book can be used for an introductory course on random vibrations and,

quite plausibly, for a more advanced course with some additional reading. It can also be used effectively for self study by graduate students and professional engineers who have the requisite mathematical background. Lutes and Sarkani use an informal language that takes away some of the intimidating nature of the random vibrations topic and helps put the reader at ease. While maintaining a high level of rigor, they avoid unnecessary mathematical complexity. Because of these factors, I believe this book is more accessible than most other books on this topic. However, the most valuable aspect of the book, in my view, is the physical insight that the authors provide through their extensive analysis and discussion of formulas and results throughout the book. This aspect is particularly important for beginning students of random vibrations â “ a topic which by its nature is somewhat abstract and not as easy to interpret as deterministic dynamics. When teaching an advanced topic such as random vibrations, it is often difficult or undesirable to strictly follow a textbook. We all have our own preferences on notation, style of formulation, and the sequence of topics to be covered. However, I have found it highly effective to have a reference textbook, where students can do additional reading and see a different viewpoint from that presented in the class. Among several textbooks that I have used for this purpose, students at Berkeley have been most satisfied with the earlier edition of this textbook. With the implemented improvements and additions, I believe students will benefit even more from this new edition. Hence, I strongly recommend consideration of this textbook for courses on random vibrations. Armen Der Kiureghian University of California, Berkeley

Introduction to Random Vibrations will lead readers in a user-friendly fashion to a thorough understanding of vibrations of linear and nonlinear systems that undergo stochasticâ "randomâ "excitation.

[Download to continue reading...](#)

Random Vibrations: Analysis of Structural and Mechanical Systems Random Vibration of Mechanical and Structural Systems Structure-Borne Sound: Structural Vibrations and Sound Radiation at Audio Frequencies Code Check Plumbing & Mechanical 4th Edition: An Illustrated Guide to the Plumbing and Mechanical Codes (Code Check Plumbing & Mechanical: An Illustrated Guide) Flow-Induced Vibrations: An Engineering Guide (Dover Civil and Mechanical Engineering) Mechanical Vibrations (6th Edition) Structural Analysis and Synthesis: A Laboratory Course in Structural Geology Structural Analysis and Synthesis: A Laboratory Course in Structural Geology 3rd (third) edition by Rowland, Stehen M., Duebendorfer, Ernest M., Schiebelbein, I published by Wiley-Blackwell (2007) [Spiral-bound] Structural Analysis and Synthesis: A Laboratory Course in

Structural Geology, 2nd Edition Vibration of Mechanical and Structural Systems: With Microcomputer Applications Schaum's Outline of Probability, Random Variables, and Random Processes, Second Edition (Schaum's Outline Series) Schaum's Outline of Probability, Random Variables, and Random Processes, 3rd Edition (Schaum's Outlines) Random House Webster's Word Menu (Random House Newer Words Faster) Boat Mechanical Systems Handbook: How to Design, Install, and Recognize Proper Systems in Boats Structural Dynamics of Earthquake Engineering: Theory and Application Using Mathematica and Matlab (Woodhead Publishing Series in Civil and Structural Engineering) Strengthening of Reinforced Concrete Structures: Using Externally-Bonded Frp Composites in Structural and Civil Engineering (Woodhead Publishing Series in Civil and Structural Engineering) The Techniques of Modern Structural Geology, Volume 3: Applications of Continuum Mechanics in Structural Geology Principles And Practice of Mechanical Ventilation, Third Edition (Tobin, Principles and Practice of Mechanical Ventilation) Master The Mechanical Aptitude and Spatial Relations Test (Mechanical Aptitude and Spatial Relations Tests) Barron's Mechanical Aptitude and Spatial Relations Test, 3rd Edition (Barron's Mechanical Aptitude & Spatial Relations Test)

[Contact Us](#)

[DMCA](#)

[Privacy](#)

[FAQ & Help](#)