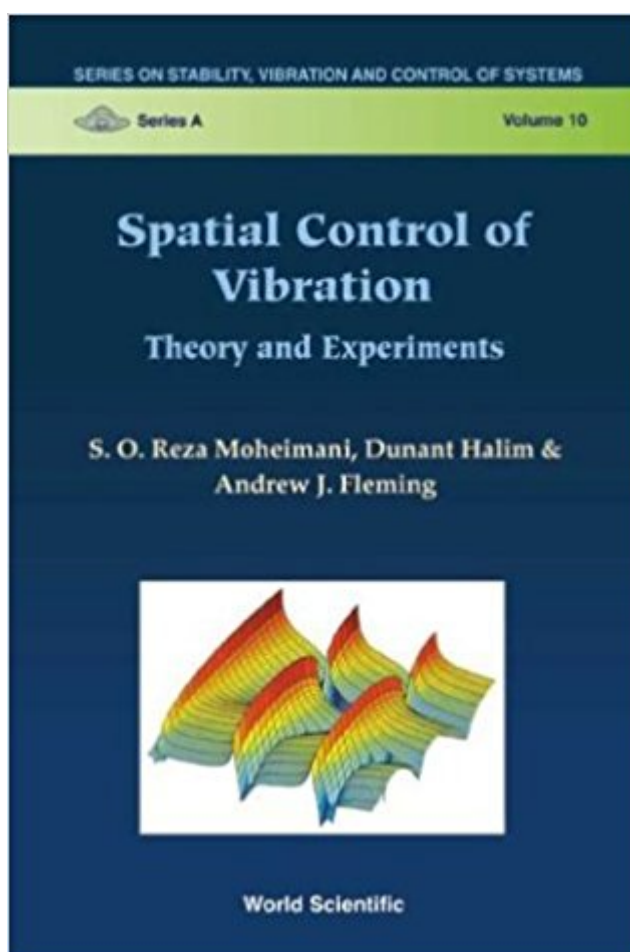


The book was found

Spatial Control Of Vibration: Theory And Experiments (Stability, Vibration And Control Of Systems, Series A)



Synopsis

Vibration is a natural phenomenon that occurs in a variety of engineering systems. In many circumstances, vibration greatly affects the nature of engineering design as it often dictates limiting factors in the performance of the system. The conventional treatment is to redesign the system or to use passive damping. The former could be a costly exercise, while the latter is only effective at higher frequencies. Active control techniques have emerged as viable technologies to fill this low-frequency gap. This book is concerned with the study of feedback controllers for vibration control of flexible structures, with a view to minimizing vibration over the entire body of the structure. The book introduces a variety of flexible structures such as beams, strings, and plates with specific boundary conditions, and explains in detail how a spatially distributed model of such systems can be obtained. It addresses the problems of model reduction and model correction for spatially distributed systems of high orders, and goes on to extend robust control techniques such as H-infinity and H2 control design methodologies to spatially distributed systems arising in active vibration control problems. It also addresses other important topics, such as actuator and sensor placement for flexible systems, and system identification for flexible structures with irregular boundary conditions. The text contains numerous examples, and experimental results obtained from laboratory-level apparatus, with details of how similar test beds may be built.

Book Information

Series: Stability, Vibration and Control of Systems, Series A (Book 10)

Hardcover: 236 pages

Publisher: World Scientific Publishing Company (December 5, 2003)

Language: English

ISBN-10: 9812383379

ISBN-13: 978-9812383372

Product Dimensions: 1 x 6.5 x 9.5 inches

Shipping Weight: 15.2 ounces (View shipping rates and policies)

Average Customer Review: Be the first to review this item

Best Sellers Rank: #738,202 in Books (See Top 100 in Books) #161 in [Books > Textbooks >](#)

[Engineering > Electrical & Electronic Engineering](#) #285 in [Books > Science & Math >](#)

[Experiments, Instruments & Measurement > Experiments & Projects](#) #517 in [Books > Science & Math > Physics > Mechanics](#)

Customer Reviews

For readers with a control background requiring a self-contained discussion of active vibration control, this would be a good book. -- Journal of Sound and Vibration this book will get much attention from the researchers in the intelligence technology, especially from the solid mechanics side -- Professor Kazumi Watanabe Yamagata University

Graduate students and researchers in mechanical engineering and control theory.

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

Spatial Control of Vibration: Theory and Experiments (Stability, Vibration and Control of Systems, Series A) ISO 2631-2:2003, Mechanical vibration and shock - Evaluation of human exposure to whole-body vibration - Part 2: Vibration in buildings (1 Hz to 80 Hz) ISO 13753:1998, Mechanical vibration and shock - Hand-arm vibration - Method for measuring the vibration transmissibility of resilient materials when loaded by the hand-arm system Introduction to Aircraft Flight Mechanics: Performance, Static Stability, Dynamic Stability, Classical Feedback Control, and State-Space Foundations (AIAA Education) 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) Nonlinear Power Flow Control Design: Utilizing Exergy, Entropy, Static and Dynamic Stability, and Lyapunov Analysis (Understanding Complex Systems) Spatial Database Systems: Design, Implementation and Project Management (GeoJournal Library) Show Networks and Control Systems: Formerly "Control Systems for Live Entertainment" Helicopter Performance, Stability, and Control Flight Stability and Automatic Control, 2nd Edition Airplane Design Part VII: Determination of Stability, Control and Performance Characteristics (Volume 7) Power System Stability and Control Flight Stability and Automatic Control Automation and Systems Issues in Air Traffic Control (Nato ASI Series Series III, Computer and Systems Sciences) Garbage and Recycling: Environmental Facts and Experiments (Young Discoverers: Environmental Facts and Experiments) Dad's Book of Awesome Science Experiments: From Boiling Ice and Exploding Soap to Erupting Volcanoes and Launching Rockets, 30 Inventive Experiments to Excite the Whole Family! (Dads Book of Awesome) The Everything Kids' Easy Science Experiments Book: Explore the world of science through quick and fun experiments! (Everything® Kids) Space and Astronomy Experiments (Facts on File Science Experiments) Simple Machine Experiments Using Seesaws, Wheels, Pulleys, and More: One Hour or Less Science Experiments (Last-Minute Science Projects)

[Contact Us](#)

[DMCA](#)

[Privacy](#)

[FAQ & Help](#)