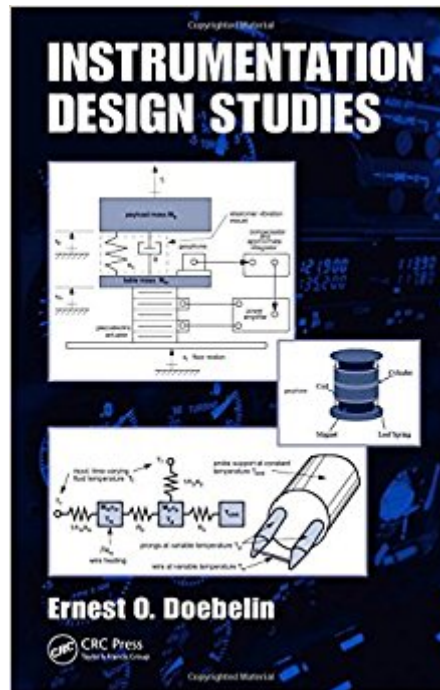




The book was found

Instrumentation Design Studies



Synopsis

Integrating physical modeling, mathematical analysis, and computer simulation, Instrumentation Design Studies explores a wide variety of specific and practical instrumentation design situations. The author uses MATLAB[®] and SIMULINK[®] for dynamic system simulation, Minitab[®] for statistical applications, and Mathcad for general engineering computations. Rather than consult the extensive manuals of these software packages, readers can access handy, sharply focused material in the appendices to assist in comprehension. After introducing the techniques behind the design of experiments (DOE), the book discusses several technologies for implementing vibration isolation, the design of a high-accuracy pressure transducer, and the use of cold-wire thermometers for measuring rapidly fluctuating fluid temperatures. It then focuses on a basic piezoelectric actuator that provides translational motions up to about 1 mm full scale with nanometer resolution, before covering instruments used to measure the viscosity of liquids as well as two special classes of microphones (infrasound and ultrasonic) and their important specialized applications. The book also presents statistical tools, such as hypothesis testing and confidence intervals, for experiments; the design and applications of thrust stands for measuring vector forces and torques; and the analysis and simulation of a shock calibrator. It concludes with a discussion of how shock testing machines can help reduce or prevent mechanical failures. Spanning system dynamics, measurement, and control, this book addresses the needs of practicing engineers working in instrumentation fields. It focuses on instruments for various applications, from geophysics to mechanical and aerospace engineering.

Book Information

Hardcover: 725 pages

Publisher: CRC Press; 1 edition (January 20, 2010)

Language: English

ISBN-10: 1439819483

ISBN-13: 978-1439819487

Product Dimensions: 9.1 x 6.1 x 1.7 inches

Shipping Weight: 2.4 pounds (View shipping rates and policies)

Average Customer Review: Be the first to review this item

Best Sellers Rank: #1,244,686 in Books (See Top 100 in Books) #121 in Books > Engineering & Transportation > Engineering > Electrical & Electronics > Electronics > Sensors #197

in Books > Science & Math > Technology > Nanotechnology #339 in Books > Engineering

Customer Reviews

Ernest O. Doebelin is Professor Emeritus in the College of Engineering at Ohio State University, where he received the Alumni Award for Distinguished Teaching and the Charles E. MacQuigg Award for Outstanding Teaching.

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

Workbook for Phillips/Sedlak's Surgical Instrumentation (Phillips, Surgical Instrumentation)
Coherence, Counterpoint, Instrumentation, Instruction in Form (Zusammenhang, Kontrapunkt, Instrumentation, Formenlehre) Fundamentals of Periodontal Instrumentation and Advanced Root Instrumentation Surgical Instrumentation, Spiral bound Version (Phillips, Surgical Instrumentation)
Instrumentation for the Operating Room: A Photographic Manual (Instrumentation for the Operating Room, 5th ed) Surgical Instrumentation Flashcards Set 3: Microsurgery, Plastic Surgery, Urology and Endoscopy Instrumentation (Study on the Go!) Instrumentation Design Studies Graphic Design Success: Over 100 Tips for Beginners in Graphic Design: Graphic Design Basics for Beginners, Save Time and Jump Start Your Success (graphic ... graphic design beginner, design skills) Medical Instrumentation: Application and Design Medical Instrumentation Application and Design, 4th Edition Medical Instrumentation Application and Design [Hardcover] Design, When Everybody Designs: An Introduction to Design for Social Innovation (Design Thinking, Design Theory) Instrumentation/Orchestration (Longman music series) Ultrasound Physics and Instrumentation, 4th Edition (2 Volume Set) Examination Review for Ultrasound: Sonography Principles & Instrumentation Polysomnography for the Sleep Technologist: Instrumentation, Monitoring, and Related Procedures, 1e Instrumentation and Orchestration Treatise on Instrumentation (Dover Books on Music) A Treatise on Modern Instrumentation and Orchestration: To Which Is Appended the Chef D'orchestre (Classic Reprint) A Treatise upon Modern Instrumentation and Orchestration (Cambridge Library Collection - Music)

[Contact Us](#)

[DMCA](#)

[Privacy](#)

[FAQ & Help](#)