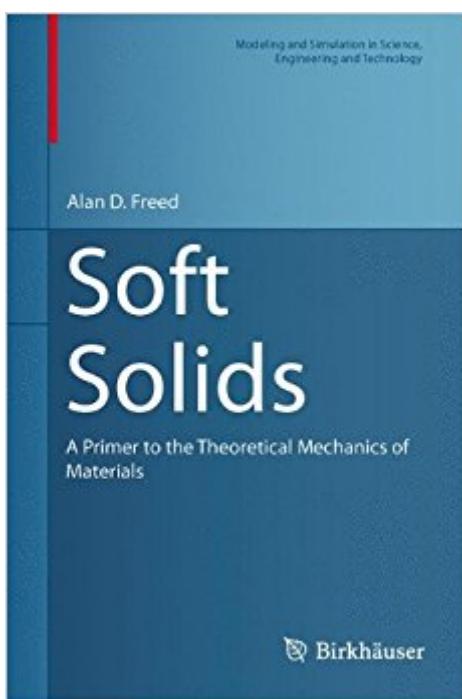


The book was found

Soft Solids: A Primer To The Theoretical Mechanics Of Materials (Modeling And Simulation In Science, Engineering And Technology)



Synopsis

This textbook presents the physical principles pertinent to the mathematical modeling of soft materials used in engineering practice, including both man-made materials and biological tissues. It is intended for seniors and masters-level graduate students in engineering, physics or applied mathematics. It will also be a valuable resource for researchers working in mechanics, biomechanics and other fields where the mechanical response of soft solids is relevant.

Soft Solids: A Primer to the Theoretical Mechanics of Materials is divided into two parts. Part I introduces the basic concepts needed to give both Eulerian and Lagrangian descriptions of the mechanical response of soft solids. Part II presents two distinct theories of elasticity and their associated theories of viscoelasticity. Seven boundary-value problems are studied over the course of the book, each pertaining to an experiment used to characterize materials. These problems are discussed at the end of each chapter, giving students the opportunity to apply what they learned in the current chapter and to build upon the material in prior chapters.

Book Information

Series: Modeling and Simulation in Science, Engineering and Technology

Hardcover: 364 pages

Publisher: Birkhäuser; 2014 edition (March 11, 2014)

Language: English

ISBN-10: 3319035509

ISBN-13: 978-3319035505

Product Dimensions: 6.2 x 1.1 x 9.2 inches

Shipping Weight: 14.4 ounces (View shipping rates and policies)

Average Customer Review: Be the first to review this item

Best Sellers Rank: #462,880 in Books (See Top 100 in Books) #70 in Books > Science & Math > Mathematics > Pure Mathematics > Functional Analysis #129 in Books > Engineering & Transportation > Engineering > Chemical > Fluid Dynamics #390 in Books > Science & Math > Physics > Dynamics

Customer Reviews

From the book reviews: "The book starts right at the very beginning of continuum mechanics, i.e., kinematics, deformations, stresses, balances, etc. The book is meant for seniors and first-year masters students. It is surely recommendable to researchers working on bio-materials, a field of increasing interest recently." (Albrecht Bertram, zbMATH, Vol. 1296,

This textbook presents the physical principles pertinent to the mathematical modeling of soft materials used in engineering practice, including both man-made materials and biological tissues. It is intended for seniors and masters-level graduate students in engineering, physics, or applied mathematics. It will also be a valuable resource for researchers working in mechanics, biomechanics, and other fields where the mechanical response of soft solids is relevant.

Soft Solids: A Primer to the Theoretical Mechanics of Materials is divided into two parts. Part I introduces the basic concepts needed to give both Eulerian and Lagrangian descriptions of the mechanical response of soft solids. Part II presents two distinct theories of elasticity and their associated theories of viscoelasticity. Seven boundary-value problems are studied over the course of the book, each pertaining to an experiment used to characterize materials. These problems are discussed at the end of each chapter, giving students the opportunity to apply what they learned in the current chapter and to build upon the material in prior chapters.

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

Soft Solids: A Primer to the Theoretical Mechanics of Materials (Modeling and Simulation in Science, Engineering and Technology) Atmospheric and Space Flight Dynamics: Modeling and Simulation with MATLAB® and Simulink® (Modeling and Simulation in Science, Engineering and Technology) Freezing Colloids: Observations, Principles, Control, and Use: Applications in Materials Science, Life Science, Earth Science, Food Science, and Engineering (Engineering Materials and Processes) Molecular Gas Dynamics: Theory, Techniques, and Applications (Modeling and Simulation in Science, Engineering and Technology) Molecular Simulation Studies on Thermophysical Properties: With Application to Working Fluids (Molecular Modeling and Simulation) Engineering Materials 3: Materials Failure Analysis: Case Studies and Design Implications (International Series on Materials Science and Technology) (v. 3) Organic Electronic Materials: Conjugated Polymers and Low Molecular Weight Organic Solids (Springer Series in Materials Science) Mechanics Of Composite Materials (Materials Science & Engineering Series) Engineering Mechanics of Solids (2nd Edition) Engineering Mechanics of Deformable Solids: A Presentation with Exercises Philosophical And Theoretical Perspectives For Advanced Nursing Practice (Cody, Philosophical and Theoretical Perspectives for Advances Nursing Practice) Engineering Materials 2, Fourth Edition: An Introduction to Microstructures and Processing (International Series on Materials Science and Technology) Engineering Materials 2: An Introduction to Microstructures, Processing and Design (International Series on Materials Science and

Technology) (v. 2) Simulation Modeling and Analysis (McGraw-Hill Series in Industrial Engineering and Management) Engineering Design Optimization using Calculus Level Methods: A Casebook Approach: Math Modeling, Simulation, & Optimization Reinforced Concrete: Mechanics and Design (4th Edition) (Civil Engineering and Engineering Mechanics) Fracture and Fatigue Control in Structures: Applications of Fracture Mechanics (Prentice-Hall International Series in Civil Engineering and Engineering Mechanics) Engineering Mechanics: Statics Plus MasteringEngineering with Pearson eText -- Access Card Package (14th Edition) (Hibbeler, The Engineering Mechanics: Statics & Dynamics Series, 14th Edition) Electrodeposition: The Materials Science of Coatings and Substrates (Materials Science and Process Technology) Introduction to Computational Science: Modeling and Simulation for the Sciences, Second Edition

[Contact Us](#)

[DMCA](#)

[Privacy](#)

[FAQ & Help](#)