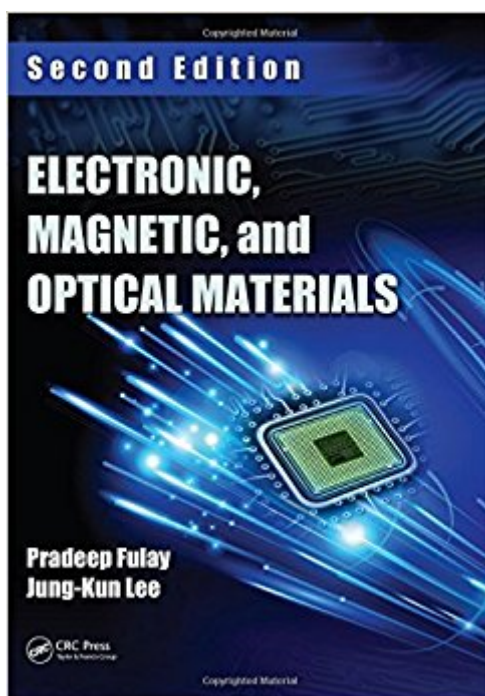


The book was found

Electronic, Magnetic, And Optical Materials, Second Edition (Advanced Materials And Technologies)



Synopsis

This book integrates materials science with other engineering subjects such as physics, chemistry and electrical engineering. The authors discuss devices and technologies used by the electronics, magnetics and photonics industries and offer a perspective on the manufacturing technologies used in device fabrication. The new addition includes chapters on optical properties and devices and addresses nanoscale phenomena and nanoscience, a subject that has made significant progress in the past decade regarding the fabrication of various materials and devices with nanometer-scale features.

Book Information

Series: Advanced Materials and Technologies

Hardcover: 554 pages

Publisher: CRC Press; 2 edition (November 11, 2016)

Language: English

ISBN-10: 1498701698

ISBN-13: 978-1498701693

Product Dimensions: 1.2 x 7.2 x 10 inches

Shipping Weight: 2.6 pounds (View shipping rates and policies)

Average Customer Review: Be the first to review this item

Best Sellers Rank: #285,417 in Books (See Top 100 in Books) #24 in [Books > Science & Math > Physics > Light](#) #73 in [Books > Science & Math > Physics > Solid-State Physics](#) #199 in [Books > Science & Math > Physics > Electromagnetism](#)

Customer Reviews

"The key strength of this volume is its addressing of applications of materials which exploit a wide range of physical phenomena. The worked examples give important insights into the magnitudes of the quantities involved, which are of course crucial to the practicality of the applications." —Anthony Harker, University College London, UK "This book covers most of the physics needed for juniors to understand the basic electrical, magnetic and optical properties of materials. Its advantage is that all of the appropriate topics are covered in a single volume, making it a good choice as the principal text book for such a class. The worked examples are nice, and there is a good set of problems at the end of each chapter." —Alastair N. Cormack, Alfred University, New York, USA "Electronic, Magnetic, and Optical Materials delivers what it promises: a comprehensive overview of the electronic, magnetic, and optical properties of a wide range of

technologically important materials. The extensive use of worked examples provides the reader with excellent problem-solving skills, while the end of chapter problems should make the text attractive to instructors." — Mark Fox, University of Sheffield, UK "The 2nd edition of Electronic, Magnetic, and Optical Materials retains the excellent text, figures and problems of the 1st edition. A much needed new chapter concerned with Optical Properties of Materials that properly couples the properties of dielectric materials with the former properties has been added. A second new chapter provides excellent explanations of the operation of solar cells and an up-to-date description of all the types of cells that are commercially available or poised to enter the market. This latter chapter is detailed in its explanations and provides a unique and valuable addition to the book that can be coupled with the chapter on Semiconductor Devices." — Mark Davis, Carnegie Mellon University, Pittsburgh, Pennsylvania, USA "The second edition of Electronic, Magnetic and Optical Materials is a welcome update of the 2010 original. The book delivers valuable and comprehensive information on materials science and its applications — an excellent resource for students and instructors alike, and I would recommend it to others without hesitation." — Mustafa Serdar Karakas, Cankaya University, Ankara, Turkey "The book aims first for an intuitive understanding of the subject and is well suited for an undergraduate with a materials science background." — Prabhakar R. Bandaru, University of California, San Diego, USA "This is the book which can make the student's first encounter with the science of material properties an exciting journey rather than tedious trek. It is perfect for the students in electrical and (less) mechanical engineering. Perfect balance of fundamental physics and practical technology." — Jacob Khurgin, Johns Hopkins University, Baltimore, Maryland, USA

Pradeep P. Fulay is a Professor and Associate Dean for Research in the Statler College of Engineering at West Virginia University. Prior to joining Statler College, he was a professor in the Swanson School of Engineering at University of Pittsburgh from 1989 to 2012. Dr. Fulay earned his Ph.D. from University of Arizona in Tucson. From 2008 to 2011, Dr. Fulay served as Program Director (PD) in the Electrical, Communications, and Cybersystems (ECCS) division in the Engineering Directorate of the National Science Foundation. At NSF, he managed the electronic, magnetic, and photonic devices program and helped initiate the BioFlex program aimed at flexible electronics based devices for biomedical applications. Dr. Fulay has published several journal papers and holds US patents, he is an author of textbooks that are used around the world. Dr. Fulay is an elected Fellow of the American Ceramic Society. Jung Kun Lee is an Associate Professor and William Kepler Whiteford Faculty Fellow in the Department of Mechanical Engineering and Materials

Science at University of Pittsburgh (Pitt). He joined Pitt in September 2007 after more than 5 year service at Los Alamos National Laboratory as a Technical Staff Member as well as a Director's-funded Postdoctoral Fellow. He received his PhD degree from the Department of Materials Science and Engineering at Seoul National University, Korea. His research interests have been placed on material processing of electronic and optical materials, ion-beam synthesis of materials and domain engineering of ferroic materials. Currently, he focuses on the electronic and optical properties of semiconductor materials and their energy application with emphasis on solar energy harvesting. He is a recipient of NSF CAREER Award in 2009 and has attracted multiple external grants from NSF, DOE, NRC. He is also Associate Editor of IEEE Photonics Journal. The quality of his research is validated by more than 150 journal publications and multiple patents in various areas of functional properties of materials.

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

Electronic, Magnetic, and Optical Materials, Second Edition (Advanced Materials and Technologies)
Handbook of Organic Materials for Optical and (Opto)Electronic Devices: Properties and Applications (Woodhead Publishing Series in Electronic and Optical Materials)
Encapsulation Technologies for Electronic Applications (Materials and Processes for Electronic Applications)
Optical Thin Films: User's Handbook (Macmillan Series in Optical and Electro-Optical Engineering)
Handbook of Optical and Laser Scanning, Second Edition (Optical Science and Engineering)
Seashells i-Clip Magnetic Page Markers (Set of 8 Magnetic Bookmarks)
Energetic Materials: Advanced Processing Technologies for Next-Generation Materials
Principles and Applications of Organic Light Emitting Diodes (OLEDs) (Woodhead Publishing Series in Electronic and Optical Materials)
Quantum Information Processing with Diamond: Principles and Applications (Woodhead Publishing Series in Electronic and Optical Materials)
Lasers for Medical Applications: Diagnostics, Therapy and Surgery (Woodhead Publishing Series in Electronic and Optical Materials)
Electro-Optical Displays (Optical Science and Engineering)
optical communication and splicing: optical networks
Resolution Enhancement Techniques in Optical Lithography (SPIE Tutorial Texts in Optical Engineering Vol. TT47)
Optical Design for Visual Systems (SPIE Tutorial Texts in Optical Engineering Vol. TT45)
WDM Technologies: Optical Networks
Feature Detectors and Motion Detection in Video Processing (Advances in Multimedia and Interactive Technologies) (Advances in Multimedia and Interactive Technologies (Amit))
Telemedicine Technologies: Information Technologies in Medicine and Telehealth
Coal Power Technologies Explained Simply: Energy Technologies Explained Simply (Volume 6)
Electronic Principles (Engineering Technologies & the Trades)
Experiments Manual for use with Electronic Principles (Engineering Technologies & the

Trades)

Contact Us

DMCA

Privacy

FAQ & Help