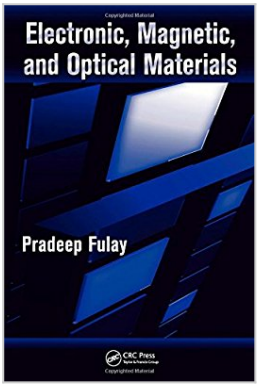

Electronic, Magnetic, and Optical Materials (Advanced Materials and Technologies)

By Pradeep Fulay, Jung-Kun Lee

Electronic, Magnetic, and Optical Materials (Advanced Materials and Technologies) By Pradeep Fulay, Jung-Kun Lee

More than ever before, technological developments are blurring the boundaries shared by various areas of engineering (such as electrical, chemical, mechanical, and biomedical), materials science, physics, and chemistry. In response to this increased interdisciplinarity and interdependency of different engineering and science fields, **Electronic, Magnetic, and Optical Materials** takes a necessarily critical, all-encompassing approach to introducing the fundamentals of electronic, magnetic, and optical properties of materials to students of science and engineering.

Weaving together science and engineering aspects, this book maintains a careful balance between fundamentals (i.e., underlying physics-related concepts) and technological aspects (e.g., manufacturing of devices, materials processing, etc.) to cover applications for a variety of fields, including:

- Nanoscience
- Electromagnetics
- Semiconductors
- Optoelectronics
- Fiber optics
- Microelectronic circuit design
- Photovoltaics
- Dielectric ceramics
- Ferroelectrics, piezoelectrics, and pyroelectrics
- Magnetic materials

Building upon his twenty years of experience as a professor, Fulay integrates engineering concepts with technological aspects of materials used in the electronics, magnetics, and photonics industries. This introductory book concentrates on fundamental topics and discusses applications to numerous real-world technological examples?from computers to credit cards to optic fibers?that will appeal to readers at any level of understanding.

Gain the knowledge to understand how electronic, optical, and magnetic materials and devices work and how novel devices can be made that can compete with or enhance silicon-based electronics.

Where most books on the subject are geared toward specialists (e.g., those working in semiconductors), this long overdue text is a more wide-ranging overview that offers insight into the steadily fading distinction between devices and materials. It is well-suited to the needs of senior-level undergraduate and first-year graduate students or anyone working in industry, regardless of their background or level of experience.

Electronic, Magnetic, and Optical Materials (Advanced Materials and Technologies)

By Pradeep Fulay, Jung-Kun Lee

Electronic, Magnetic, and Optical Materials (Advanced Materials and Technologies) By Pradeep Fulay, Jung-Kun Lee

More than ever before, technological developments are blurring the boundaries shared by various areas of engineering (such as electrical, chemical, mechanical, and biomedical), materials science, physics, and chemistry. In response to this increased interdisciplinarity and interdependency of different engineering and science fields, **Electronic, Magnetic, and Optical Materials** takes a necessarily critical, all-encompassing approach to introducing the fundamentals of electronic, magnetic, and optical properties of materials to students of science and engineering.

Weaving together science and engineering aspects, this book maintains a careful balance between fundamentals (i.e., underlying physics-related concepts) and technological aspects (e.g., manufacturing of devices, materials processing, etc.) to cover applications for a variety of fields, including:

- Nanoscience
- Electromagnetics
- Semiconductors
- Optoelectronics
- Fiber optics
- Microelectronic circuit design
- Photovoltaics
- Dielectric ceramics
- Ferroelectrics, piezoelectrics, and pyroelectrics
- Magnetic materials

Building upon his twenty years of experience as a professor, Fulay integrates engineering concepts with technological aspects of materials used in the electronics, magnetics, and photonics industries. This introductory book concentrates on fundamental topics and discusses applications to numerous real-world technological examples?from computers to credit cards to optic fibers?that will appeal to readers at any level of understanding.

Gain the knowledge to understand how electronic, optical, and magnetic materials and devices work and how novel devices can be made that can compete with or enhance silicon-based electronics.

Where most books on the subject are geared toward specialists (e.g., those working in semiconductors), this long overdue text is a more wide-ranging overview that offers insight into the steadily fading distinction between devices and materials. It is well-suited to the needs of senior-level undergraduate and first-year graduate students or anyone working in industry, regardless of their background or level of experience.

Electronic, Magnetic, and Optical Materials (Advanced Materials and Technologies) By Pradeep Fulay, Jung-Kun Lee Bibliography

- Sales Rank: #1655065 in Books
- Published on: 2010-05-05
- Original language: English
- Number of items: 1
- Dimensions: 10.25" h x 7.25" w x 1.25" l, 2.10 pounds
- Binding: Hardcover
- 436 pages

Editorial Review

Review

Technological aspects of ferroelectric, piezoelectric and pyroelectric materials are discussed in detail, in a way that should allow the reader to select an optimal material for a particular application. The basics of magnetostatics are described clearly, as are a wide range of magnetic properties of materials … .

?Tony Harker, Department of Physics and Astronomy, University College London

About the Author

Pradeep P. Fulay is a professor of Materials Science and Engineering in the Department of Mechanical Engineering and Materials Science at the University of Pittsburgh. Dr. Fulay has also served as the Program Director for Electronics, Photonics and Device Technologies in the Electrical, Communications and Cyber Systems Division at the National Science Foundation. He joined the University of Pittsburgh in 1989, immediately after earning a Ph.D. in materials science and engineering from the University of Arizona, Tucson. He earned a B. Tech with honors and an M. Tech with honors from the Indian Institute of Technology in Mumbai, India, in 1983 and 1984, respectively. Dr. Fulay has authored two other textbooks, has published several referred journal publications, and has three U.S. patents issued in the field of Materials Science and Engineering. Dr. Fulay’s research in the areas of microwave ceramics, ferroelectric and piezoelectric materials, magnetic materials, and chemical synthesis and the processing of smart materials has received international recognition. Dr. Fulay is a fellow of the American Ceramic Society. He has also held many positions in educational and research institutions, including as the president of the Ceramic Educational Council of the American Ceramic Society and as a founding member of the Greater Pittsburgh Chapter of the Materials Research Society. Dr. Fulay has been a William Kepler Whiteford Faculty Fellow at the University of Pittsburgh. His research has been supported by several organizations including the National Science Foundation, Ford, Alcoa, the Air Force Office of Scientific Research (AFOSR).

Users Review

From reader reviews:

Gregory Jager:

Book is to be different per grade. Book for children right up until adult are different content. As we know that book is very important for people. The book Electronic, Magnetic, and Optical Materials (Advanced Materials and Technologies) ended up being making you to know about other knowledge and of course you can take more information. It is very advantages for you. The e-book Electronic, Magnetic, and Optical Materials (Advanced Materials and Technologies) is not only giving you considerably more new information but also to become your friend when you feel bored. You can spend your own personal spend time to read your e-book. Try to make relationship with the book Electronic, Magnetic, and Optical Materials (Advanced Materials and Technologies). You never really feel lose out for everything when you read some books.

Jeff Farley:

As people who live in the modest era should be update about what going on or facts even knowledge to make these keep up with the era which can be always change and move forward. Some of you maybe will certainly update themselves by studying books. It is a good choice in your case but the problems coming to you is you don't know which you should start with. This Electronic, Magnetic, and Optical Materials (Advanced Materials and Technologies) is our recommendation to help you keep up with the world. Why, as this book serves what you want and wish in this era.

Kelsey Jimenez:

The e-book untitled Electronic, Magnetic, and Optical Materials (Advanced Materials and Technologies) is the book that recommended to you you just read. You can see the quality of the guide content that will be shown to you. The language that creator use to explained their ideas are easily to understand. The article author was did a lot of research when write the book, therefore the information that they share to your account is absolutely accurate. You also could get the e-book of Electronic, Magnetic, and Optical Materials (Advanced Materials and Technologies) from the publisher to make you considerably more enjoy free time.

Michael Yancey:

People live in this new day of lifestyle always make an effort to and must have the free time or they will get lots of stress from both lifestyle and work. So , if we ask do people have time, we will say absolutely sure. People is human not really a huge robot. Then we question again, what kind of activity are there when the spare time coming to anyone of course your answer will unlimited right. Then ever try this one, reading books. It can be your alternative with spending your spare time, the actual book you have read is usually Electronic, Magnetic, and Optical Materials (Advanced Materials and Technologies).

Read Electronic, Magnetic, and Optical Materials (Advanced Materials and Technologies) By Pradeep Fulay, Jung-Kun Lee for online ebook

Electronic, Magnetic, and Optical Materials (Advanced Materials and Technologies) By Pradeep Fulay, Jung-Kun Lee Free PDF d0wnl0ad, audio books, books to read, good books to read, cheap books, good books, online books, books online, book reviews epub, read books online, books to read online, online library, greatbooks to read, PDF best books to read, top books to read Electronic, Magnetic, and Optical Materials (Advanced Materials and Technologies) By Pradeep Fulay, Jung-Kun Lee books to read online.

Online Electronic, Magnetic, and Optical Materials (Advanced Materials and Technologies) By Pradeep Fulay, Jung-Kun Lee ebook PDF download

Electronic, Magnetic, and Optical Materials (Advanced Materials and Technologies) By Pradeep Fulay, Jung-Kun Lee Doc

Electronic, Magnetic, and Optical Materials (Advanced Materials and Technologies) By Pradeep Fulay, Jung-Kun Lee Mobipocket

Electronic, Magnetic, and Optical Materials (Advanced Materials and Technologies) By Pradeep Fulay, Jung-Kun Lee EPub

Z690DF2JV3E: Electronic, Magnetic, and Optical Materials (Advanced Materials and Technologies) By Pradeep Fulay, Jung-Kun Lee