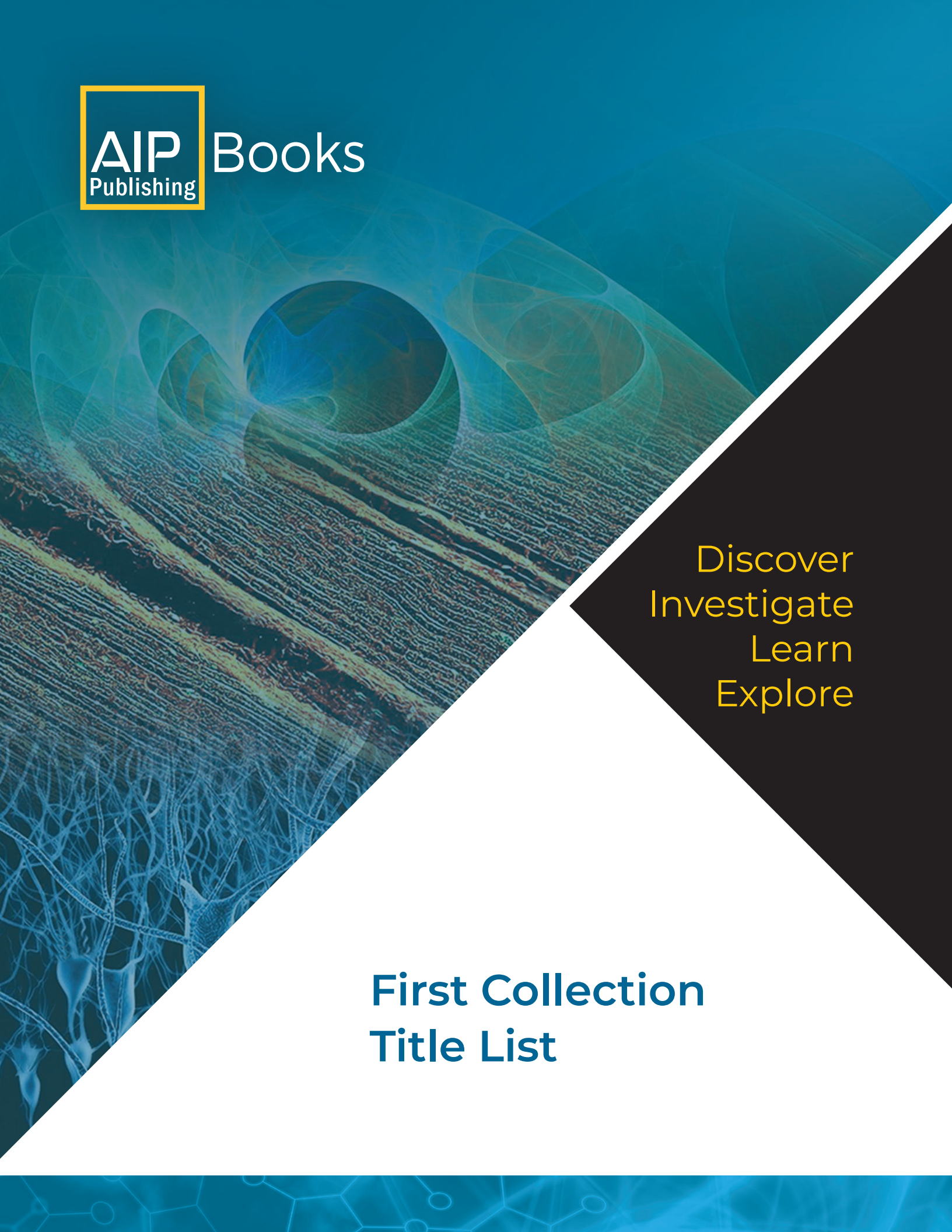
AIP Publishing Books



Discover
Investigate
Learn
Explore

First Collection Title List

TABLE OF CONTENTS

PRINCIPLES

METHODS

PROFESSIONAL

AIP Publishing Books

PERSPECTIVES

ABOUT OUR BOOKS
scitation.org/books

AIP Publishing's digital books provide reliable and up-to-date information for researchers, scientists, engineers, and students across the physical sciences. The books complement our journal portfolio and are fully integrated on our content platform, scitation.org.

The portfolio provides resources to help scientists maintain proficiency, learn about new developments, or learn new techniques for data collection and analytics. The books offer reference materials and research methodology as well as cutting-edge original research.

Books in this collection are published as one of four types:

- **Principles:** Presents a comprehensive overview of a topic, providing introductory material for new entrants and covering recent developments for experts.
- **Methods:** Provides tutorial content documenting experimental methods, protocols or best practices, and provides instructions at various levels of expertise.
- **Professional:** Recommends guidance on training and development for physics educators and professionals.
- **Perspectives:** Offers in-depth analysis of a specialist topic written by experts in that field.

Learn about our publishing partnership collaborations

AAPT PHYSICS EDUCATION

The American Association of Physics Teachers (AAPT) and AIP Publishing partnered to publish books that focus on training and development resources for professionals and physics educators.

Essential Electron Transport for Device Physics

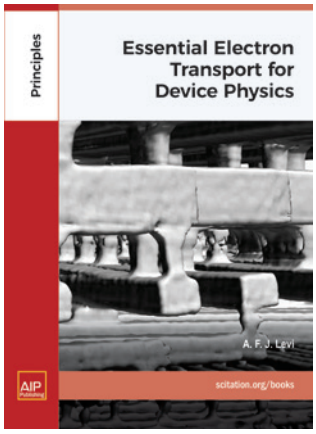
PRINCIPLES

Author:
A.F.J. Levi, University of Southern California, Los Angeles, California, USA

Summary:
Essential Electron Transport for Device Physics introduces key elements of electron transport most applicable to the study of semiconductor electron devices. It is a convenient reference and summary of fundamental knowledge to be understood before exploring more sophisticated electron device models and concepts. The contents serve as a foundation for scientists and engineers, without the need to invest in specialized detailed study. Easy to read and understand, this book offers:

- Concise descriptions of essential electron transport concepts
- Quantitative results, example problems and, as supplementary material, MATLAB code for most numerically generated figures.

About the Author:
Anthony Levi is a Professor of Electrical Engineering and Physics at the University of Southern California. He joined USC in 1993 after working for 10 years at AT&T Bell Laboratories. He invented hot electron spectroscopy, discovered ballistic electron transport in heterostructure bipolar transistors, and created the first micro-disk laser. Professor Levi's current research includes optimal design of high-performance electronic and photonic systems and understanding the behavior of small quantum systems. He holds 17 U.S. patents and is the author of several books on device physics and quantum mechanics.



Subject: Condensed Matter
ISBN (Online):
978-0-7354-2160-8
ISBN (Print):
978-0-7354-2158-5
Publication Date: 2020

Readership:

- Electron device physicists who seek a summary of essential knowledge to be understood before exploring more sophisticated models and concepts
- Students studying electron device physics

Related Journals:

- *Applied Physics Letters*
- *Journal of Applied Physics*
- *The Journal of Chemical Physics*

Real and Complex Numbers for Physicists

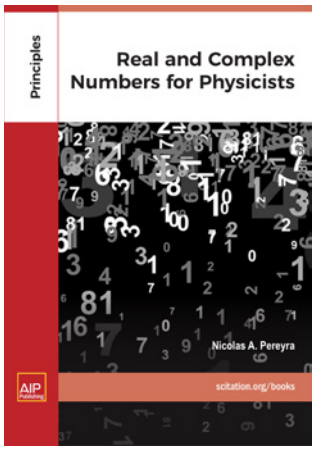
PRINCIPLES

Author:
Nicolas A. Pereyra, University of Texas Rio Grande Valley, Edinburg, Texas, USA

Summary:
Real Numbers for Physicists presents a rigorous, in-depth introduction to natural numbers, integers, rational numbers, and real numbers. It addresses a gap in the mathematical library and offers a strong foundation in analytics and problem-solving to its readers. A valuable resource for scientists working with real numbers, this book also helps instructors teaching number theory and the physical sciences and will strengthen students' mathematical and problem-solving skills.

The book addresses:

- In-depth introduction to real numbers geared toward physicists and natural scientists
- Different number systems without side-tracking into theoretical discussions
- Specific calculus-based knowledge and skills as applied to physics



Subject: Mathematical Physics
ISBN (Online):
978-0-7354-2157-8
ISBN (Print):
978-0-7354-2128-8
Publication Date: 2020

About the Author:
Nicolas A Pereyra, Ph.D., is an Associate Professor in Astrophysics at the University of Texas Rio Grande Valley. Dr. Pereyra's research is focused on the development of computational models of physical systems. He is the author of other books about mathematics for physicists.

Readership:

- Physics students and instructors involved in courses on number theory
- Math instructors who teach science students problems in physics

Related Journals:

- *American Journal of Physics*
- *Journal of Mathematical Physics*

Future Distribution Networks: Planning, Operation, and Control

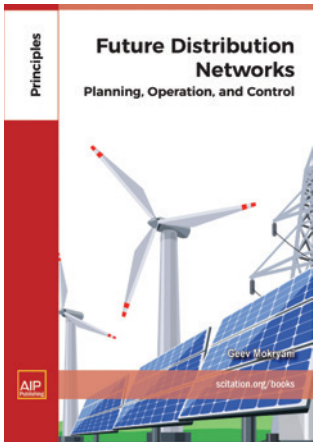
PRINCIPLES

Author:
Geev Mokryani, University of Bradford, Bradford, United Kingdom

Summary:
Future Distribution Networks: Planning, Operation, and Control presents a curated collection of leading information on the planning and operation of smart grids and next-generation distribution networks. It offers a look into the future of electricity networks that enable sustainable energy services and examines how these networks will link small- and medium-scale sources with consumer demand. It discusses how intelligent grid infrastructure provides flexibility for supply and demand.

The book contains:

- Structure and clarification to the concept of 'smart grids' offering a clear, agreed-upon definition
- Up-to-date information in smart grids and next-generation energy distribution networks, including industry and academic/laboratory contributions
- Recent developments in planning, operation and control of future distribution networks and smart grids with penetration of renewable energy sources



Subject: Energy
ISBN (Online):
978-0-7354-2233-9
ISBN (Print):
978-0-7354-2230-8
Publication Date: 2021

About the Author:
Geev Mokryani, Ph.D., is an Assistant Professor at the University of Bradford, UK. His research interests focus on optimization, planning, operation, and control of distribution networks with high penetration of renewable energy sources and energy storage systems. Dr. Mokryani is an associate editor of several top-rank journals and newsletters in the field of power and energy systems. He is a Senior Member of the IEEE and a Fellow of the Higher Education Academy.

Readership:

- Professionals in renewable energy or sustainable development fields
- Academic and industry researchers in the energy and energy distribution fields
- Undergraduate and graduate students studying electrical power engineering

Related Journals:

- *Journal of Renewable and Sustainable Energy*

The Physics of Radiation Dosimetry

PRINCIPLES

Author:
Jerome Meli, Columbia University, New York, New York, USA

Summary:
The Physics of Radiation Dosimetry presents the fundamentals of radiation dosimetry through a logical sequencing of topics. This comprehensive treatment lays out basic concepts for the novice, then uses that foundation to introduce topics that all students will need to know—such as charged particle/matter interactions and photon/matter interactions.

This book offers:

- A solid physics-based explanation of the topics presented
- Chapters containing sets of problems for students
- Easy to follow introductory radiation physics
- In depth discussions and derivations

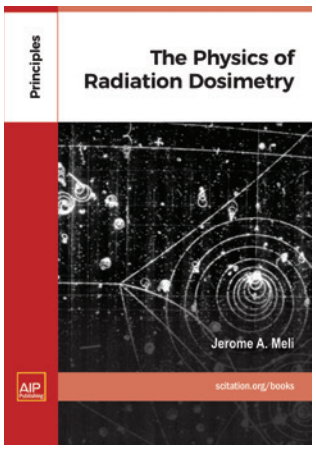
About the Author:
Dr. Jerome Meli has a Ph.D. in Atomic Physics from University of Connecticut. He is currently an Adjunct Associate Professor at Columbia University in the Department of Applied Physics and Applied Mathematics. Previously, he was an Attending Physicist at Memorial Sloan-Kettering Cancer Center, Chief of Physics at St. Vincent's Medical Center in Bridgeport, CT, and a Radiological Physicist and Assistant Clinical Professor at Yale-New Haven Medical Center. Prior to his career as a medical physicist he was an Associate Professor of Physics at Fairfield University. Dr. Meli served on several committees of the American Association of Physicists in Medicine and has published research in medical physics, primarily in brachytherapy.

Readership:

- Medical physics residents and practitioners
- Graduate level students in medical physics

Related Journals:

- *Journal of Applied Physics*
- *Review of Scientific Instruments*



Subject: Biological Physics
ISBN (Online):
978-0-7354-2188-2
ISBN (Print):
978-0-7354-2189-9
Publication Date: 2020

Fundamentals of Recoupling and Decoupling Techniques in Solid State NMR

PRINCIPLES

Author:
Bo Chen, University of Central Florida, Orlando, Florida, USA

Summary:
Fundamentals of Recoupling and Decoupling Techniques in Solid State NMR provides broad coverage from the fundamentals through updated recoupling and decoupling techniques. It details step by step derivations and teaches readers how solid state NMR with magic angle spinning exploits the interplay between mechanical rotation and radio frequency (RF) pulses to actively switch on (recoupling) and off (decoupling) desired interactions.

This unique book offers:

- Coverage from the basic through the most advanced topics and incorporates step by step derivations and exercises
- Conceptual, experimental, and mathematical aspects of modern solid-state NMR
- Detailed instruction of tensor calculus and step-by-step derivation to help students learn magic angle spinning phase integration

Subject: Materials Science
ISBN (Online):
978-0-7354-2220-9
ISBN (Print):
978-0-7354-2221-6
Publication Date: 2020

About the Author:
Bo Chen, Ph.D., is an Associate Professor of Physics at the University of Central Florida. His NMR lab focuses on how to apply and develop techniques to investigate the structure and dynamics of biomacromolecular assemblies, and to develop novel coarse-grain models to understand the self-assembly mechanism. He is the recipient of the AFOSR Young Investigator Award. Previously, Professor Chen was a Research Fellow at the National Institutes of Health.

Readership:

- Practicing physicists interested in learning more about this topic
- Upper level undergraduate students majoring in physics or a related discipline

Related Journals:

- *Applied Physics Letters*

Enhanced Power Grid Stability Using Doubly-Fed Induction Generators

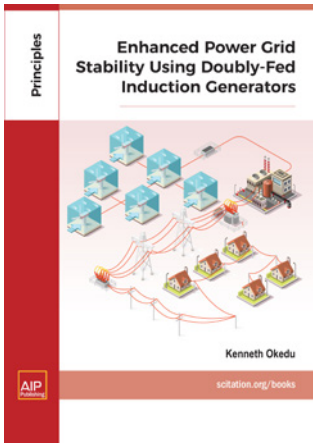
PRINCIPLES

Author:
Kenneth Okedu, National University of Science and Technology, Muscat, Oman

Summary:
Enhanced Power Grid Stability Using Doubly-Fed Induction Generators addresses the latest schemes, modeling, and control strategies for improving variable speed wind turbines. Throughout this book, simulations are carried out using modern software packages to model different types of symmetrical and asymmetrical faults for transient stability analysis and modeling techniques for wind turbine power systems.

Key features:

- Discusses doubly-fed induction generators, fault ride through, and other concepts for improving stability of power grids stability of power grids that utilize wind power
- Addresses grid performance — a necessary but often overlooked consideration in renewable power resources
- Demonstrates various approaches and appropriate control strategies which can be very effective to stabilize a grid connected wind farm



Subject: Energy & Electronics
ISBN (Online):
978-0-7354-2229-2
ISBN (Print):
978-0-7354-2226-1
Publication Date: 2020

About the Author:
Kenneth Okedu, Ph.D., is Visiting Professor and Research Team Lead at the National University of Science and Technology, Department of Electrical and Computer Engineering, in Muscat, Oman. He has held positions with the Massachusetts Institute of Technology (USA) and the Kitami Institute of Technology (Japan), among other notable and respected institutions. He served as editor for three books and several journals including Journal of Electrical and Computer Engineering (Hindawi), Frontiers in Energy Research (Frontiers), and Trends in Renewable Energy. Professor Okedu has twice been recognized by Publons as part of the top 1% of reviewers in engineering (2018 and 2019).

Readership:

- Practicing physicists interested in learning more about this topic
- Upper level undergraduate students majoring in physics or a related discipline

Related Journals:

- *Journal of Renewable and Sustainable Energy*
- *Journal of Applied Physics*

Next Generation Materials for Batteries

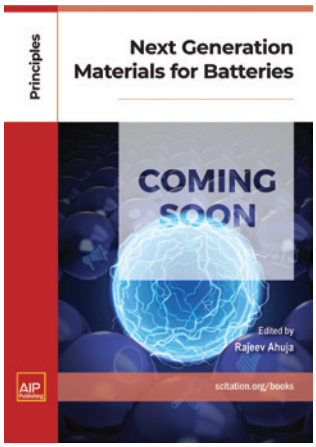
PRINCIPLES

Author:
Rajeev Ahuja, Uppsala University, Uppsala, Sweden

Summary:
Next Generation Materials for Batteries consolidates many different areas of battery technology into a single resource and summarizes the fundamentals of battery materials. It details the tools used in material research and describes some of the most promising recent developments.

The book:

- Combines theoretical and computational methods with experimental battery research, while demonstrating how findings from one field can support efforts in another
- Explores materials including Na-ion batteries as alternatives to the Li-ion batteries in wide use today
- Provides outlook and direction of next generation battery materials



Subject: Energy
ISBN (Online):
978-0-7354-2168-4
ISBN (Print):
978-0-7354-2291-9
Publication Date: 2021

About the Author:
Rajeev Ahuja, Ph.D., is a Professor and head of the Condensed Matter Theory Group at Uppsala University in the Department of Physics and Astronomy, Uppsala, Sweden. He has published more than 875 scientific papers in peer reviewed journals. He has been recently elected American Physical Society Fellow & received the Wallmarkska Prize in 2011 from Royal Swedish Academy of Sciences, Stockholm.

Readership:

- Ph.D. and postdoctoral researchers: Battery materials, solid-state physics, and/or electrochemistry; Researchers and professionals in the renewable/green energy sector
- Industry researchers: Manufacturers of batteries, consumer electronics, and/or hybrid vehicles; Policy makers and others interested in sustainable energy policies

Related Journals:

- *Journal of Applied Physics*
- *Journal of Renewable and Sustainable Energy*
- *The Journal of Chemical Physics*

Onshore Windfarms: Dynamic Stability in Hydrogen Production

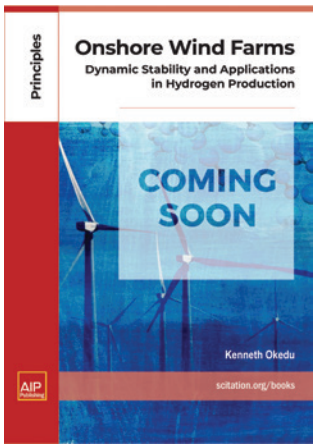
PRINCIPLES

Author:
Kenneth Okedu, National University of Science and Technology, Muscat, Oman

Summary:
Onshore Wind Farms: Dynamic Stability and Applications in Hydrogen Production offers an up-to-date discussion of new technologies and methods for building wind farms and upgrading existing wind turbines. The effective operation of grid-connected wind farms is quite a challenge for grid operators, largely due to the transient nature of wind energy. This book covers improvements in dynamic performance of a grid in combination with other sources including nuclear power, hydropower, and thermal turbines. It investigates the effects of devices and control strategies that potentially improve wind energy capture and stabilize existing fixed-speed wind turbines in grid-connected wind farms.

This timely book:

- Includes new technology for improved wind turbines
- Features developments for improving the stability of grids that rely on wind power
- Covers applications such as hydrogen fuel production and DC fuel cells



Subject: Energy
ISBN (Online):
978-0-7354-2299-5
ISBN (Print):
978-0-7354-2296-4
Publication Date: 2021

About the Author:
Kenneth Okedu, Ph.D., is Visiting Professor and Research Team Lead at the National University of Science and Technology, Department of Electrical and Computer Engineering, in Muscat, Oman. He has held positions with the Massachusetts Institute of Technology (USA) and the Kitami Institute of Technology (Japan), among other notable and respected institutions. He served as editor for three books and several journals including Journal of Electrical and Computer Engineering (Hindawi), Frontiers in Energy Research (Frontiers), and Trends in Renewable Energy. Professor Okedu has twice been recognized by Publons as part of the top 1% of reviewers in engineering (2018 and 2019).

Readership:

- Researchers and engineers working in the field of wind energy
- Researchers, engineers, and students interested in grid development or other forms of renewable energy; Policy planners and analysts involved in energy

Related Journals:

- *Journal of Renewable and Sustainable Energy*

Principles of Fiber Optics

PRINCIPLES

Author:
Jeff Hecht, Auburndale, Massachusetts, USA

Summary:
Principles of Fiber Optics helps readers working in a wide range of scientific fields to expand their understanding of fiber optics. This technology has become a vital tool for photonics, the technology of light widely used in science, engineering and medicine. To understand the potential of fiber optics and use it intelligently, professionals in other fields need to understand how fiber optics work and its potential.

The book:

- Explains the basics of fiber optics for scientific professionals
- Offers practical guidance of fundamentals, the latest applications, and industry jargon
- Provides an excellent reference for people who need baseline information on fiber optics

Subject: Optics
ISBN (Online):
TBD
ISBN (Print):
TBD
Publication Date: 2021

About the Author:
Jeff Hecht, Ph.D. is an award-winning, experienced author of some of the most important books on fiber optics, lasers and optical physics. He has served as a committee member and is a fellow of the Optical Society of America and is a life senior member of the IEEE. He is a contributing editor for Laser Focus World and writes extensively for other magazines, covering topics from lasers to dinosaurs and continuing developments in lasers and photonics.

Readership:

- Professionals trained in other specialties in physics, engineering, medicine and other sciences
- Students and those new to the field of photonics and fiber optics.

Related Journals:

- *APL Photonics*

AIP Publishing Books

Light Sheet Microscopy and Imaging

PRINCIPLES

Author:
Partha Pratim Mondal, Indian Institute of Science, Bengaluru, India

Summary:
Light Sheet Microscopy and Imaging introduces the fundamentals and important advancements at the frontiers of optical physics and applied sciences. It presents coherent, in-depth explanations of different variants of light sheet microscopes. This emerging technology has an impact on a range of disciplines from nano-physics (nanolithography) to biophysics (imaging, cell biology, developmental biology, and biotechniques) and is destined to influence every field of science.

This book provides an in-depth study of

- Fundamentals of light sheet microscopy and important advancements in the technology
- Principles of light sheet physics, optical imaging, computational techniques and experimental design with applications from applied physics to biological imaging
- Insights into a wide range of light sheet microscopy techniques and optical setups

Subject: Biophysics
ISBN (Online):
TBD
ISBN (Print):
TBD
Publication Date: 2021

About the Author:
Partha Pratim Mondal, Ph.D., is Associate Professor in the Department of Instrumentation and Applied Physics at the Indian Institute of Science, Bangalore, India, where he earned his Ph.D. in Physics in 2005. He has over 65 journal publications and 25 contributions to conference proceedings to his credit and is co-author of the book *Fundamentals of Fluorescence Microscopy* (Springer). Dr. Mondal's specialized areas of research include super-resolution microscopy, microfluidics, imaging cytometry, optical tweezers, light sheet technologies fluorescence microscopy, and nanolithography. He has served as Editor for several distinguished journals, including *AIP Advances* (AIP Publishing), *Microscopy Research and Technique* (Wiley), and *Frontiers in Molecular Biosciences* (Frontiers).

Readership:

- Research scientists in optical microscopy and medical imaging
- Students studying imaging optics

Related Journals:

- *Journal of Applied Physics*
- *APL Photonics*
- *APL Bioengineering*

Concepts and Foundations of Physics

PRINCIPLES

Author:
Anirudh Singh, University of Fiji, Lautoka, Fiji

Summary:
This timely book demonstrates how analyzing the conceptual basis of our physical reasoning can lead to new and far-reaching insights into the issues that confront today's physics and cosmology communities. It addresses the need for a new conceptual framework that combines our ideas of physics with aspects of history and measurement and provides a basis for further analysis. It traces the developments in physics over the past three decades since the merger of the relativistic phenomenologies of Einstein with the fundamental concepts of particle physics.

This book:

- Focuses on a new perspective about the nature of physical reality
- Examines developments in metaphysical assumptions and axioms
- Proposes a new model of physical reality that can assist scientists and thinkers with a partial resolution of conceptual dilemmas

Subject: Condensed Matter
ISBN (Online):
978-0-7354-2192-9
ISBN (Print):
978-0-7354-2193-6
Publication Date: 2021

About the Author:
Anirudh Singh, Ph.D. is a professor at the School of Science and Technology, University of Fiji, and Adjunct Professor at the University of Southern Queensland, Australia. He earned a Ph.D. in Condensed Matter Physics from Leicester University, England, and an M.Sc. in Theoretical Nuclear Physics from Auckland University, New Zealand. Dr. Singh worked as a researcher in muon implantation studies using Rutherford Appleton Laboratory facilities in the United Kingdom and the TRIUMF facility in Canada. He was project leader for two European Union-funded energy capacity-building projects involving a global consortium of universities. He was a Section Editor for Handbook of Climate Change Adaptation (Springer); has published two books, over a dozen book chapters, and more than 60 papers in international journals; and has presented at almost 50 seminars in 11 countries..

Readership:

- Physicists, cosmologists, and philosophy of science enthusiasts interested in a historical discussion of the metaphysical foundations of modern physics

Related Journals:

- *Chaos*

Optical Comminication

PRINCIPLES

Author:
Barry Elliott, Capitoline Ltd., Chester, England, UK

Summary:
Optical Communication is a foundational reference covering the principles and applications of optics. The book offers a broad understanding of optics basics, the physics and mathematics behind the transmission of light, the devices that affect the passage of light, and the practical applications of optical theory in communications. It covers theoretical and practical applications of optical technology. The book demonstrates how the physics of optics translates into applications in telecommunications, optical communications in free space, and other media.

This book:

- Offers a practical guide to optics and its applications in communications complementing existing works on its theory
- Addresses the work of international standards bodies such as the ITU and ISO in aligning the physics behind the subject and the availability of standard products that can implement modern high-speed communications networks
- Provides introductory concepts for those new to the field as well as students and professionals

Subject: Optics
ISBN (Online):
978-0-7354-2307-7
ISBN (Print):
978-0-7354-2304-6
Publication Date: 2021

About the Author:
Barry Elliott has over 20 years of experience in the IT industry. He has worked for BICC, Ferranti, Civil Aviation Authority, Brand-Rex, Novar plc, and Honeywell, and is one of Capitoline Consultancy Group's founders. Mr. Elliott specializes in IT infrastructure and developed the world's first data center qualification. He is a past Chairman of the cabling trade organization BICSI and the first CIBSE Low Carbon Consultant to apply this qualification to the computer room environment. Mr. Elliott is co-author of several books, including Introduction to Fiber Optics, 3rd Edition (Elsevier), and Fiber Optic Cabling, 2nd Edition (Newnes).

Readership:

- Undergraduate students or anyone in the optical field who may need a grounding in associated applications or an early introduction to the field

Related Journals:

- *APL Photonics*

Analysis and Design of Membrane Processes: A Systems Approach

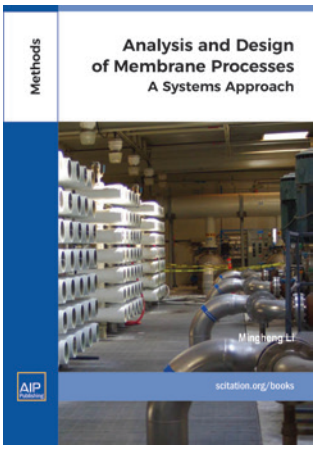
METHODS

Author:
Mingheng Li, California State Polytechnic University, Pomona, California, USA

Summary:
Analysis and Design of Membrane Process: A Systems Approach highlights the fundamentals and emerging technology in the field of industrial reverse osmosis desalination and membrane processes. It provides a unique, systems engineering perspective of membrane operation, focusing on analysis, design and optimization of membrane processes. An explanation of mathematical and optimization knowledge is introduced and then applied throughout the book.

Key topics include:

- Hydrodynamics and mass transfer in reverse osmosis (RO) membranes
- Predictive models for RO module performance
- Analysis and optimization of brackish and seawater RO desalination
- Energy production using pressure retarded osmosis (PRO)
- Integration of RO and PRO for energy-efficient desalination
- Dynamic operation of batch RO and batch PRO



Subject: Chemical Physics
ISBN (Online):
978-0-7354-2179-0
ISBN (Print):
978-0-7354-2181-3
Publication Date: 2020

About the Author:
Mingheng Li, Ph.D. is a chemical engineering professor at California State Polytechnic University. He is a senior member of AIChE (American Institute of Chemical Engineers) and was an Associate Editor, *Journal of Renewable and Sustainable Energy* (AIP Publishing), 2016-2019. His areas of interest include process systems engineering for materials, energy, and environmental applications.

Readership:

- Researchers who are interested in membrane-based processes as well as undergraduate and graduate students
- Water industry professionals

Related Journals:

- *Journal of Physical and Chemical Reference Data*
- *Journal of Renewable and Sustainable Energy*
- *The Journal of Chemical Physics*

AIP Publishing Books

Manual of Laser Safety

METHODS

Editor:
Ken Barat, Laser Safety Solutions, Maricopa, Arizona, USA

Summary:
This book provides a clear and concise guide for scientists in research and development who work with lasers. It addresses several laser use techniques and laser safety approaches that are not found in other texts, including vertical beam use and approaches, safety with high high-power lasers, and reflectivity of different materials. *Manual of Laser Safety* provides a resource of items of direct value to the laser user and safety professional.

Covering all classes of lasers, this book is

- An essential tool for laser safety officers to issue to team members
- Presented in a succinct manner addressing the latest best practices, regulations, and standards
- Written by the leading author and authorities in the field

About the Editor:
Ken Barat spent 20 years as Laser Safety Officer at Lawrence Berkeley National Lab, working on training and audits in R&D setting. He is a member and Chairperson of the ANSI technical committee for writing laser use standards in the research setting. He is a voting member of the ANSI Z136 committee and the author of several standard works on laser safety. Mr. Barat is acknowledged as a leading practitioner in the field. His career has included numerous awards, including both Jim Rockwell awards (2009 and 2005) for Laser Safety Leadership and Education, the Tim Renner User Service Award (2002) from the Advance Light Source, and recognition awards from the Department of Energy and LSO Working Group. He is a member and presenter at the UK Laser Safety Forum series and at Photonics West.

Readership:

- Specifically written for R&D scientists in academia and industry
- A valuable primer for professionals working in lab safety

Related Journals:

- *LIA Journal of Laser Applications*
- *APL Photonics*

Subject: Optics
ISBN (Online):
978-0-7354-2245-2
ISBN (Print):
978-0-7354-2242-1
Publication Date: 2020

Multiscale Modeling of Electrochemical Reactions and Processes

METHODS

Author:
Yun Wang, Griffith University, Mount Gravatt, Australia

Summary:
Multiscale Modeling of Electrochemical Reactions and Processes is a practical guide to multiscale computational methodologies. It offers a holistic understanding of the impact of reaction conditions on the overall performance of electrolyzers, fuel cells, and energy storage devices. This book covers reaction conditions such as electrolyte and applied bias potential and support type, as well as how these factors determine the overall performance of devices. These topics, for the first time, are covered in one book.

This book presents:

- A comprehensive examination of the experiment-theory gap of electrochemical reactions
- State-of-the-art multiscale methods for modeling the influence of reaction environment, including electrolyte, bias potential mechanical forces, and support type, on the energy conversion efficiency in electrochemical cells.
- A discussion of how to apply these multiscale modelling techniques to various applications in clean energy technology

Subject: Chemical Physics
ISBN (Online):
978-0-7354-2237-7
ISBN (Print):
978-0-7354-2234-6
Publication Date: 2021

About the Author:
Yun Wang, Ph.D., is the deputy head of the discipline of chemical science and a Senior Lecturer at the Griffith University School of Environment and Science, Australia. Before he moved to Griffith University in 2010, he did the postdoctoral research at the University of Texas at Austin and the University of Sydney. He is the author of more than 140 articles in peer-reviewed research journals including *Nature, Nature Energy* (Nature), *Journal of the American Chemical Society* (ACS), *Angewandte Chemie* (Wiley), and *Advanced Materials* (Wiley). Dr. Wang has been a keynote/invited speaker for tens of national/international conferences. He also is an editorial board member for *Scientific Reports* (Nature).

Readership:

- A valuable resource for scientists, engineers, and students
- Students studying materials modeling

Related Journals:

- *The Journal of Chemical Physics*
- *Journal of Renewable and Sustainable Energy*

AIP Publishing Books

Soft-Matter Thin Film Solar Cells: Physical Processes and Device Simulation

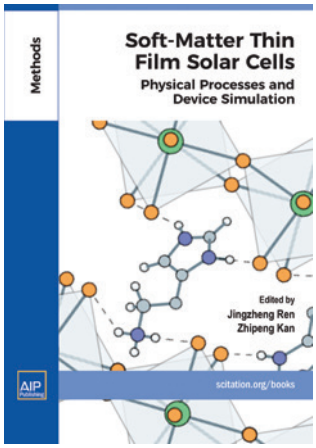
METHODS

Editors:
Jingzheng Ren, Hong Kong Polytechnic Institute, Hong Kong
Zhipeng Kan, Chongqing Institute of Green and Intelligent Technology, Chinese Academy of Sciences, Beijing, China

Summary:
Soft-Matter Thin Film Solar Cells: Physical Processes and Device Simulation provides a guide to modern innovations and developments in solar photovoltaic cells. Edited and written by global authorities in their respective fields, this book explores newly developed materials and incorporates numerical and computational experiments in materials research. It provides a top-level look into the research and utilization of a novel class of photovoltaic material.

Key topics covered in this book include:

- Origin, theoretical studies, and device simulation for perovskite solar cells
- Charge recombination, transfer states, and energy losses in organic solar cells
- Device physics in organic solar cells and drift diffusion simulations



Subject: Energy
ISBN (Online):
978-0-7354-2241-4
ISBN (Print):
978-0-7354-2238-4
Publication Date: 2020

About the Editors:
Jingzheng Ren, Ph.D., is an Assistant Professor of Energy Systems Engineering at the Hong Kong Polytechnic Institute and is an Honorary Associate Professor of Energy Systems Engineering at the University of Southern Denmark. He has published more than 130 papers in international journals, and he also serves as editor for multiple journals, including the *Journal of Renewable and Sustainable Energy* (AIP Publishing).

Zhipeng Kan, Ph.D., is a Professor of Material Science and Engineering at the Chongqing Institute of Green and Intelligent Technology, Chinese Academy of Sciences. He has been published 45 times in international journals.

Readership:

- Investigators, postdoctoral fellows, and graduate and advanced undergraduate students
- Materials scientists and engineers in the solar energy sector, policy makers, and analysts

Related Journals:

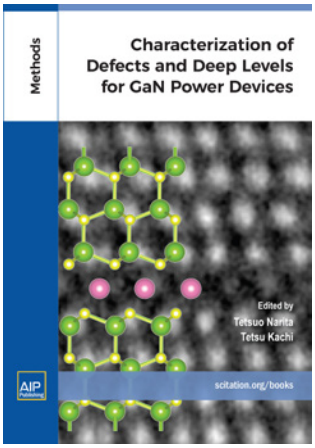
- *APL Photonics*
- *Journal of Renewable and Sustainable Energy*

Characterization of Defects and Deep Levels for GaN Power Devices

METHODS

Editors:
Tetsuo Narita, Toyota Central R&D Labs, Inc., Japan
Tetsu Kachi, Nagoya University, Japan

Summary:
This book focuses on defects in GaN based on the most up-to-date intrinsic material properties, and addresses deep levels and their analytical methods within the wide bandgap of GaN. It demonstrates nanoscale structures of extended defects in GaN using atomic-scale transmission electron microscopy. The dentifications of their deep levels and extended defect structures are presented by comparing with reported first-principles calculations. It reviews emerging technologies for defect characterizations using atom probe tomography, synchrotron x-ray diffraction topography in wafer scale, and multiphoton-excitation photoluminescence, which allows for the multidirectional characterization of structural defects.



Subject: Condensed Matter
ISBN (Online):
978-0-7354-2269-8
ISBN (Print):
978-0-7354-2270-4
Publication Date: May 2021

Readers will gain insight into:

- Electrical impacts of defects in GaN-based vertical power devices
- Pathways to the defect control in the fabrication process of GaN-based electric devices
- Up-to-date methods for semiconductor and electronic material defect analysis

About the Editors:
Tetsuo Narita, Ph.D., joined Toyota Central R&D Labs in 2007 and Nagoya University, Nagoya, Japan as a Visiting Associate Professor in 2017. Dr. Narita specializes in the growth of III-nitride semiconductors, focusing on the use of metalorganic vapor phase epitaxy (MOVPE). He has published numerous peer-reviewed journal articles on semiconductor growth and analysis and served as Project Vice-Manager for the Consortium for GaN Research and Applications, Working Group on Crystal Growth.

Tetsu Kach, Ph.D., became a Professor at Nagoya University, Nagoya, Japan in 2016 after retiring from a 40-year career at Toyota Central R&D Labs, Inc., where he aided in the growth and development of GaN- and GaAs-based devices. He currently leads the MEXT GaN R&D project of the Japanese national program. Dr. Kachi authored dozens of articles in peer-reviewed journals, including "A vertical insulated gate AlGaN/GaN heterojunction field-effect transistor," which was recognized as a Best Paper by the Japanese Journal of Applied Physics (IOP Publishing, Japan).

Readership:

- Industry materials scientists working in semiconductor materials and devices.
- It is also suitable for experts in DLTS, TEM, APT, XRDT, and multiphoton-excitation photoluminescence.

Related Journals:

- *APL Materials*

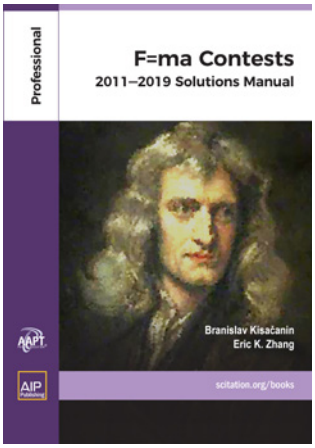
F=ma Contests: 2011–2019 Solutions Manual

PROFESSIONAL

Authors:
Branislav Kisačanin, Nvidia Corporation, Holmdel, New Jersey, USA
Eric K. Zhang, Harvard University, Cambridge, Massachusetts, USA

Summary:
F=ma Contests: 2011–2019 Solutions Manual presents clear and detailed solutions to problems from the annual F=ma contest hosted by the American Association of Physics Teachers (AAPT) between 2011 and 2019. The competition is the precursor to the USAPhO (United States National Physics Olympiad) and the IPhO (International Physics Olympiad). Bridging a significant gap in existing literature for competition preparation, this book:

- Presents scenarios in classical mechanics using pre-calculus, and occasionally calculus, to solve the problems presented in the competitions
- Demonstrates a wide variety of exam questions ranging from the simple to the highly complex
- Explains how problems can be solved in more than one way when viewed from different angles and using very different approaches.



Subject: Education
ISBN (Online):
978-0-7354-2164-6
ISBN (Print):
978-0-7354-2162-2
Publication Date: 2020

About the Authors:
Dr. Branislav Kisačanin is a computer scientist at Nvidia Corporation and is a highly regarded expert in developing computer vision and artificial intelligence applications for use in autonomous driving. Dr. Kisačanin is also a passionate teacher of competitive math and physics at the AwesomeMath Summer Programs and the AwesomeMath Academy.

Eric K. Zhang is a Mathematics and Computer Science student at Harvard University. In 2018 and 2019 he won two gold medals representing the US at the International Olympiad in Informatics. After winning gold medals at the USAPhO in 2017, 2018, and 2019, Eric was invited to join the US Physics Team. Mr. Zheng taught competition math and computer science at AlphaStar Academy.

Readership:

- Physicists and other scientists interested in physics problem solving
- Supplementary reading in physics courses for non-physics majors
- High school students preparing for the F=ma exam

Related Journals:

- *American Journal of Physics*
- *The Physics Teacher*

Co-published with the AAPT

AAPT PHYSICS EDUCATION

Teaching High School Physics: The Nature of Physics Teaching

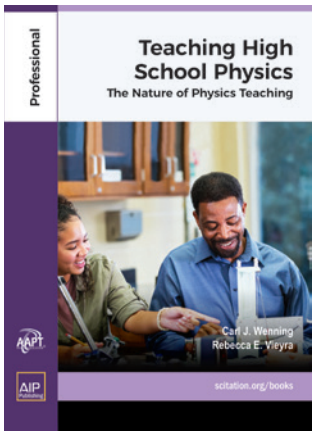
PROFESSIONAL

Authors:
Carl J. Wenning, Illinois State University, Normal, Illinois, USA
Rebecca E. (Wenning) Vierya, University of Maryland, College Park, Maryland, USA

Summary:
Teaching High School Physics is centered on the principle that teachers need to be educated rather than trained and helps to form a substantive and substantiated foundation for a new way of teaching. Providing a mix of theory and practice, these books describe more than 40 important topics and encourage an inquiry-oriented approach to physics teaching. They include numerous examples and helpful resources.

The Nature of Physics Teaching:

- Explores the role of educational research, teaching philosophies, and scientific epistemology as a foundation for good teaching
- Places a strong emphasis on learning by inquiry
- Prepares teachers with a solid philosophical and practical foundation focusing on the nature of physics teaching



Subject: Education
ISBN (Online):
978-0-7354-2196-7
ISBN (Print):
978-0-7354-2194-3
Publication Date: 2020

About the Authors:
Carl J. Wenning, Ed.D., holds a B.S. in Astronomy from The Ohio State University, an M.A.T. in Planetarium Education from Michigan State University, and an Ed.D. in Curriculum & Instruction from Illinois State University. Dr. Wenning was founder and editor-in-chief of The Journal of Physics Teacher Education Online (JPTEO) where he served from 2002–2011. He was director of the ISU Physics Teacher Education program from 1994 until his retirement in 2008.

Rebecca E. (Wenning) Vierya, M.A.S.Ed., holds a B.S. in Physics Teacher Education from Illinois State University and a Master's degree in Science Education Leadership from the Illinois Institute of Technology. She is currently pursuing a Ph.D. in science education at the University of Maryland-College Park. Ms. Vieyra is a winner of the Presidential Award for Excellence in Mathematics and Science Teaching and served as an Albert Einstein Distinguished Educator Fellow at NASA's Aeronautics Research Mission Directorate. She received National Board teacher certification in physics in 2011.

Readership:

- Prospective high school physics teachers and candidates and current physics teachers
- Experienced in-service physics teachers

Related Journals:

- *American Journal of Physics*
- *The Physics Teacher*

Co-published with the AAPT

AAPT PHYSICS EDUCATION

AIP Publishing Books

Teaching High School Physics: Interacting with Students

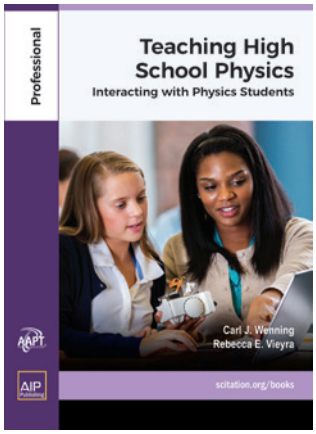
PROFESSIONAL

Authors:
Carl J. Wenning, Illinois State University, Normal, Illinois, USA
Rebecca E. (Wenning) Vierya, University of Maryland, College Park, Maryland, USA

Summary:
Teaching High School Physics is centered on the principle that teachers need to be educated rather than trained and helps to form a substantive and substantiated foundation for a new way of teaching. Providing a mix of theory and practice, these books describe more than 40 important topics and encourage an inquiry-oriented approach to physics teaching. They include numerous examples and helpful resources.

Interacting with Physics Students:

- Addresses practical techniques for supporting student learning in the day-to-day classroom
- Details how to facilitate active engagement and cooperation in an equitable manner, manage learning difficulties and differentiations, and other situations teachers face in the classroom
- Prepares teachers with a solid philosophical and practical foundation focusing on interactions with students



Subject: Education
ISBN (Online):
978-0-7354-2201-8
ISBN (Print):
978-0-7354-2198-1
Publication Date: 2020

About the Authors:
Carl J. Wenning, Ed.D., holds a B.S. in Astronomy from The Ohio State University, an M.A.T. in Planetarium Education from Michigan State University, and an Ed.D. in Curriculum & Instruction from Illinois State University. Dr. Wenning was founder and editor-in-chief of The Journal of Physics Teacher Education Online (JPTEO) where he served from 2002–2011. He was director of the ISU Physics Teacher Education program from 1994 until his retirement in 2008.

Rebecca E. (Wenning) Vierya, M.A.S.Ed., holds a B.S. in Physics Teacher Education from Illinois State University and a Master's degree in Science Education Leadership from the Illinois Institute of Technology. She is currently pursuing a Ph.D. in science education at the University of Maryland-College Park. Ms. Vieyra is a winner of the Presidential Award for Excellence in Mathematics and Science Teaching and served as an Albert Einstein Distinguished Educator Fellow at NASA's Aeronautics Research Mission Directorate. She received National Board teacher certification in physics in 2011.

Readership:

- Prospective high school physics teachers and candidates and current physics teachers
- Experienced in-service physics teachers

Co-published with the AAPT

Related Journals:

- *American Journal of Physics*
- *The Physics Teacher*

Teaching High School Physics: Managing the Physics Classroom

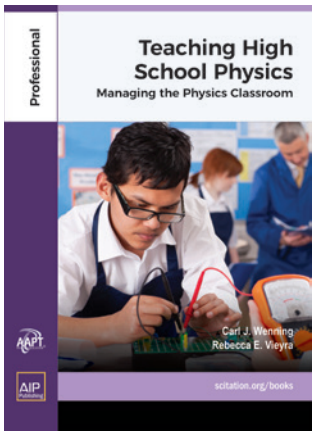
PROFESSIONAL

Authors:
Carl J. Wenning, Illinois State University, Normal, Illinois, USA
Rebecca E. (Wenning) Vierya, University of Maryland, College Park, Maryland, USA

Summary:
Teaching High School Physics is centered on the principle that teachers need to be educated rather than trained and helps to form a substantive and substantiated foundation for a new way of teaching. Providing a mix of theory and practice, these books describe more than 40 important topics and encourage an inquiry-oriented approach to physics teaching. They include numerous examples and helpful resources.

Managing the Physics Classroom:

- Prepares physics teachers with a solid philosophical and practical foundation on how to manage the classroom
- Addresses the professional practice of teaching from curriculum development to lesson planning to assessment to evaluation
- Informs readers about how to engage in the physics education community as a leader



Subject: Education
ISBN (Online):
978-0-7354-2205-6
ISBN (Print):
978-0-7354-2202-5
Publication Date: 2020

About the Authors:
Carl J. Wenning, Ed.D., holds a B.S. in Astronomy from The Ohio State University, an M.A.T. in Planetarium Education from Michigan State University, and an Ed.D. in Curriculum & Instruction from Illinois State University. Dr. Wenning was founder and editor-in-chief of The Journal of Physics Teacher Education Online (JPTEO) where he served from 2002–2011. He was director of the ISU Physics Teacher Education program from 1994 until his retirement in 2008.

Rebecca E. (Wenning) Vierya, M.A.S.Ed., holds a B.S. in Physics Teacher Education from Illinois State University and a Master's degree in Science Education Leadership from the Illinois Institute of Technology. She is currently pursuing a Ph.D. in science education at the University of Maryland-College Park. Ms. Vieyra is a winner of the Presidential Award for Excellence in Mathematics and Science Teaching and served as an Albert Einstein Distinguished Educator Fellow at NASA's Aeronautics Research Mission Directorate. She received National Board teacher certification in physics in 2011.

Readership:

- Prospective high school physics teachers and candidates and current physics teachers
- Experienced in-service physics teachers

Related Journals:

- *American Journal of Physics*
- *The Physics Teacher*

Co-published with the AAPT

AAPT PHYSICS EDUCATION

AIP Publishing Books

Teaching About Geometric Optics: Student Edition

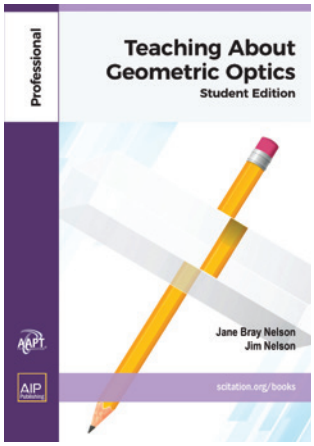
PROFESSIONAL

Authors: Jane Bray Nelson, The Rock School, Gainesville, Florida, USA
Jim Nelson, The Rock School, Gainesville, Florida, USA

Summary:
This book guides physics teachers to help students develop a foundational understanding of geometric optics. The cornerstone of photonics systems, geometric optics, have applications in a wide range of industries including technology, medical, and military sectors. This book covers the basics of light propagation, reflection and refraction and the use of simple optical elements such as mirrors, prisms, lenses, and optical fibers.

Key elements include:

- 46 activities on geometric optics, covering a wide range of topics
- Easy implementation, with a copy-ready student sheet and teacher notes included
- References to appropriate Next Generation Science Standards



Subject: Education
ISBN (Online):
978-0-7354-2217-9
ISBN (Print):
978-0-7354-2214-8
Publication Date: 2020

About the Authors:
Jane Bray Nelson is a national Physics Teaching Resource Agent (PTRA) and has led over 100 PTRA workshops, including an NSF funded five year program to improve high school physics instruction across the state of Alabama. Ms. Nelson was awarded the AAPT Distinguished Service Award in 2011, the Presidential Awardee for Excellence in Science Teaching in 1988, and was inducted into the National Teachers Hall of Fame in 2002. She is the author of numerous articles on physics teaching and co-author for the high school textbook, *Physics Principles and Problems* (Glencoe/McGraw Hill).

Jim Nelson has led over 100 PTRA workshops, including an NSF funded five year program to improve high school physics instruction across the state of Alabama. Mr. Nelson was President of the American Association of Physics Teachers (AAPT) in 2004 and President of the Florida Association of Science Supervisors in 2001. In 1986 he was a Presidential Awardee for Excellence in Science Teaching. He has authored numerous journal articles on physics teaching as well as co-authored with Jane Nelson two books: T*eaching about Magnets and Magnetism Resource* Guide (AAPT) and *Teaching About Kinematics Resource Guide* (AAPT).

Readership:

- Physics educators and teachers seeking to teach the fundamentals in other science disciplines
- College and high school students

Co-published with the AAPT

Related Journals:

- *American Journal of Physics*
- *The Physics Teacher*

AAPT PHYSICS EDUCATION

Teaching About Geometric Optics: Teacher's Notes

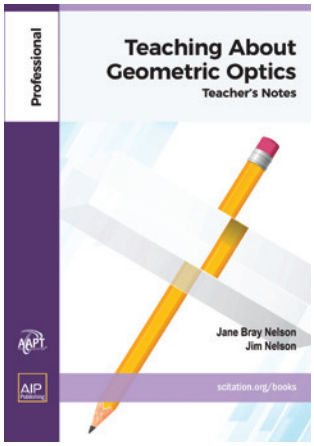
PROFESSIONAL

Author: Jane Bray Nelson, The Rock School, Gainesville, Florida, USA
Jim Nelson, The Rock School, Gainesville, Florida, USA

Summary:
This book guides physics teachers to help students develop a foundational understanding of geometric optics. The cornerstone of photonics systems, geometric optics, have applications in a wide range of industries including technology, medical, and military sectors. This book covers the basics of light propagation, reflection and refraction and the use of simple optical elements such as mirrors, prisms, lenses, and optical fibers.

Key elements include:

- 46 activities on geometric optics, covering a wide range of topics
- Easy implementation, with a copy-ready student sheet and teacher notes included
- References to appropriate Next Generation Science Standards



Subject: Education
ISBN (Online):
978-0-7354-2276-6
ISBN (Print):
978-0-7354-2273-5
Publication Date: 2020

About the Authors:
Jane Bray Nelson is a national Physics Teaching Resource Agent (PTRA) and has led over 100 PTRA workshops, including an NSF funded five year program to improve high school physics instruction across the state of Alabama. Ms. Nelson was awarded the AAPT Distinguished Service Award in 2011, the Presidential Awardee for Excellence in Science Teaching in 1988, and was inducted into the National Teachers Hall of Fame in 2002. She is the author of numerous articles on physics teaching and co-author for the high school textbook, *Physics Principles and Problems* (Glencoe/McGraw Hill).

Jim Nelson has led over 100 PTRA workshops, including an NSF funded five year program to improve high school physics instruction across the state of Alabama. Mr. Nelson was President of the American Association of Physics Teachers (AAPT) in 2004 and President of the Florida Association of Science Supervisors in 2001. In 1986 he was a Presidential Awardee for Excellence in Science Teaching. He has authored numerous journal articles on physics teaching as well as co-authored with Jane Nelson two books: T*eaching about Magnets and Magnetism Resource* Guide (AAPT) and *Teaching About Kinematics Resource Guide* (AAPT).

Readership:

- Physics educators and teachers seeking to teach the fundamentals in other science disciplines
- College and high school students

Related Journals:

- *American Journal of Physics*
- *The Physics Teacher*

Co-published with the AAPT

AAPT PHYSICS EDUCATION

Synthetic Solar Irradiance: Modeling Solar Data

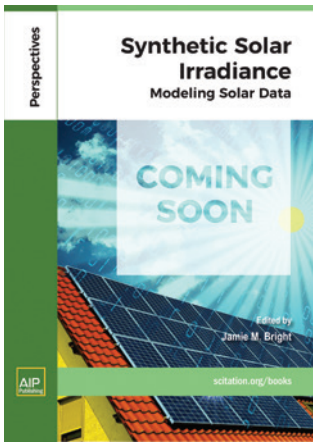
PERSPECTIVES

Editor:
Jamie M. Bright, Solar Energy Research Institute of Singapore (SERIS), Singapore

Summary:
Synthetic Solar Irradiance: Modeling Solar Data is the first book to cover the principles and methods of this emerging field. Filling a void in the industry, this timely book is edited by one of the world's premiere authorities on synthetic solar irradiance with contributions from other leading experts. It covers key applications of synthetic solar irradiance and established mathematical approaches for synthetic time series production.

Key topics include:

- Use cases of key definitions, literature, and data availability
- Determining success of generated synthetic irradiance
- Challenges and alternatives facing synthetic solar irradiance



Subject: Energy
ISBN (Online):
978-0-7354-2182-0
ISBN (Print):
978-0-7354-2185-1
Publication Date: 2021

About the Editor:
Jamie M. Bright, BEng., MEng., MSci., Ph.D., is a researcher at the Solar Energy Research Institute of Singapore (SERIS), National University of Singapore (NUS), Singapore. He is an Associate Editor for the *Journal of Renewable and Sustainable Energy* (AIP Publishing). Dr. Bright has also provided synthetic irradiance data to multiple PV solar farms in Australia through his company, Bright Consulting. He works to provide state-of-the-art forecasts of solar energy via a research project funded by the Energy Market Authority of Singapore.

Readership:

- Solar engineering researchers, power and electrical engineers, applied mathematicians, applied computer scientists
- Professionals in the solar resource assessment and solar farm industries
- Individuals working with fluctuations of power being injected into the grid from solar panels

Related Journals:

- *Applied Physics Letters*
- *Journal of Applied Physics*
- *Journal of Renewable and Sustainable Energy*

Phase Transitions in Grey Matter: Brain Architecture and Mind Dynamics

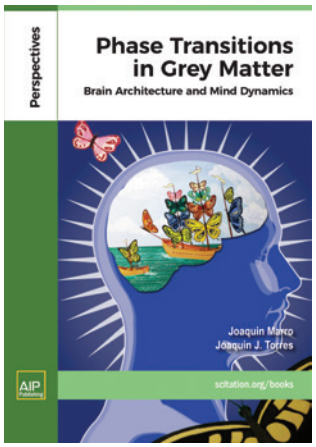
PERSPECTIVES

Authors:
Joaquin Marro, Institute "Carlos I" for Theoretical and Computational Physics, Granada, Spain
Joaquin J. Torres, University of Granada, Granada, Spain

Summary:
Phase Transitions in Grey Matter: Brain Architecture and Mind Dynamics relates the complex systems that we name "mind" and "brain" to simple concepts in physics such as "phase transitions" and "criticality." Developing a mathematical model to explain these complex systems, this book offers a serious review of live issues in science—from interaction and correlation to emergence, scale invariance, attractors, noise, and chaos—and demonstrates their relevance to intelligence and consciousness. The result is a significant and useful portrait of what "mind" currently means to science, which aggregates widely dispersed and sometimes hard-to-find topics into one resource.

Key highlights:

- Provides a coherent basis for the existence of criticality in the brain, and shows how some of its main outstanding properties may be understood
- Deeply explores the assumption that phase transition is the most relevant concept to understand the mind
- Offers a strong foundation for those interested in making a complete and useful portrait of the brain



Subject: Condensed Matter
ISBN (Online):
978-0-7354-2176-9
ISBN (Print):
978-0-7354-2177-6
Publication Date: 2021

About the Authors:
Joaquin Marro, Ph.D., is Professor Emeritus at the University of Granada, where he spent 30 years and founded the "Granada Seminar" and the "Institute *Carlos 1* for Theoretical and Computational Physics". His focus for more than 20 years has been mathematical modeling of the brain structure and activity. He is the author of more than 200 research papers and several books.

Joaquin J. Torres, Ph.D., is a Professor of physics at the University of Granada. His distinctions include being awarded the "Ramon y Cajal" grant from the Spanish Ministry of Research. He is a frequent author of research papers, and serves as an Associate Editor on several journals, including *Neurocomputing* (Elsevier) and *Frontiers in Computational Neuroscience and Scientific Reports* (Frontiers).

Readership:

- Practitioners and those curious about recent advances in neurosciences
- Advanced graduate and graduate students in physics, applied mathematics, biology and medicine

Related Journals:

- *Chaos*

Photovoltaic Sustainability and Management

PERSPECTIVES

Editors:
Jingzheng Ren, Hong Kong Polytechnic Institute, Hong Kong
Zhipeng Kan, Chongqing Institute of Green and Intelligent Technology, Chinese Academy of Sciences, Beijing, China

Summary:
Photovoltaic Sustainability and Management examines Photovoltaic (PV) technologies which are widely used to convert light into electrical power. While PV generation is sustainable and emission-free, the manufacture and placement of PV modules have environmental impacts which need consideration by professionals in the industry.

This book:

- Discusses the techno-economic, carbon footprint and life cycle sustainability performances of photovoltaic technologies
- Focuses on nontechnical factors that significantly influence the effectiveness of PV deployment including the innovations, environmental impacts, location selection, managerial implications, and public policies that can promote or deter PV development
- Investigates the PV technologies from life cycle and circular economy perspectives

Subject: Energy
ISBN (Online):
978-0-7354-2315-2
ISBN (Print):
978-0-7354-2312-1
Publication Date: April 2021

About the Editors:
Jingzheng Ren, Ph.D., is Assistant Professor at the Hong Kong Polytechnic Institute and also an Honorary Associate Professor at the University of Southern Denmark. He has published more than 140 journal papers, 7 edited (or authored) books and 30 book chapters. Many of his papers have been selected as the Essential Science Indicators top 1% highly cited papers or identified and highlighted as the Key Scientific Article contributing to the excellence in energy research.

Zhipeng Kan, Ph.D., is Professor of Material Science and Engineering at the Chongqing Institute of Green and Intelligent Technology, Chinese Academy of Sciences. He has been published 45 times in international journals.

Readership:

- Academic researchers, technicians and consultants engaged in PV research or working in PV technologies or the renewable energy industry

Related Journals:

- *Journal of Renewable and Sustainable Energy*

Einstein's Elevator and Other Marvels: Great Physicists and Their Achievements

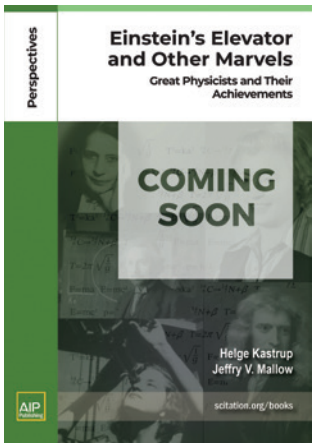
PERSPECTIVES

Author:
Jeffry V. Mallow, Loyola University, Chicago, Illinois, USA
Helge Kastrup, University of Copenhagen, Denmark

Summary:
Einstein's Elevator and Other Marvels: Great Physicists and Their Achievements introduces readers to a variety of physics discoveries intertwined with anecdotal stories elaborating on the lives of famous physicists throughout history. The book takes the reader through more than 500 years of scientific progress and provides context for the development of physics.

This unique title:

- Presents physics, astronomy, and mathematics in a simple yet comprehensive manner, using only elementary algebra and the Pythagorean Theorem
- Introduces readers to physics discoveries and insights into the lives of well-known physicists
- Challenges some common stereotypes of both the science and its practitioners; in particular, female luminaries are given their well-deserved place in the pantheon



Subject: General Physics
ISBN (Online):
978-0-7354-2172-1
ISBN (Print):
978-0-7354-2173-8
Publication Date: 2021

About the Authors:
Jeffry V. Mallow is an Emeritus Professor of Physics, Loyola University Chicago and Affiliated Professor, University of Haifa. He discovered and named the phenomenon of "science anxiety" and co-founded the first clinic to help students overcome it. He is widely published in the field he initiated, as well as in theoretical physics.

Helge Kastrup is an Emeritus Professor of Mathematics and Physics at Copenhagen University College and is currently a lecturer in science and mathematics at the University of Copenhagen. He has written research articles and books, including Student Attitudes, Student Anxieties, and How to Address Them: A Handbook for Science Teachers (2016) with Jeffry Mallow. Professor Kastrup is a contributor to several textbooks on the natural sciences.

Readership:

- Physicists and other scientists interested in the impact of scientific discovery
- Secondary: Supplementary reading in physics courses for non-science majors

Related Journals:

- *American Journal of Physics*

AIP Publishing Books

Learn more about
AIP Publishing Books
publishing.aip.org/books

more Information

AUTHORS
SUBMIT A PROPOSAL
BOOKS@AIP.ORG

LIBRARIANS
ACCESS & PURCHASE OPTIONS
SALES@AIP.ORG
+1 516 576 2270
+1 800 344 6902 (US Toll Free)

AIP PUBLISHING
1305 WALT WHITMAN ROAD
SUITE 300
MELVILLE, NY 11747

AIP Publishing Books

1305 WALT WHITMAN ROAD | SUITE 300 | MELVILLE, NY 11747
+1 516 576 2270 | +1 800 344 6902 (US Toll Free) | SALES@AIP.ORG