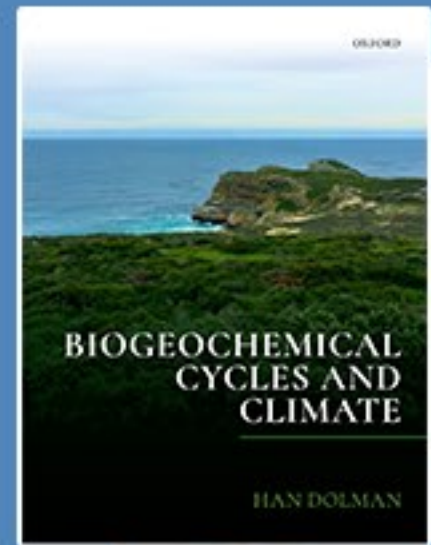


New in the Library

March/April 2021



The Abdus Salam
International Centre
for Theoretical Physics

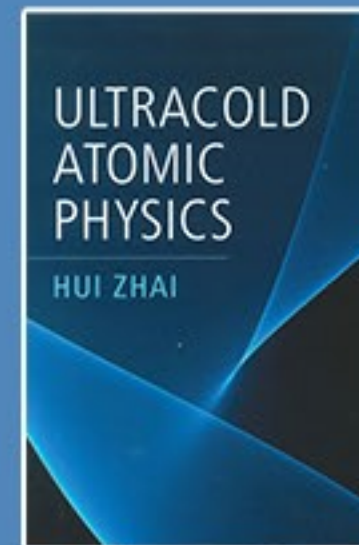


Biogeochemical Cycles and Climate

Han Dolman

Viewing the Earth as an integrated system, this book guides the reader to explore changes in our current and past climate, disclosing the impact of biogeochemical cycles on the climate and vice versa.

2019

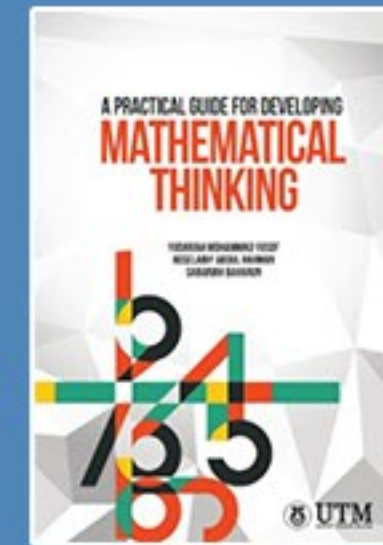


Ultracold Atomic Physics

Hui Zhai

An invaluable tool for researchers, graduate students and advanced undergraduate approaching a field which has developed rapidly, encompassing a broad range of topics in physics with important applications from quantum computing and simulation to quantum metrology.

2021

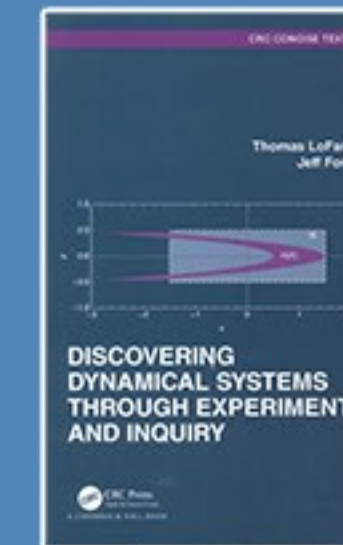


A Practical Guide for Developing Mathematical Thinking

Yudariah Mohammad Yusuf, Roselainy Abdul Rahman, Sabariah Baharun

How can we get learners to use their own mathematical thinking powers? A fresh perspective to support the learning of mathematics which engages students in thinking mathematically, making use of their natural powers.

2020



Discovering Dynamical Systems Through Experiment and Inquiry

Thomas LoFaro, Jeff Ford

A brand new method to approach dynamical systems blending the use of computer simulations with inquiry-based learning (IBL). It moves students from merely remembering the material to a deeper understanding and analysis.

2021

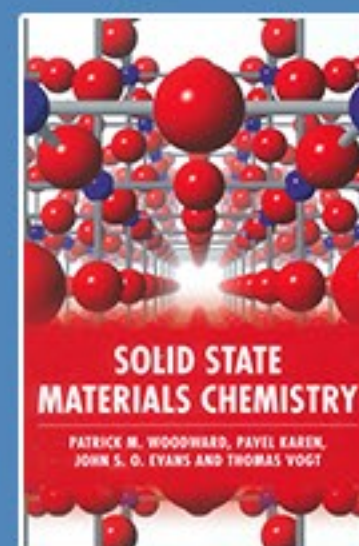


Statistical Mechanics: Entropy, Order Parameters, and Complexity

James P. Sethna

Statistical mechanics represents the tool to untangle complex systems and Sethna's textbook, in its 2nd edition, distills the subject to be accessible to scientists and engineers, both practicing and nascent.

2021

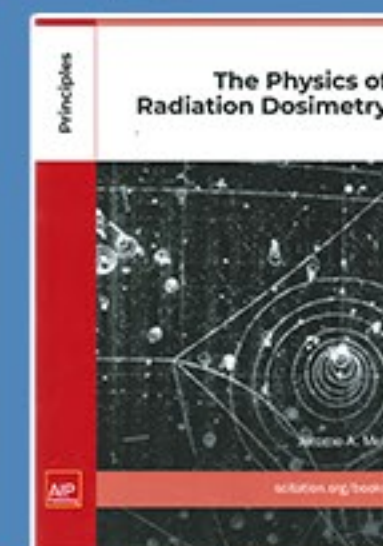


Solid State Materials Chemistry

Patrick M. Woodward, Pavel Karen, John S. O. Evans, Thomas Vogt

"A readable, rigorous, and modern account of the fundamentals of solid state chemistry and materials' properties. Questions commonly posed by students are well anticipated and the concepts discussed with thoughtful clarity."
Simon J. Clarke, University of Oxford

2021



The Physics of Radiation Dosimetry

Jerome A. Meli

The ideal treatment of the fundamentals of radiation dosimetry for students who need to master topics such as charged particle/matter interactions and photon/matter interactions.

2020

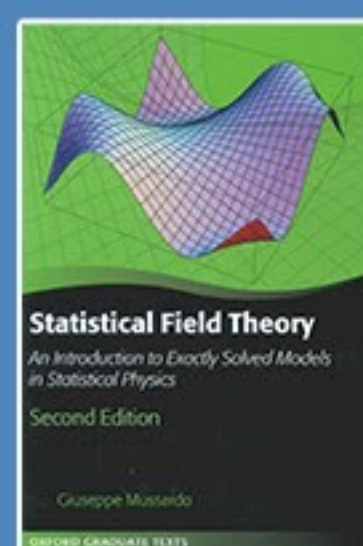


The Science of Citizen Science

editors: Katrin Vohland, Anne Land-Zandstra, Luigi Ceccaroni, Rob Lemmens, Josep Perelló, Marisa Ponti, Roeland Samson, Katherin Wagenknecht

The ambitious goal of this book is to provide a complete picture of citizen science, a growing practice in which scientists and citizens collaborate to produce new knowledge for science and society. Also available Open Access

2021

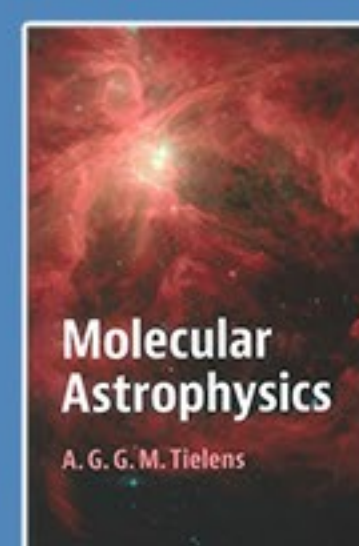


Statistical Field Theory

Giuseppe Mussardo

Through clear discussions of physical principles and detailed analysis of several branches of mathematics, this textbook provides an extensive introduction to the fascinating world of statistical mechanics and quantum field theory.

2020



Molecular Astrophysics

A. G. G. M. Tielens

Get engaged with the latest developments in molecular astrophysics and with up to date astronomical observations from sources as the Atacama Large Millimeter/Submillimeter Array and the James Webb Space Telescope.

2021



Science, Technology and Innovation for Sustainable Development Goals

editors: Ademola A. Adenle, Marian R. Chertow, Ellen H. M. Moors, David J. Pannell

Authors and researchers tackle big-picture questions and localized case studies to show the roles STI solutions play in socio-economic and environmental challenges among domestic and international organizations concerned with the SDGs.

2020

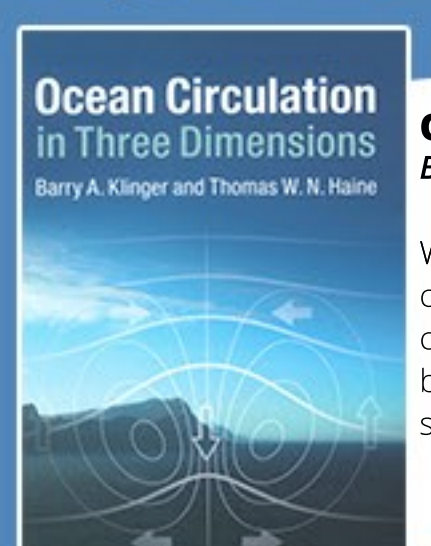


Introduction to Effective Field Theory

Cliff Peter Burgess

Learn more about effective field theory, the language in which physical laws are written. Its tools are presented using worked examples from particle, nuclear, atomic, condensed matter and gravitational physics.

2021

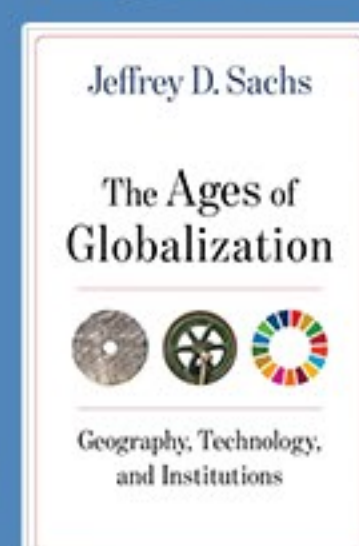


Ocean Circulation in Three Dimensions

Barry A. Klinger & Thomas W. N. Haine

With its innovative structure, where each topic is covered by observational description, explanatory concepts, and mathematical theory, this book gives a broad overview of the ocean general circulation and some ways it influences climate.

2019



The Ages of Globalization

J.D. Sachs

"Its scope is breathtaking, its insights stimulating, and its conceptual innovation pathbreaking. For those seeking a story about where humanity has come from and is going to, this book is a story with many lessons and hopes for the future."
Gordon L. Clark, University of Oxford

2020



Time Crystals

Krzysztof Sacha

Time crystals have a repeating structure in time. This original and comprehensive text introduces the fundamental concepts behind time crystals and explores the many different branches of this new research area.

2020



Physics and Finance

Volker Ziemann

Finance shares with Physics a number of common methods and ideas, usually related to noise and uncertainties. Discover the underlying ideas: mathematical and computational tools, such as stochastic differential equations, path integrals, Monte-Carlo methods, and basic cryptology.

2021