Quantum Information and Coherence

This book offers an introduction to ten key topics in quantum information science and quantum coherent phenomena, aimed at graduate-student level. The chapters cover some of the most recent developments in this dynamic research field where theoretical and experimental physics, combined with computer science, provide a fascinating arena for groundbreaking new concepts in information processing.

Features

- Broadens knowledge of young researchers studying quantum information and coherence
- Contains the latest research and establishes future trends in quantum information and coherence
- Provides advanced lectures from highly-distinguished and acknowledged experts in the field

Contents


Fields of interest

Quantum Information Technology; Spintronics; Quantum Physics; Quantum Gases and Condensates

Target groups

Graduate

Product category

Monograph

Microphysics of Cosmic Plasmas

Presents a comprehensive review of physical processes in astrophysical plasmas. This title presents a review of the detailed aspects of the physical processes that underlie the observed properties, structures and dynamics of cosmic plasmas. An assessment of the status of understanding of microscale processes in all astrophysical collisionless plasmas is provided.

Features

- Presents a comprehensive and up-to-date review of physical processes in space and astrophysical plasmas, from the near-Earth space to the most distant parts of the Universe
- Broadly discusses topics in plasma astrophysics, from magnetohydrodynamics to plasma instabilities, turbulence and non-classical transport processes
- Written by a rare and unique collection of authors, whose specialties cover the complete range of disciplines in the topics discussed, from space physics to astrophysics

Contents


Fields of interest

Extraterrestrial Physics, Space Sciences; Plasma Physics

Target groups

Research

Product category

Monograph

Dynamic Systems Models

New Methods of Parameter and State Estimation

This monograph is an exposition of a novel method for solving inverse problems, a method of parameter estimation for time series data collected from simulations of real experiments.

Features

- Lays down a new method of solving inverse problems equations with weaker requirements than existing methods
- Reinforces basic principles and demonstrates methodical efficiency using non-trivial applied examples
- Relevant to many applications from bioinformatics through aerodynamics to financial mathematics

Contents

Linear Estimators of a Random-Parameter Vector.- Basis of the Method of Polynomial Approximation.- Polynomial Approximation and Optimization of Control.- Polynomial Approximation Technique Applied to Inverse Vector Functions.- Identification of Parameters of Nonlinear Dynamical Systems: Smoothing, Filtering and Forecasting the State Vector.- Estimating State Vectors from Sight Angles.- Estimation of Parameters of Stochastic Models.- Designing the Control of Motion to a Target Point of Phase Space.- Inverse Problems of Dynamics Algorithm for Identifying Parameters of an Aircraft […]

Fields of interest

Nonlinear Dynamics; Mathematical Modeling and Industrial Mathematics; Aerospace Technology and Astronautics

Target groups

Research

Product category

Monograph

Due February 2014


Due March 2014

2014. XIX, 336 p. Hardcover
- € (D) 101,64 | € (A) 104,49 | sFr 126,50
- € 94,99 | £85.50
ISBN 978-3-319-04035-6
**Transport of Energetic Electrons in Solids**

M. Dapor, Fondazione Bruno Kessler, Trento, Italy

**Computer Simulation with Applications to Materials Analysis and Characterization**

This book presents the potential of the Monte Carlo (MC) technique to solve mathematical and physical problems of great complexity. This book focuses on the study of the electron-solid interaction (transport MC) and presents some physical problems related to the transport of hot electrons in solid targets using transport MC. The numerical and theoretical results are validated through a comparison with experimental results. The author also addresses methodological aspects. In particular, systematic comparisons among different calculation schemes are presented. Different expressions for the calculation of cross sections and/or stopping power and different simulation methods are described and discussed.

**Features**
- Gives a detailed description of the theory of cross-section calculations
- Provides detailed descriptions of the main MC strategies for writing and using a code
- Presents a systematic comparison with experimental data to validate the presented methods and theories

**Contents**
- Electron Transport in Solids
  - Cross-Sections: Basic Aspects
  - Scattering Mechanisms: Random Numbers
  - Monte Carlo Strategies
  - Backscattering Coefficient
  - Secondary Electron Yield
- Electron Energy Distributions

**Fields of interest**
- Solid State Physics
- Numerical and Computational Physics
- Characterization and Evaluation of Materials

**Target groups**
- Research

**Product category**
- Monograph

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**Laser Spectroscopy 1**

W. Demtröder, University of Kaiserslautern, Kaiserslautern, Germany

**Basic Principles**

Keeping abreast of the latest techniques and applications, this new edition of the standard reference and graduate text on laser spectroscopy has been completely revised and expanded. While the general concept is unchanged, the new edition features a broad array of new material, e.g., ultrafast lasers (atto- and femtosecond lasers) and parametric oscillators, coherent matter waves, Doppler-free Fourier spectroscopy with optical frequency combs, interference spectroscopy, quantum optics, the interferometric detection of gravitational waves and still more applications in chemical analysis, medical diagnostics, and engineering.

**Features**
- The standard textbook in spectroscopy, written by one of the most renowned experts in the field
- Completely revised and expanded new edition with new chapters on attosecond and interference spectroscopy, quantum optics and gravitational waves
- Includes most recent techniques and applications
- Numerous exercises with solutions
- Contains a detailed survey of the essential ideas and facts

**Contents**
- Introduction
- Absorption and Emission of Light
- Widths and Profiles of Spectral Lines
- Spectroscopic Instrumentation
- Lasers as Spectroscopic Sources

**Fields of interest**
- Spectroscopy and Microscopy
- Optics and Electrodynamics
- Characterization and Evaluation of Materials

**Target groups**
- Graduate

**Product category**
- Graduate/Advanced undergraduate textbook

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**The Van Allen Probes Mission**

N. Fox, Johns Hopkins University, Laurel, MD, USA; J. L. Burch, Southwest Research Institute, San Antonio, TX, USA (Eds)

**Due February 2014**


2014, VII, 647 p. Hardcover
- € (D) 181,89 | € (A) 186,99 | sFr 226,50
- € 169,99 | €153.00
ISBN 978-1-4899-7432-7

**Due May 2014**


2014. 180 p. 70 illus. (Springer Tracts in Modern Physics, Volume 257) Hardcover
- € (D) 139,09 | € (A) 142,99 | sFr 173,50
- € 129,99 | €117.00
ISBN 978-3-319-03882-7

**Due March 2014**

Originally published in one volume in the series: Advanced Texts in Physics

2014. 500 p. 220 illus. Hardcover
- € (D) 80,24 | € (A) 82,49 | sFr 100,00
- € 74,99 | €67.99
ISBN 978-3-642-53858-2
M. Gasperini, Università di Bari, Bari, Italy
Gravity, Strings and Particles
A Journey Into the Unknown

The three topics examined in this book – gravity, strings and particles – are underrepresented among books on popular science despite the fact that their study may provide the key to solving one of the most fascinating mysteries of modern science, namely: Besides time and the three spatial dimensions, how many other dimensions exist in our universe? The focus of Gravity, Strings and Particles therefore extends beyond what is known, the emphasis instead being in particular on what is still unknown. The book is primarily addressed to readers who do not necessarily have a specific background in physics but are nevertheless interested in discovering the originality and possible implications of some of the amazing ideas in modern theoretical physics. The emphasis is accordingly on conveying ideas rather than explaining formulas.

Features
► Presents ideas on some of the most fascinating topics in modern theoretical physics for the layman  ► Unconventional, in that the discussion goes beyond what is known to focus particularly on what is still unknown  ► Fascinating and suggestive speculations on the nature and role of time

Contents
Prologue: inside the energy walls of our ‘cradle’.  Gravity at small distances.  Gravity at large distances.  Space, time and space-time.  Strings and fundamental interactions.  The past of our Universe.  […]

Fields of interest
Classical and Quantum Gravitation, Relativity Theory; Popular Science in Astronomy; Quantum Field Theories, String Theory

Target groups
Popular/general

Product category
Popular science

J. M. Henn, J. C. Plefka, Humboldt-Universität zu Berlin, Berlin, Germany
Scattering Amplitudes in Gauge Theories
At the fundamental level, the interactions of elementary particles are described by quantum gauge field theory. The quantitative implications of these interactions are captured by scattering amplitudes, traditionally computed using Feynman diagrams. In the past decade tremendous progress has been made in our understanding of and computational abilities with regard to scattering amplitudes in gauge theories, going beyond the traditional textbook approach. These advances build upon on-shell methods that focus on the analytic structure of the amplitudes, as well as on their recently discovered hidden symmetries. In fact, when expressed in suitable variables the amplitudes are much simpler than anticipated and hidden patterns emerge.

Features
► First monographical text on this fundamental topic  ► Course-tested, pedagogical and self-contained exposition  ► Includes exercises and solutions

Contents

Fields of interest
Quantum Field Theories, String Theory; Elementary Particles, Quantum Field Theory; Mathematical Methods in Physics

Target groups
Graduate

Product category
Monograph

L. Ji, Institute for Theoretical Physics I, Heinrich-Heine-University Düsseldorf, Düsseldorf, Germany, and, Chinese Academy of Sciences, Shanghai, People’s Republic of China
Ion acceleration and extreme light field generation based on ultra-short and ultra-intense lasers
This book is dedicated to the relativistic (laser intensity above 1018 W/cm2) laser-plasma interactions, which mainly concerns two important aspects: ion acceleration and extreme-light-field (ELF). Based on the ultra-intense and ultra-short CP lasers, this book proposes a new method that significantly improves the efficiency of heavy-ion acceleration, and deals with the critical thickness issues of light pressure acceleration.

Features
► Nominated as an outstanding Ph.D. thesis by Chinese Academy of Sciences  ► Proposes a new method significantly improving the efficiency of heavy-ion acceleration  ► Shows the potential of plasma-based relativistic optics for generating extreme light fields

Contents

Fields of interest
Atoms and Molecules in Strong Fields, Laser Matter Interaction; Particle Acceleration and Detection, Beam Physics; Laser Technology, Photonics

Target groups
Research

Product category
Ph.D. Thesis

Due May 2014
2014. XII, 208 p. Softcover
► approx.  *€ (D) 42,79 | € (A) 43,99 | sFr 53,50
ISBN 978-3-642-54021-9

Due March 2014
2014. XIV, 202 p. 37 illus. (Lecture Notes in Physics, Volume 883) Softcover
► *€ (D) 48,14 | € (A) 49,49 | sFr 60,00
►  € 44,99 | £40.99
ISBN 978-3-642-54021-9

Due January 2014
2014. XII, 84 p. 46 illus., 16 in color. (Springer Theses) Hardcover
►  *€ (D) 106,99 | € (A) 109,99 | sFr 133,50
►  € 99,99 | £90.00
ISBN 978-3-642-54006-6
A. J. Masys, Centre for Security Science, Ottawa, ON, Canada (Ed)

**Networks and Network Analysis for Defence and Security**

**Features**
- Provides methods for utilizing network analysis towards security concerns
- Presents techniques for using big data towards understanding vulnerabilities in complex networks
- Gives insights into understanding why infrastructures can and do fail in crisis situations and how to mitigate these effects
- Can help prepare inform future major event security operations for large events such as the Olympics

**Contents**
- Network Analysis in Criminal Intelligence.
- Macrossocial Network Analysis: the Case of Transnational Drug Trafficking.
- Policing the Hackers by Hacking them: Studying Online Deviants in IRC Chat Rooms.
- Why Terror Networks are Dissimilar: How Structure Relates to Functions.
- Social Network Analysis Applied to Criminal Networks: Recent Developments in Dutch Law Enforcement.
- Conflict Cessation and the Emergence of Weapons Supermarkets.
- A Conspiracy of Bastards?: Decision Support through Strongest Path Method Risk Analysis.
- Critical Infrastructure and Vulnerability: A Relational Analysis through Actor Network Theory.
- Dealing with Complexity: Thinking about Networks and the Comprehensive Approach.

**Fields of interest**
- Complex Networks; Computer Appl. in Social and Behavioral Sciences; Criminology & Criminal Justice

**Target groups**
- Research

**Product category**
- Monograph

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T. Matsushita, Kyushu Institute of Technology, Fukuoka, Japan

**Flux Pinning in Superconductors**

The book covers the flux pinning mechanisms and properties and the electromagnetic phenomena caused by the flux pinning common for metallic, high-Tc and MgB2 superconductors. The condensation energy interaction known for normal precipitates or grain boundaries and the kinetic energy interaction proposed for artificial Nb pins in Nb-Ti, etc. are introduced for the pinning mechanism. Summation theories to derive the critical current density are discussed in detail. Irreversible magnetization and AC loss caused by the flux pinning are also discussed. The loss originally stems from the ohmic dissipation of normal electrons in the normal core driven by the electric field induced by the flux motion. The readers will learn why the resultant loss is of hysteresis type in spite of such mechanism.

**Features**
- Ideal for graduate students studying superconductivity and experts alike
- Written by a researcher with more than 30 years experience in the field
- All chapters are completely revised

**Contents**
- Fundamental Electromagnetic Phenomena in Superconductors.
- Various Electromagnetic Phenomena.
- Longitudinal Magnetic Field Effect.
- Flux Pinning Mechanism.
- Flux Pinning Characteristics.
- High-Temperature Superconductors.
- MgB2. …]

**Fields of interest**
- Strongly Correlated Systems, Superconductivity; Optical and Electronic Materials; Low Temperature Physics

**Target groups**
- Research

**Product category**
- Monograph

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A. Monnai, RIKEN BNL Research Center, New York, USA

**Relativistic Dissipative Hydrodynamic Description of the Quark–Gluon Plasma**

This thesis presents theoretical and numerical studies on phenomenological description of the quark–gluon plasma (QGP), a many-body system of elementary particles. The author formulates a causal theory of hydrodynamics for systems with net charges from the law of increasing entropy and a momentum expansion method. The derived equation results can be applied not only to collider physics, but also to the early universe and ultra-cold atoms. The author also develops novel off-equilibrium hydrodynamic models for the longitudinal expansion of the QGP on the basis of these equations.

**Features**
- Provides a full second-order formulation of relativistic dissipative hydrodynamics with linear cross terms that satisfy Onsager reciprocal relations
- Shows the effects of shear viscosity, bulk viscosity and baryon diffusion found to be important in quantitative analyses of particle spectra from the expanding QGP
- Nominated as an outstanding Ph.D. thesis by the University of Tokyo’s Physics Department in 2012

**Contents**
- Introduction.
- High-Energy Heavy Ion Collisions.
- Relativistic Dissipative Hydrodynamics with Conserved Charges.
- Viscous Hydrodynamic Model and Baryon Stopping.
- Summary and Conclusion.

**Fields of interest**
- Particle and Nuclear Physics; Astrophysics and Astroparticles; Theoretical, Mathematical and Computational Physics

**Target groups**
- Research

**Product category**
- Monograph
Semigroup Methods for Evolution Equations on Networks

This concise text is based on a series of lectures held only a few years ago and originally intended as an introduction to known results on linear hyperbolic and parabolic equations. Yet the topic of differential equations on graphs, ramified spaces, and more general network-like objects has recently gained significant momentum and, well beyond the confines of mathematics, there is a lively interdisciplinary discourse on all aspects of so-called complex networks. Such network-like structures can be found in virtually all branches of science, engineering and the humanities, and future research thus calls for solid theoretical foundations. This book is specifically devoted to the study of evolution equations – i.e.

Features
- Course-based and self-contained presentation
- Suitable as graduate textbook or self-study guide
- Combines classical results on hyperbolic and parabolic equations on networks with operator semigroup approaches

Contents

Fields of interest
Complex Networks; Graph Theory; Nonlinear Dynamics

Target groups
Graduate

Product category
Brief

Nuclear Reactions

An Introduction

Nuclei and nuclear reactions offer a unique setting for investigating three (and in some cases even all four) of the fundamental forces in nature. Nuclei have been shown – mainly by performing scattering experiments with electrons, muons and neutrinos – to be extended objects with complex internal structures: constituent quarks; gluons, whose exchange binds the quarks together; sea-quarks, the ubiquitous virtual quark-antiquark pairs and last but not least, clouds of virtual mesons, surrounding an inner nuclear region, their exchange being the source of the nucleon-nucleon interaction. The interplay between the (mostly attractive) hadronic nucleon-nucleon interaction and the repulsive Coulomb force is responsible for the existence of nuclei; their degree of stability, expressed in the details and limits of the chart of nuclides; their rich structure and the variety of their interactions. Despite the impressive successes of the classical nuclear models and of ab-initio approaches, there is clearly no end in sight for either theoretical or experimental developments as shown e.g.

Features
- Modern, self-contained introduction to the subject matter
- Emphasizes the interplay between theory and experiment
- Course-tested tutorial style, contains many derivations

Contents
Preface.- Part I Nuclear Reactions.- Part II Tools of Nuclear Reactions.- Part III Applications of Nuclear Reactions and Special Accelerators.- Index.

Fields of interest
Nuclear Physics, Heavy Ions, Hadrons; Measurement Science and Instrumentation; Astrophysics and Astroparticles

Target groups
Graduate

Product category
Monograph

Practical Opto-Electronics

An Illustrated Guide for the Laboratory

This book explains how to create opto-electronic systems in a most efficient way, avoiding typical mistakes. It covers light detection techniques, imaging, interferometry, spectroscopy, modulation-demodulation, heterodyning, beam steering and many other topics common to laboratory applications. The focus is made on self-explanatory figures rather than on words. The book guides the reader through the entire process of creating problem-specific opto-electronic systems, starting from optical source, through beam transportation optical arrangement, to photodetector and data acquisition system. The relevant basics of beam propagation and computer-based raytracing routines are also explained, and sample codes are listed.

Features
- Serves as a guide to create optoelectronic systems
- Contains important know-how and tricks which have never been published in the scientific literature
- Contains numerous self-explanatory figures to help the reader to grasp the subject quickly

Contents

Fields of interest
Optics, Optoelectronics, Plasmonics and Optical Devices; Microwaves, RF and Optical Engineering; Optics and Electrodynamics

Target groups
Professional/practitioner

Product category
Monograph

Due April 2014
2014. 280 p. (Understanding Complex Systems) Hardcover
* € (D) 90,94 | € (A) 93,49 | sFr 113,50
* € 84,99 | £76.50
ISBN 978-3-319-04620-4

Due February 2014
2014. XXIV, 430 p. 183 illus., 87 in color. (Lecture Notes in Physics, Volume 882) Softcover
* € (D) 101,64 | € (A) 104,49 | sFr 126,50
* € 94,99 | £85.50
ISBN 978-3-642-53985-7

Due June 2014
2014. 250 p. 153 illus., 3 in color. (Springer Series in Optical Sciences, Volume 184) Hardcover
* € (D) 106,99 | € (A) 109,99 | sFr 133,50
* € 99,99 | £90.00
ISBN 978-3-319-04512-4
**Free-Electron Lasers in the Ultraviolet and X-Ray Regime**

**Physical Principles, Experimental Results, Technical Realization**

The main goal of the book is to provide a systematic and didactic approach to the physics and technology of free-electron lasers.

**Features**
- Contains many coloured illustrations with detailed comments
- Coverage of theory and experimental methods make this book ideal for experts as well as beginners in the field
- Is completely expanded, updated and revised to present the state of the art in FEL research

**Contents**
- Introduction.
- Undulator Radiation.
- Low-Gain FEL Theory.
- One-Dimensional Theory of the High-Gain FEL.
- Applications of the High-Gain FEL Equations.
- Energy Spread, Space Charge and 3D Effects.
- Self-Amplified Spontaneous Emission and FEL Seeding.
- The EUV and Soft X-Ray FEL in Hamburg.
- Appendices.
  - A: Hamiltonian Formalism.
  - B: Supplements to Chapter 4.
  - C: Gaussian Modes of Laser Beams.
  - D: Eigenmode Approach.
  - E: Statistical Methods and Tools.
  - F: Conventions and Frequently used Symbols.

**Fields of interest**
- Laser Technology, Photonics; Particle Acceleration and Detection, Beam Physics; Measurement Science and Instrumentation

**Target groups**
- Research

**Product category**
- Monograph

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**Due February 2014**

2nd ed. 2014. XV, 229 p. 114 illus., 111 in color. (Springer Tracts in Modern Physics, Volume 258)

Hardcover
- € (D) 139,09 | € (A) 142,99 | sFr 173,50
- € 129,99 | £117.00
- ISBN 978-3-319-04080-7

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**Due May 2014**

2nd ed. 2014. 650 p. 500 illus., 250 in color.

Hardcover
- approx. € (D) 74,89 | € (A) 76,99 | sFr 93,50
- approx. € 69,99 | £62.99
- ISBN 978-3-642-54082-0
Relaxation of the Chemical Bond

Skin Chemisorption Size Matter ZTP: Mechanics H2O Myths

The aim of this book is to explore the detectable properties of a material to the parameters of bond and non-bond involved and to clarify the interdependence of various properties.

Features
- Features the latest advancement in surface and nanoscience combining theory, experimental and computational techniques
- Reinforces principles with a systematic and in depth approach from basics to applications
- Written by a leading expert in the field

Contents

Fields of interest
Surface and Interface Science, Thin Films; Physical Chemistry; Nanotechnology

Target groups
Research

Product category
Monograph

History and Evolution of Concepts in Physics

Our understanding of nature, and in particular of physics and the laws governing it, has changed radically since the days of the ancient Greek natural philosophers. This book explains how and why these changes occurred, through landmark experiments as well as theories that - for their time - were revolutionary. The presentation covers Mechanics, Optics, Electromagnetism, Thermodynamics, Atomic and Quantum Physics.

Features
- Based on a successful course held by the author
- Ideal for giving first year students a "flavor" of the basic concepts
- Unifies the development of various important fields within a common historical framework
- A unique approach that will also appeal to the specialist and the interested layperson
- "Witty, charming and useful!" [referee remark]

Contents

Fields of interest
History and Philosophical Foundations of Physics; Classical Continuum Physics; Popular Science, general

Target groups
Lower undergraduate

Product category
Graduate/Advanced undergraduate textbook

A Course in Lens Design

A Course in Lens Design is an instruction in the design of image-forming optical systems. It teaches how a satisfactory design can be obtained in a straightforward way. Theory is limited to a minimum, and used to support the practical design work. The book introduces geometrical optics, optical instruments and aberrations. It gives a description of the process of lens design and of the strategies used in this process. Half of its content is devoted to the design of sixteen types of lenses, described in detail from beginning to end. This book is different from most other books on lens design because it stresses the importance of the initial phases of the design process: (paraxial) layout and (thin-lens) pre-design. The argument for this change of accent is that in these phases much information can be obtained about the properties of the lens to be designed. This information can be used in later phases of the design. This makes A Course in Lens Design a useful self-study book and a suitable basis for an introductory course in lens design.

Features
- Appeals to students, researchers and professionals
- Unique method of lens design, to be applied with or without lens design software
- Numerous exercises, stimulating to set up one’s own designs
- Coverage of main fields of application by discussion of optical instruments

Contents
Preface.- 1 Geometrical Optics.- 2 Optical instruments (paraxial approximation).- 3 Aberrations.- 4 Lens design process.- 5 Design strategies.- 6 Design examples.- References.- List of exercises.- Index.

Fields of interest
Optics, Optoelectronics, Plasmonics and Optical Devices; Microwaves, RF and Optical Engineering; Applied and Technical Physics

Target groups
Graduate

Product category
Monograph

Due February 2014


Features
- € (D) 139,09 | € (A) 142,99 | sFr 173,50
- € 129,99 | £117.00
ISBN 978-981-4585-20-0

Due February 2014

2014. XV, 138 p. 49 illus. Hardcover

Features
- € (D) 53,49 | € (A) 54,99 | sFr 67,00
- € 49,99 | £44.99
ISBN 978-3-319-04291-6

Due May 2014


Features
- approx. * € (D) 106,99 | € (A) 109,99 | sFr 133,50
- approx. * € 99,99 | £90.00
ISBN 978-94-017-8684-3
Theoretical and Experimental Studies on Non-Fourier Heat Conduction Based on Thermomass Theory

This book mainly focuses on the theoretical and experimental study of non-Fourier heat conduction behavior. A novel thermomass theory is used as the theoretical basis, which provides a general heat conduction equation for the accurate prediction of non-Fourier heat conduction. In order to prove the validity of this thermomass theory, a large current was used to heat the metallic nanofilm at the minimum temperature of 3 K. The measured average temperature of the nanofilm was notably higher than the prediction of Fourier's heat diffusion equation, while matching well with the general heat conduction equation.

Contents

Introduction.- Thermomass theory for non-Fourier heat conduction.- Experimental investigation of thermal wave and temperature wave.- Experimental proof of steady-state non-Fourier heat conduction.- Conclusions.

Fields of interest
Thermodynamics; Engineering Thermodynamics; Heat and Mass Transfer; Characterization and Evaluation of Materials

Target groups
Research

Product category
Ph.D. Thesis

A. Ziegler, Max Planck Institute for Biochemistry, Martinsried, Germany; H. Graafsm, Deutsches Elektronen Synchrotron, Hamburg, Germany; X. F. Zhang, Hitachi High Technologies America, Inc., Pleasanton, CA, USA; J. W. Frenken, Leiden University Kamerlingh Onnes Laboratory, Leiden, The Netherlands (Eds)

In-Situ Materials Characterization
Across Spatial and Temporal Scales

Contents

Presentation of advanced techniques for bulk analysis: X-ray absorption spectroscopy, Time-Resolved Neutron Scattering

Fields of interest
Nanoscale Science and Technology; Characterization and Evaluation of Materials; Spectroscopy and Microscopy

Target groups
Graduate

Product category
Monograph

Due March 2014

Originally published by Stanley Thornes Ltd., Cheltenham, 1986

2nd ed. 2014. 650 p. 400 illus. With online files/update. Hardcover

* € (D) 139,09 | € (A) 142,99 | sFr 173,50
* € 129,99 | £ 117,00
ISBN 978-3-642-45151-5

Due April 2014

2014. 435 p. 300 illus. (Springer Series in Materials Science, Volume 193) Hardcover

* € (D) 139,09 | € (A) 142,99 | sFr 173,50
* € 129,99 | £ 117,00
ISBN 978-3-642-45151-5