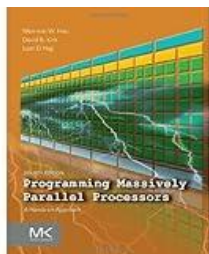


Science Collection



Programming Massively Parallel Processors: A Hands-on Approach

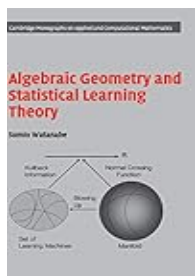
Author: Wen-mei W. Hwu, David B. Kirk and Izzat El Hajj

Publisher: Elsevier

Overview: It is the definitive pedagogical guide to GPU computing and CUDA architecture. It transforms computational thinking into high-performance reality by teaching the structural patterns and optimization techniques required to harness the power of thousands of concurrent threads.

Acc. No: 102572

Call No: [004.35 HWU-P](#)



Algebraic geometry and statistical learning theory

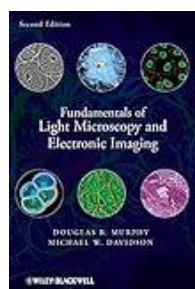
Author: Sumio Watanabe

Publisher: Cambridge University Press

Overview: It establishes a rigorous mathematical bridge between algebraic geometry and the analysis of singular learning models. By applying resolution of singularities to the Kullback-Leibler divergence, Watanabe provides the definitive theoretical framework for understanding the generalization behaviour of neural networks and Bayesian models.

Acc. No: 102679

Call No: [006.31 WAT-A](#)



Fundamentals of Light Microscopy and Electronic Imaging, 2nd Ed.

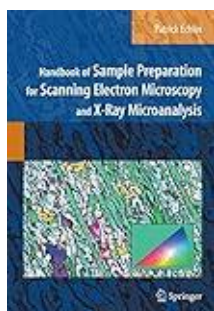
Author: Douglas B. Murphy and Michael W. Davidson

Publisher: Wiley-Blackwell

Overview: Fundamentals of Light Microscopy and Electronic Imaging is the definitive technical manual for the integrated optical system. It synthesizes the physics of diffraction and interference with the computational rigor of digital signal processing, providing a complete roadmap for the quantitative visualization of live-cell dynamics. [Read more.](#)

Acc. No: 102714

Call No: [502.82 MUR-F](#)



Handbook of Sample Preparation for Scanning Electron Microscopy and X-Ray Microanalysis

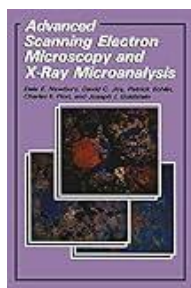
Author: Echlin, Patrick

Publisher: Springer Science + Business Media

Overview: Handbook of Sample Preparation is the essential technical bridge between raw specimens and high-resolution data. It provides rigorous protocols for transforming non-conductive, hydrated, and beam-sensitive materials into stable samples capable of withstanding the high-vacuum environment of the SEM and X-ray microanalyzer. [Read more.](#)

Acc. No: 102715

Call No: [502.825 ECH-H](#)



Advanced Scanning Electron Microscopy and X-Ray Microanalysis

Author: Dale E. Newbury and David C. Joy, et.al.

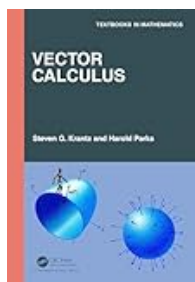
Publisher: Springer Science + Business Media

Overview: A seminal text born from Lehigh University's intensive courses, this volume provides an authoritative exploration of the high-resolution imaging and chemical analysis techniques that define advanced microscopy. It bridges the gap between basic electron optics and specialized frontiers like digital image processing and electron channelling contrast.

[Read more.](#)

Acc. No: 102712

Call No: [502.825 NEW-A](#)



Vector Calculus

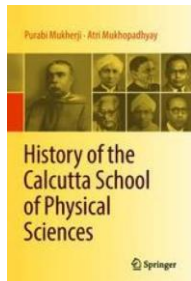
Author: Steven G. Krantz, Harold Parks

Publisher: CRC Press

Overview: Vector Calculus is a rigorous yet accessible exploration of multivariable mathematics, emphasizing the truth of mathematical language. By synthesizing classical techniques with modern numerical modelling, the text empowers students to master the geometry of space and the fluid dynamics of vector fields. [Read more.](#)

Acc. No: 102680

Call No: [515.63 KRA-V](#)



History of the Calcutta School of Physical Sciences

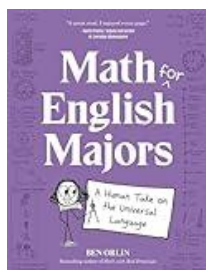
Author: Purabi Mukherji and Atri Mukhopadhyay

Publisher: Springer

Overview: This historical account chronicles the "Golden Age" of Indian physics, centered around Sir Asutosh Mookerjee and his legendary circle of scholars in colonial Calcutta. It documents how icons like C.V. Raman and S.N. Bose achieved world-class breakthroughs despite insufficient resources, driven by unmatched self-confidence and intellectual nationalism. [Read more.](#)

Acc. No: 102693

Call No: [510.9 MUK-H](#)



Math for English Majors: A Human Take on the Universal Language

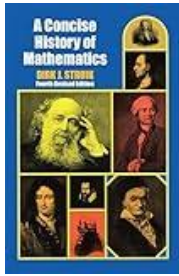
Author: Ben Orlin

Publisher: Black Dog & Leventhal Publishers

Overview: Ben Orlin's Math for English Majors reframes mathematics as a literary endeavor, complete with its own nouns, verbs, and etymologies. By translating abstract equations into "human" narratives, Orlin dismantles the wall of isolation surrounding the universal language for the mathematically perplexed.

Acc. No: 102697

Call No: [510.207 ORL-M](#)



A Concise History of Mathematics

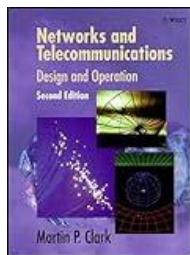
Author: Dirk J. Struik

Publisher: Dover Publications

Overview: Dirk J. Struik's A Concise History of Mathematics is a magisterial survey of the socio-economic and intellectual forces that shaped mathematical thought from the ancient Near East to the dawn of the computer age. It distills millennia of development from the Rhind Papyrus to Turing into a singular narrative of human logic's relentless evolution.

Acc. No: 102593

Call No: [510.9 STR-C](#)



Post-Modern Algebra

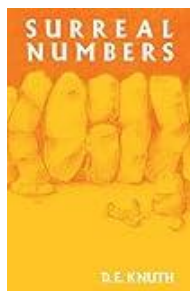
Author: Jonathan D. H. Smith and Anna B. Romanowska

Publisher: Wiley

Overview: It marks a paradigm shift away from the abstract formalism of the mid-20th century toward an applications-based, unified view of structure. By integrating universal algebra and category theory with classical groups and rings, it provides the modern researcher with a flexible toolkit for solving real-world mathematical problems.

Acc. No: 102583

Call No: [512 SMI-P](#)



Surreal Numbers: How Two Ex-Students Turned on to Pure Mathematics and Found Total Happiness: A Mathematical Novelette

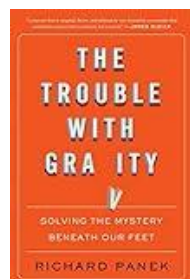
Author: Donald Ervin Knuth

Publisher: Addison Wesley

Overview: Donald Knuth's Surreal Numbers is a foundational work of mathematical fiction that reconstructs John Conway's revolutionary number system through the dialogue of two castaways. Knuth provides a masterclass in the creative process of pure mathematics, moving from an empty set to a field encompassing both the infinite and the infinitesimal.

Acc. No: 102659

Call No: [512.7 KNU-S](#)



The Trouble with Gravity: Solving the Mystery Beneath Our Feet

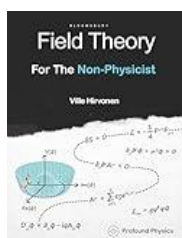
Author: Richard Panek

Publisher: Mariner Books

Overview: The Trouble with Gravity exposes gravity as science's most pervasive cold case, a force we experience constantly yet cannot fundamentally define. By tracing its influence from the curvature of spacetime to the architecture of human language and self-conception, Panek argues that solving gravity is the key to understanding both the cosmos and our own existence.

Acc. No: 102576

Call No: [531.14 PAN-T](#)



Field Theory for the Non-Physicist

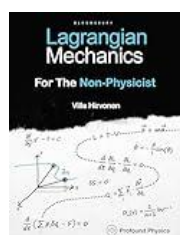
Author: Ville Hirvonen

Publisher: Bloomsbury India

Overview: This book provides a way to jump right into learning the advanced ideas and applications of field theory, without having to learn a whole bunch of other topics first.

Acc. No: 102716

Call No: [530.1 HIR-F](#)



Lagrangian Mechanics for the Non-Physicist

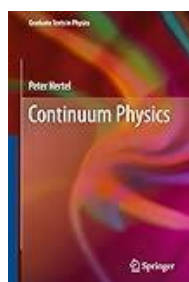
Author: Ville Hirvonen

Publisher: Bloomsbury India

Overview: It is a complete resource specifically designed to teach you everything you'd possibly need to know about Lagrangian mechanics and the foundations of modern physics the fundamentals, prerequisites, theory, math, and practical applications.

Acc. No: 102717

Call No: [530.1 HIR-F](#)



Continuum Physics

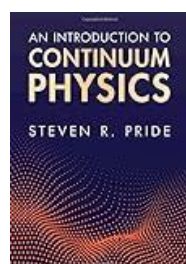
Author: Peter Hertel

Publisher: Springer

Overview: Peter Hertel's Continuum Physics provides a unified mathematical framework for the study of continuously distributed matter, from classical fluid dynamics to quantum astrophysics. By synthesizing universal balance equations with specific constitutive laws, Hertel connects structural mechanics, thermodynamics, and optics into a single coherent field theory.

Acc. No: 102686

Call No: [530.14 HER-C](#)



An Introduction to Continuum Physics

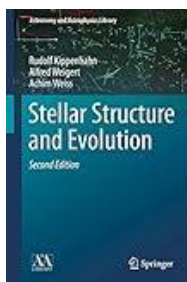
Author: Steven R. Pride

Publisher: Cambridge University Press

Overview: It bridges the gap between molecular dynamics and macroscopic behaviour, providing a rigorous derivation of how the "rules" of matter emerge. Through a focus on boundary-value problems and unified mathematical frameworks, Pride equips students with the tools to solve complex challenges in elasticity, electromagnetics, and fluid dynamics.

Acc. No: 102685

Call No: [530.14 PRI-I](#)



Stellar Structure and Evolution

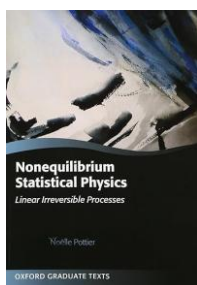
Author: Rudolf Kippenhahn, Alfred Weigert

Publisher: Springer

Overview: This classic textbook provides a rigorous pedagogical foundation for the physics of how stars work, from their hydrostatic equilibrium to their eventual end-states. By prioritizing the core physical principles over mere numerical data, the authors guide students through the complex life cycles of stars, explaining the interplay of gravity, nuclear fusion, and radiation. [Read more.](#)

Acc. No: 102687

Call No: [523.86 KIP-S](#)



Nonequilibrium Statistical Physics: Linear Irreversible Processes

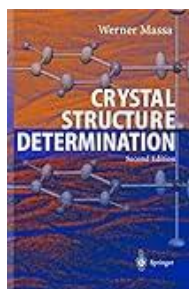
Author: Noëlle Pottier

Publisher: Oxford University Press

Overview: This volume provides a rigorous, unified framework for systems near equilibrium, bridging the gap between microscopic dynamics and macroscopic irreversibility. By synthesizing the fluctuation-dissipation theorem, Onsager relations, and stochastic equations, it transforms a fragmented field into a coherent study of linear irreversible processes.

Acc. No: 102696

Call No: [530.13 POT-N](#)



Crystal Structure Determination

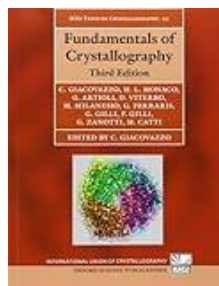
Author: Werner Massa, Robert O. Gould (Tr.)

Publisher: Springer

Overview: It is a concise guide to the inverse problem of crystallography: using the diffraction of X-rays to reconstruct the precise 3D spatial arrangement of atoms. By bridging the gap between diffraction theory and practical structural analysis, it reveals the fundamental connectivity, bond lengths, and symmetry that define the physical identity of a chemical compound.

Acc. No: 102707

Call No: [548.832 MAS-C](#)



Fundamentals of Crystallography – 3rd Ed.

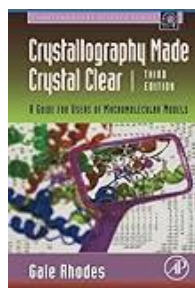
Editor: Carmelo Giacovazzo

Publisher: Oxford University Press

Overview: Giacovazzo's Fundamentals of Crystallography is the Grand Unified Theory of the crystalline state, synthesizing mathematics, physics, and biology into a single analytical framework. By mapping the three-dimensional geometry of matter, it provides the essential tools to decode everything from high-temperature superconductors to the complex machinery of life. [Read more.](#)

Acc. No: 102708

Call No: [548.2 GIA-F](#)



Crystallography Made Crystal Clear: A Guide for Users of Macromolecular Models

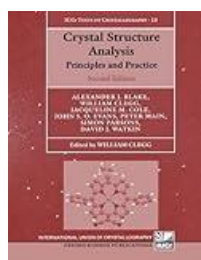
Author: Gale Rhodes

Publisher: Academic Press an imprint of Elsevier

Overview: An essential gateway for non-specialists to understand how macromolecular models are built and interpreted. By replacing dense calculus with intuitive geometric models, it empowers researchers in biology and medicine to critically evaluate the protein structures that underpin modern drug discovery.

Acc. No: 102709

Call No: [547.7 RHO-C](#)



Crystal Structure Analysis: Principles and Practice

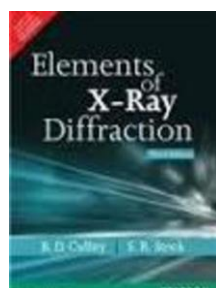
Editor: William Clegg, Alexander J Blake, et al.

Publisher: Oxford University Press

Overview: It is a practitioner's field guide that prioritizes the how-to of modern crystallography over abstract mathematics. From the delicate art of growing a single crystal to the computational refinement of structural data, it provides the essential roadmap for chemists to translate diffraction patterns into verifiable molecular maps. [Read more.](#)

Acc. No: 102710

Call No: [548.81 BLA-C](#)



Elements Of X - Ray Diffraction

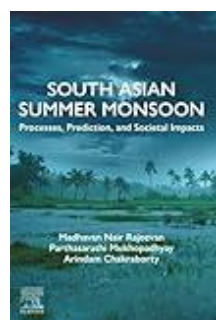
Author: Bd Cullity and Sr Stock

Publisher: Pearson

Overview: Elements of X-ray Diffraction is the definitive foundational text for mastering the physics of how X-rays interact with crystalline matter. By distilling complex wave mechanics into clear principles of geometry and intensity, it provides the essential roadmap for determining the atomic structure of materials.

Acc. No: 102711

Call No: [548.83 CUD-E](#)



South Asian Summer Monsoon: Processes, Prediction, and Societal Impacts

Author: Madhavan Nair Rajeevan, Parthasarathi Mukhopadhyay and Arindam Chakraborty

Publisher: Elsevier

Overview: This comprehensive volume provides a multi-dimensional analysis of the South Asian Summer Monsoon, ranging from its fundamental atmospheric dynamics to its predictive modeling. It serves as a critical bridge between meteorology and public policy, detailing how monsoon variability directly dictates the stability of agriculture, water resources, and disaster management across the subcontinent.

Acc. No: 102658

Call No: [551.5173 RAJ-S](#)



Taking Flight: The Evolutionary Story of Life on the Wing

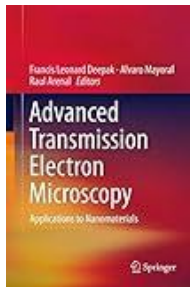
Author: Lev Parikian

Publisher: Elliott and Thompson

Overview: Lev Parikian's Taking Flight is a lyrical yet scientifically grounded exploration of the 300-million-year history of aerial evolution. By spotlighting fourteen distinct species from prehistoric insects to modern albatrosses Parikian reveals how diverse lineages independently solved the complex physical puzzle of gravity to colonize the skies.

Acc. No: 102573

Call No: [591.57 PAR-T](#)



Advanced Transmission Electron Microscopy: Applications to Nanomaterials

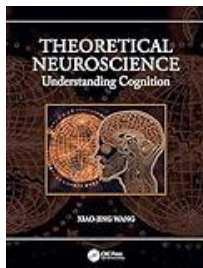
Editor: Francis Leonard Deepak, Alvaro Mayoral, Raul Arenal

Publisher: Springer

Overview: This authoritative volume explores the cutting edge of Transmission Electron Microscopy (TEM), focusing on its pivotal role in deciphering the architecture of nanomaterials. By bridging the gap between inorganic and organic structures, it demonstrates how emerging microscopic techniques allow researchers to visualize and characterize matter at the near-atomic scale. [Read more.](#)

Acc. No: 102713

Call No: [620.11295 ADV-A](#)



Theoretical Neuroscience: Understanding Cognition

Author: Xiao-Jing Wang

Publisher: CRC Press

Overview: It is a definitive guide to how neural circuits function as dynamical systems to generate the mind. By bridging the gap from genes and cell types to large-scale brain networks, it provides a rigorous mechanistic framework for understanding the "building blocks" of human cognition: memory, decision-making, and flexibility. [Read more.](#)

Acc. No: 102700

Call No: [612.8 WAN-T](#)