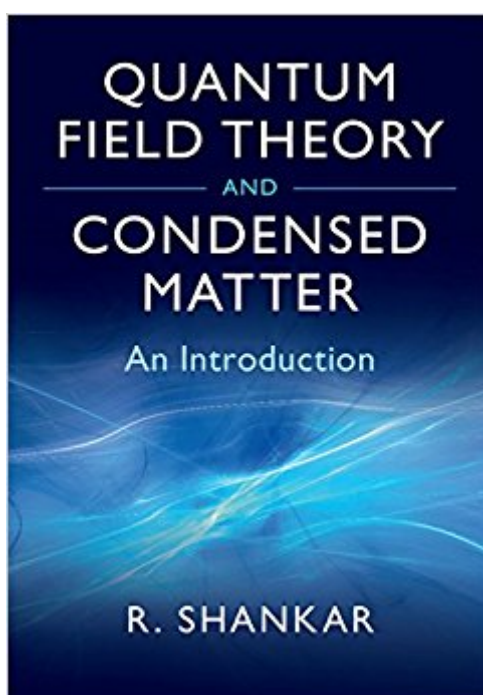


The book was found

Quantum Field Theory And Condensed Matter: An Introduction (Cambridge Monographs On Mathematical Physics)



Synopsis

Providing a broad review of many techniques and their application to condensed matter systems, this book begins with a review of thermodynamics and statistical mechanics, before moving onto real and imaginary time path integrals and the link between Euclidean quantum mechanics and statistical mechanics. A detailed study of the Ising, gauge-Ising and XY models is included. The renormalization group is developed and applied to critical phenomena, Fermi liquid theory and the renormalization of field theories. Next, the book explores bosonization and its applications to one-dimensional fermionic systems and the correlation functions of homogeneous and random-bond Ising models. It concludes with Bohm-Pines and Chern-Simons theories applied to the quantum Hall effect. Introducing the reader to a variety of techniques, it opens up vast areas of condensed matter theory for both graduate students and researchers in theoretical, statistical and condensed matter physics.

Book Information

Series: Cambridge Monographs on Mathematical Physics

Hardcover: 436 pages

Publisher: Cambridge University Press (August 31, 2017)

Language: English

ISBN-10: 0521592100

ISBN-13: 978-0521592109

Product Dimensions: 6.8 x 0.9 x 9.7 inches

Shipping Weight: 2.3 pounds (View shipping rates and policies)

Average Customer Review: Be the first to review this item

Best Sellers Rank: #122,785 in Books (See Top 100 in Books) #53 in Books > Science & Math > Physics > Mathematical Physics

Customer Reviews

This book provides a broad review of the application of quantum field theory to condensed matter systems. A number of important techniques in condensed matter theory are illustrated by describing key problems, including renormalization group, bosonization and path integrals. This book is invaluable for graduate students and researchers interested in theoretical, statistical and condensed matter physics.

Ramamurti Shankar is the John Randolph Huffman Professor of Physics at Yale University,

Connecticut, with a research focus in theoretical condensed matter physics. He has held positions at the Aspen Center for Physics, the American Physical Society and the American Academy of Arts and Sciences. He has also been a Visiting Professor at several universities including Massachusetts Institute of Technology, Princeton University, New Jersey, University of California, Berkeley and Indian Institute of Technology, Madras. Recipient of both the Harwood Byrnes and Richard Sewell Teaching Prize at Yale University (2005) and the Julius Edgar Lilienfeld Prize of the American Physical Society (2009), he has also authored several books: Principles of Quantum Mechanics (1994), Basic Training in Mathematics (2008), and Fundamentals of Physics Volume I and Volume II (2014 and 2016).

[Download to continue reading...](#)

Quantum Field Theory and Condensed Matter: An Introduction (Cambridge Monographs on Mathematical Physics) Covariant Loop Quantum Gravity: An Elementary Introduction to Quantum Gravity and Spinfoam Theory (Cambridge Monographs on Mathematical Physics) Soft Condensed Matter (Oxford Master Series in Condensed Matter Physics, Vol. 6) Many-Body Quantum Theory in Condensed Matter Physics: An Introduction (Oxford Graduate Texts) Quantum Electrodynamics: Gribov Lectures on Theoretical Physics (Cambridge Monographs on Particle Physics, Nuclear Physics and Cosmology) Twistor Geometry and Field Theory (Cambridge Monographs on Mathematical Physics) Advanced Molecular Quantum Mechanics: An Introduction to Relativistic Quantum Mechanics and the Quantum Theory of Radiation (Studies in Chemical Physics) Superstring Theory: Volume 1, Introduction (Cambridge Monographs on Mathematical Physics) Fundamental Algebraic Geometry (Mathematical Surveys and Monographs) (Mathematical Surveys and Monographs Series (Sep. Title P) The Scalar-Tensor Theory of Gravitation (Cambridge Monographs on Mathematical Physics) Superstring Theory 2 Volume Hardback Set: 25th Anniversary Edition (Cambridge Monographs on Mathematical Physics) Field Theories of Condensed Matter Physics Group Theory: Application to the Physics of Condensed Matter Condensed Matter Field Theory Quantum Field Theory in Strongly Correlated Electronic Systems (Theoretical and Mathematical Physics) The Mathematical Theory of Non-uniform Gases: An Account of the Kinetic Theory of Viscosity, Thermal Conduction and Diffusion in Gases (Cambridge Mathematical Library) Statistical Physics: Theory of the Condensed State (Course of Theoretical Physics Vol. 9) Methods of Quantum Field Theory in Statistical Physics (Dover Books on Physics) Magnetism in Condensed Matter (Oxford Master Series in Physics) Introduction to Topological Quantum Matter & Quantum Computation

Contact Us

DMCA

Privacy

FAQ & Help