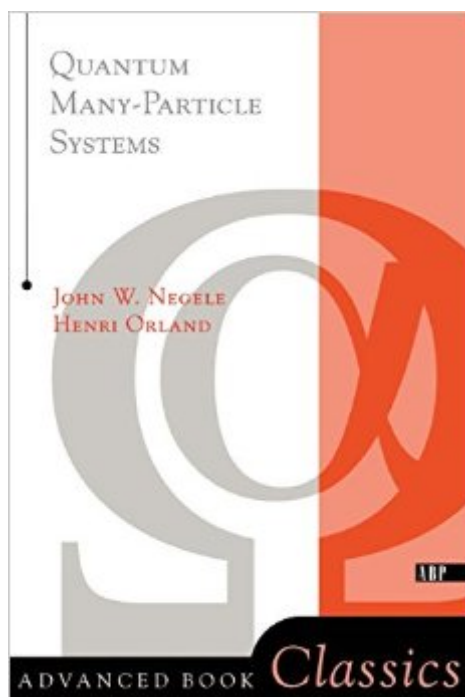# Quantum Many-particle Systems (Advanced Books Classics)

Synopsis

This book explains the fundamental concepts and theoretical techniques used to understand the properties of quantum systems having large numbers of degrees of freedom. A number of complimentary approaches are developed, including perturbation theory; nonperturbative approximations based on functional integrals; general arguments based on order parameters, symmetry, and Fermi liquid theory; and stochastic methods.

Book Information

Series: Advanced Books Classics

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Average Customer Review: 4.8 out of 5 starsÂ Â See all reviewsÂ (5 customer reviews)

Best Sellers Rank: #138,986 in Books (See Top 100 in Books)   #8 inÂ Books > Science & Math > Chemistry > Physical & Theoretical > Quantum Chemistry   #19 inÂ Books > Science & Math > Physics > Waves & Wave Mechanics   #26 inÂ Books > Science & Math > Physics > Solid-State Physics

Customer Reviews

A great physics book for field theory applied to condensedmatter and sometimes nuclear physics problems. The authorsare EXTREMELY careful mathematically and really don't skipany steps or shove stuff under the rug; in fact, the firstchapter is just all math about how to do integrals and pathintegrals and field integrals and deal with Grassman numbers.A bit unusual for a physics book, but that's their style.The rest of the book deals with the usual and other material:zero-temperature Green's functions and perturbation theory(for energy, Green's function, etc.) The treatment is detailedand relatively exhaustive. Then there is the same for finite-temperature. The earlier sections on linear response areconcise and one of the best treatments of the subject I haveseen leading directly to the fluctuation dissipation expression(after this book I realized this vaunted "fluctuation-dissipation" that no one can explain is justa straightforward thing about commutators and pert. theory).The book also has other good stuff: a chapter on mean field theory,

Landau-Ginzburg theory, order parameters, and a nicediscussion about spontaneous symmetry breaking that helpsclarify a bunch of stuff. Then there is a whole chapter onfurther aspects of one-particle Green's functions (Dysonequation, solving for poles, quasiparticles, satellites, etc.)that is pretty good and gets the physical point across. Thereis also a chapter on statistical (monte carlo, numerical, etc.)methods for doing quantum many body problems. While some ofthe methods are not the most up to date or modern, the basicsare all there (Monte Carlo, Hubbard-Strataonvich (spelling?

Quantum Many-particle Systems (Advanced Books Classics) Quantum Theory of Many-Particle Systems (Dover Books on Physics) Quantum Thermodynamics: Emergence of Thermodynamic Behavior Within Composite Quantum Systems (Lecture Notes in Physics) Many Lives, Many Masters: The True Story of a Prominent Psychiatrist, His Yo One God, Many Faiths; One Garden. Many Flowers Bayesian Signal Processing: Classical, Modern and Particle Filtering Methods (Adaptive and Cognitive Dynamic Systems: Signal Processing, Learning, Communications and Control) Jokes For Kids - Joke Books : Funny Books : Kids Books : Books for kids age 9 12 : Best Jokes 2016 (kids books, jokes for kids, books for kids 9-12, ... funny jokes, funny jokes for kids) (Volume 1) Many-Body Quantum Theory in Condensed Matter Physics: An Introduction (Oxford Graduate Texts) Modern Quantum Chemistry: Introduction to Advanced Electronic Structure Theory (Dover Books on Chemistry) Towards Solid-State Quantum Repeaters: Ultrafast, Coherent Optical Control and Spin-Photon Entanglement in Charged InAs Quantum Dots (Springer Theses) Quantum Nanoelectronics: An introduction to electronic nanotechnology and quantum computing QUANTUM SELF HYPNOSIS STOP SMOKING NOW: Hypnosis Script & Inductions Included! (Quantum Self Hypnosis Singles Book 2) Quantum Runes: How to Create Your Perfect Reality Using Quantum Physics and Teutonic Rune Magic (Creating Magick with The Universal Laws of Attraction Book 1) Quantum Mechanics and Quantum Field Theory: A Mathematical Primer Quantum Computation and Quantum Information: 10th Anniversary Edition LIST SERIES: JAMES ROLLINS: SERIES READING ORDER: SIGMA FORCE BOOKS, THE BANNED AND THE BANISHED BOOKS, GODSLAYER BOOKS, JAKE RANSOM BOOKS, TUCKER WAYNE BOOKS, STANDALONE NOVELS BY JAMES ROLLINS British Diecast Model Toys Catalogue: Corgi Toys and Classics, Lledo, E.F.E.Budgie, Spot-on Plus Many Others v. 2 Characterization of Porous Solids and Powders: Surface Area, Pore Size and Density (Particle Technology Series) Particle Size Analysis In Pharmaceutics And Other Industries: Theory And Practice (Prentice Hall International Series in Computer Science) Particle Size Analysis In Pharmaceutics And Other Industries (Prentice Hall

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