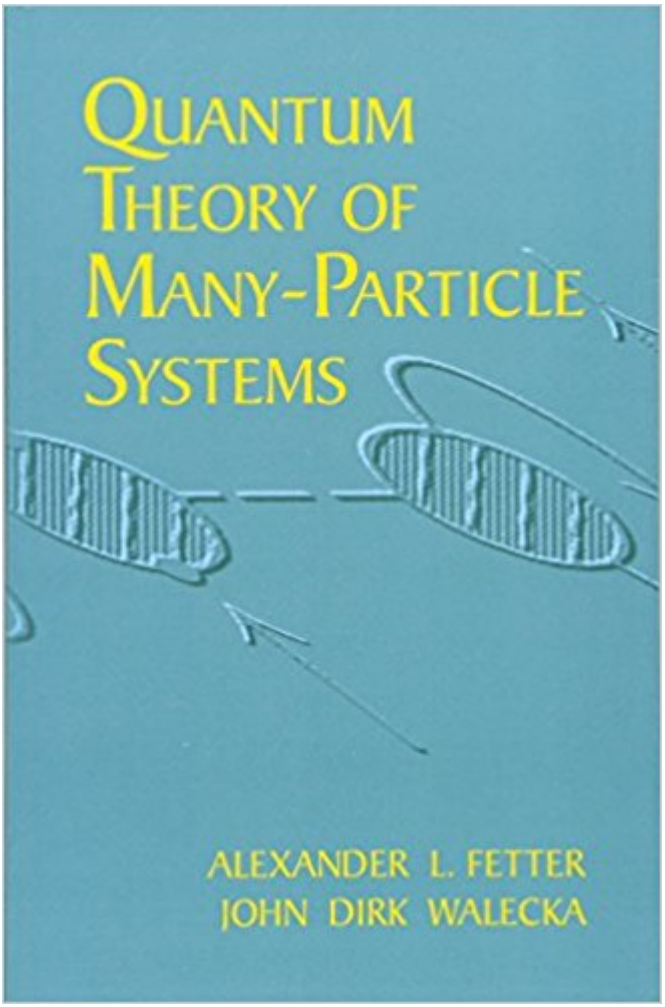
Quantum Theory Of Many-Particle Systems (Dover Books On Physics)



Synopsis

"Singlemindedly devoted to its job of educating potential many-particle theoristsâ |deserves to become the standard text in the field." â ” Physics Today"The most comprehensive textbook yet published in its field and every postgraduate student or teacher in this field should own or have access to a copy." â ” EndeavorA self-contained, unified treatment of nonrelativistic many-particle systems, this text offers a solid introduction to procedures in a manner that enables students to adopt techniques for their own use. Its discussions of formalism and applications move easily between general theory and direct use by offering illustrations of principles to specific cases.Chapters on second quantization and statistical mechanics introduce students to ground-state (zero-temperature) formalism, which is explored by way of Greenâ ™s functions and field theory (fermions), Fermi systems, linear response and collective modes, and Bose systems. Finite-temperature formalism is examined through field theory at finite temperature, physical systems at finite temperature, and real-time Greenâ ™s functions and linear response. Additional topics cover canonical transformations and applications to physical systems in terms of nuclear matter, phonons and electrons, superconductivity, and superfluid helium as well as applications to finite systems.Graduate students will find this text enormously practical in making the transition from taking courses in quantum mechanics to interpreting the vast quantity of literature concerning the many-body problem.

Book Information

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Customer Reviews

"The most comprehensive textbook yet published in its field and every postgraduate student or teacher in this field should own or have access to a copy."

I recently bought the Kindle edition. The content offers clear explanations of many-body physics and the techniques involved, but the copyediting is horrible. It is quite a pain in reading the symbols and equations (e.g. \psi and \psi^dagger have different sizes because \psi^dagger is an imbedded picture). If there is a separate rating for copyediting or formatting, i would have it as 1 star.

It is exactly what I was looking for. It is a great book in QFT. I like the ’s service too.

Excellent book ... excellent service ..

This is a classical book referenced by many papers. But it is not easy to read. The notations are out-of-date

Very Good book!

A very good bookÃ Â Â•

Classic.

Very well written and with a comprehensive explanation of the basics of advanced quantum theory. This is the place for understanding about computing propagators and Feynman diagrams to arbitrary order.Plus, the Dyson equation! At last, you can find out what made Freeman Dyson famous amongst physicists. You can decide whether this ranks in importance to Feynman’s and Schwinger’s discoveries.The problem sets are nontrivial. Which will be appreciated by you, AFTER you have attempted them. (Whilst you are in an allnighter, trying to finish a problem set, your opinion may differ!)The book does not cover superstrings, because those came after its publication.

Quantum Theory of Radiation (Studies in Chemical Physics) Recent Advances in the Theory of Chemical and Physical Systems: Proceedings of the 9th European Workshop on Quantum Systems in Chemistry and Physics ... in Theoretical Chemistry and Physics) Methods of Quantum Field Theory in Statistical Physics (Dover Books on Physics) Finite Element Methods for Particle Transport: Applications to Reactor and Radiation Physics (Research Studies in Particle and Nuclear Technology) Quantum Thermodynamics: Emergence of Thermodynamic Behavior Within Composite Quantum Systems (Lecture Notes in Physics) Many-Body Quantum Theory in Condensed Matter Physics: An Introduction (Oxford Graduate Texts) Covariant Loop Quantum Gravity: An Elementary Introduction to Quantum Gravity and Spinfoam Theory (Cambridge Monographs on Mathematical Physics) The Quantum Mechanics Solver: How to Apply Quantum Theory to Modern Physics Six Stories from the End of Representation: Images in Painting, Photography, Astronomy, Microscopy, Particle Physics, and Quantum Mechanics, 1980-2000 (Writing Science) Mathematics of Classical and Quantum Physics (Dover Books on Physics) Many Many Many Gods of Hinduism: Turning believers into non-believers and non-believers into believers: Culture, Concepts, Controversies Many Many Many Gods of Hinduism: Turning believers into non-believers and non-believers into believers Quantum Field Theory in Strongly Correlated Electronic Systems (Theoretical and Mathematical Physics) Statistical Methods for Data Analysis in Particle Physics (Lecture Notes in Physics) Lie Algebras In Particle Physics: from Isospin To Unified Theories (Frontiers in Physics) Particle Accelerator Physics (Graduate Texts in Physics) From Special Relativity to Feynman Diagrams: A Course in Theoretical Particle Physics for Beginners (UNITEXT for Physics)