



## The Many-body Problem in Quantum Mechanics (Paperback)

By N. H. March, W. H. Young, S. Sampanthar

Dover Publications Inc., United States, 2012. Paperback. Condition: New. New edition. Language: English. Brand new Book. Written for students in search of a single-volume account of both the methods used in dealing with the many-body problem and the physics that result, this book is not an advanced treatment, but nevertheless assumes a good basic understanding of elementary quantum mechanics. Beginning with single-body approximations, the authors go on to devote full chapters to atoms and molecules, second quantization, many-body perturbation theory, Fermi fluids, nuclear matter, superconductivity, many-boson systems, grand partition functions, and Green functions. Each chapter contains an introduction and a selection of well-chosen problems, while a series of helpful appendixes deals with such topics as the second quantized form of one-particle operators, Wick's theorem, the loop theorem, ring diagrams, the time-dependent Hartree-Fock theory of electron gas, and other matters. A carefully selected list of references rounds out this comprehensive text on an important area of theoretical physics.



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