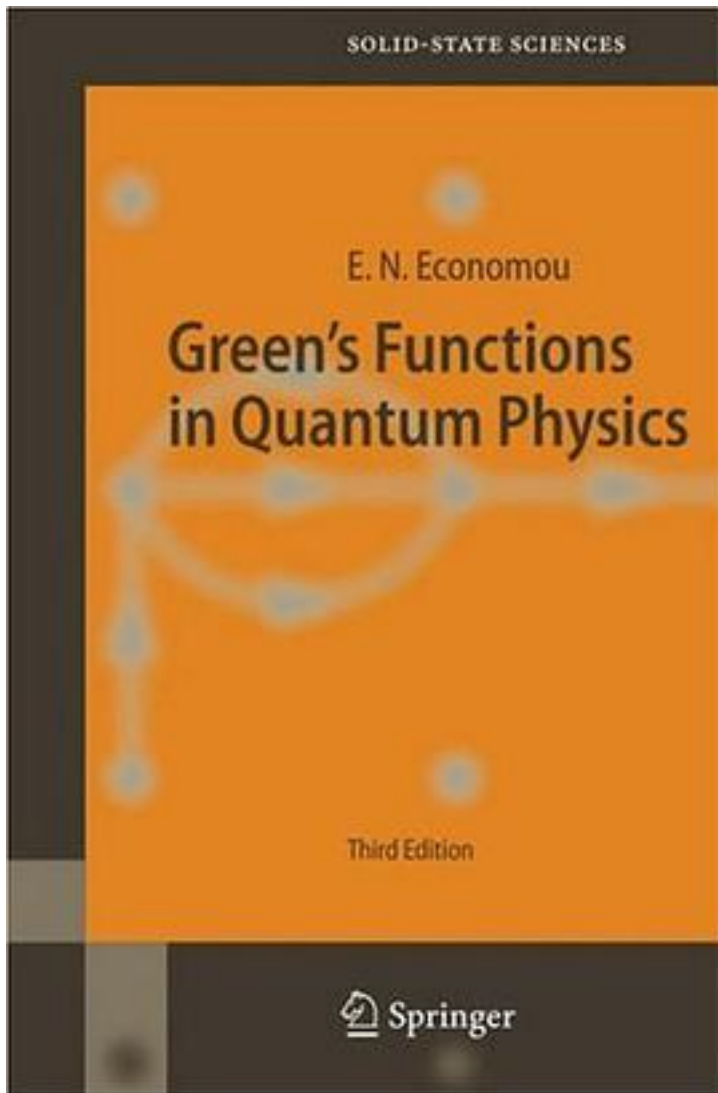


Green's Functions in Quantum Physics (Springer Series in Solid-State Sciences)



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The new edition of a standard reference will be of interest to advanced students wishing to become familiar with the method of Green's functions for obtaining simple and general solutions to basic problems in quantum physics. The main part is devoted to the simplest kind of Green's functions, namely the solutions of linear differential equations with a δ -function source. It is shown that these familiar Green's functions are a powerful tool for obtaining relatively simple and general solutions of basic problems such as scattering and bound level information. The bound-level treatment gives a clear physical understanding of "difficult" questions such as superconductivity, the Kondo effect, and, to a lesser degree, disorder-induced localization. The more advanced subject of many-body Green's functions is presented in the last part of the book. This third edition is 50% longer than the previous and offers end-of-chapter problems and solutions (40% are solved) and additional appendices to help it to serve as an effective self-tutorial and self-sufficient reference. Throughout, it demonstrates the powerful and unifying formalism of Green's functions across many applications, including transport properties, carbon nanotubes, and photonics and photonic crystals.

作者介绍:

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评论

extensive introduction to the math and the use of Green's functions. The only criticism is that many-body part should be expanded.

Elegant fashion of explaining.

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书评

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