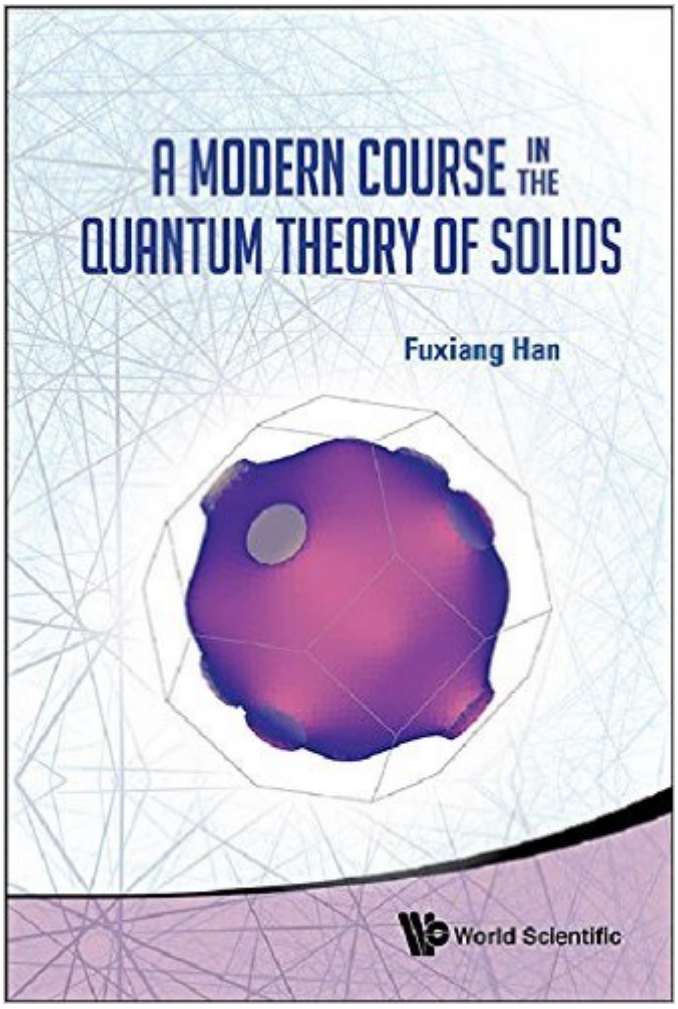
A Modern Course In The Quantum Theory Of Solids



Synopsis

This book contains advanced subjects in solid state physics with emphasis on the theoretical exposition of various physical phenomena in solids using quantum theory, hence entitled "A modern course in the quantum theory of solids". The use of the adjective "modern" in the title is to reflect the fact that some of the new developments in condensed matter physics have been included in the book. The new developments contained in the book are mainly in experimental methods (inelastic neutron scattering and photoemission spectroscopy), in magnetic properties of solids (the itinerant magnetism, the superexchange, the Hubbard model, and giant and colossal magnetoresistance), and in optical properties of solids (Raman scattering). Besides the new developments, the Green's function method used in many-body physics and the strong-coupling theory of superconductivity are also expounded in great detail. Readership: Students and researchers in physics, materials science and nanoscience.

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