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<<凝聚态场论>>

图书基本信息

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前言

In the past few decades, the field of quantum condensed matter physics has seen rapid and, at times, almost revolutionary development. Undoubtedly, the success of the field owes much to ground-breaking advances in experiment： already the controlled fabric.

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内容概要

Theoretical condensed matter physics draws heavily and increasingly on the language of quantum field theory. This primer is aimed at elevating graduate students of condensed matter physics to a level where they can engage in independent research. It emphasizes the development of modem methods of classical and quantum field theory with applications of interest in both experimental and theoretical condensed matter physics. Topics covered include second quantization, path and functional field integration, mean-field theory and collective phenomena, the renormalization group, and topology. Conceptual aspects and formal methodology are emphasized and developed, but the discussion is rooted firmly in practical experimental application. As well as routine exercises, the text includes extended and challenging problems, with fully worked solutions, designed to provide a bridge between formal manipulations and research-oriented thinking.

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