

<<计算物理学导论>>

图书基本信息

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作者：庞涛

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内容概要

《计算物理学导论(第2版)》是一部本科生和低年级研究生学习计算物理的教程。这是第二版，将第一版做了全面的更新和修订，改进后的课程不仅提供了学习计算物理学的基本方法，也全面介绍了计算科学领域的最新进展。书中讲述了许多具体例子，包括现代物理和相关领域的数值方法实践计算。每章末有练习题。本书不仅是一部教程，更是相关计算领域的的一本很好的参考书。

目次：绪论；函数逼近；数值微积分；基础数值法；常微分方程；矩阵数值法；光谱分析法；偏微分方程；分子动力学模拟；模拟连续系统；蒙特卡罗模拟；遗传算法和程序；数值重正化。

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作者简介

作者：(美国)庞涛 (Tao Pang)

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preface

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版权页：插图：The basic idea behind a genetic algorithm is to follow the biological process of evolution in selecting the path to reach an optimal configuration of a given complex system. For example, for an interacting many-body system, the equilibrium is reached by moving the system to the configuration that is at the global minimum on its potential energy surface. This is single-objective optimization, which can be described mathematically as searching for the global minimum of a multivariable function. Multiobjective optimization involves more than one equation, for example, a search for the minima of g_k . Both types of optimization can involve some constraints. We limit ourselves to single-objective optimization here. For a detailed discussion on multi-objective optimization using the genetic algorithm, see Deb.

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