

<<统计物理学中的蒙特卡罗模拟入门>>

图书基本信息

书名 : <<统计物理学中的蒙特卡罗模拟入门>>

13位ISBN编号 : 9787506265713

10位ISBN编号 : 7506265710

出版时间 : 2004-4

出版时间 : 世界图书出版公司北京公司

作者 : D.P.Landau K.Binder

页数 : 384

版权说明 : 本站所提供下载的PDF图书仅提供预览和简介 , 请支持正版图书。

更多资源请访问 : <http://www.tushu007.com>

内容概要

本书是一部详述了在凝聚态物理学、统计力学及相关领域中遇到的复物理系统蒙特卡罗模拟的各个方面，书中各章有应用实例、例题、思考题和习题，以便于读者深刻理解书中所述内容。
本书可作为物理学中的计算模拟研究生教科书。

书籍目录

Preface
1 Introduction
1.1 What is a Monte Carlo simulation?
1.2 What problems can we solve with it?
1.3 What difficulties will we encounter?
1.4 What strategy should we follow in approaching a problem?
1.5 How do simulations relate to theory and experiment?
2 Some necessary background
2.1 Thermodynamics and statistical mechanics:a quick reminder
2.2 Probability theory
2.3 Non-equilibrium and dynamics:some introductory comments
3 Simple sampling Monte Carlo methods
3.1 Introduction
3.2 Comparisons of methods for numerical integration of given functions
3.3 Boundary value problems
3.4 Simulation of radioactive decay
3.5 Simulation of transport properties
3.6 The Percolation Problem
3.7 Finding the groundstate of a Hamiltonian
3.8 Generation of ‘random’ walks
3.9 Final remarks
References
4 Importance sampling Monte Carlo methods
4.1 Introduction
4.2 The simplest case:single spin-flip sampling for the simple Ising model
4.3 Other discrete variable models
4.4 Spin-exchange sampling
4.5 Microcanonical methods
4.6 General remarks,choice of ensemble
4.7 Statics and dynamics of polymer models on lattices
4.8 Some advice
References
5 More on importance sampling
Carlo methods for lattice systems
6 Off-lattice models
7 Reweighting methods
8 Quantum Monte Carlo methods
9 Monte Carlo renormalization group methods
10 Non-equilibrium and irreversible processes
11 Lattice gauge models:brief introduction
12 A brief review of other methods of computer simulation
13 Outlook
Appendix:listing of programs mentioned in the text
Index

版权说明

本站所提供下载的PDF图书仅提供预览和简介，请支持正版图书。

更多资源请访问:<http://www.tushu007.com>