

《晶体与液体统计物理学》

图书基本信息

书名：《晶体与液体统计物理学》

13位ISBN编号：9789812381125

10位ISBN编号：9812381120

出版时间：2002-12

出版社：Penguin

作者：Wallace, Duane C.

页数：312

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

更多资源请访问：www.tushu000.com

《晶体与液体统计物理学》

内容概要

This important book presents a unified formulation from first principles of the Hamiltonian and statistical mechanics of metallic and insulating crystals, amorphous solids, and liquids. Extensive comparison of theory and experiment provides an accurate understanding of the statistical properties of phonons, electrons, and phonon-phonon and electron-phonon interactions in elemental crystals and liquids. Questions are posed along the following lines: What is the "best" theory for a given property? How accurate is a good theory? What information is gained by a comparison of theory and experiment? How accurate is a good experiment?

《晶体与液体统计物理学》

书籍目录

Preface Chapter 1 Condensed Matter Hamiltonian 1 NATURE OF CONDENSED MATTER 2 DENSITY FUNCTIONAL THEORY 3 ELECTRONIC EXCITED STATES IN METALS 4 TOTAL HAMILTONIAN 5 NEARLY-FREE-ELECTRON METALS Chapter 2 Statistical Mechanics 6 AVERAGING TECHNIQUES 7 QUANTUM STATISTICAL MECHANICS 8 THERMOELASTICITY 9 CLASSICAL STATISTICS: DERIVATION 10 CLASSICAL STATISTICS: APPLICATIONS 11 INTERPRETATION OF STATISTICAL MECHANICS Chapter 3 Lattice Dynamics 12 LATTICE STATICS 13 QUASIHARMONIC PHONONS 14 THEORY AND EXPERIMENT 15 EXPERIMENTAL PHONON DATA Chapter 4 Statistical Mechanics of Crystals 16 QUANTUM NUCLEAR MOTION 17 CLASSICAL NUCLEAR MOTION 18 ELECTRONIC EXCITATIONS 19 LEARNING FROM THERMODYNAMIC DATA 20 CRYSTAL EQUATION OF STATE Chapter 5 Liquid Dynamics and Statistical Mechanics 21 CONFIGURATIONAL CORRELATIONS IN A MONATOMIC LIQUID 22 MELTING OF ELEMENTS 23 LIQUID DYNAMICS THEORY 24 VERIFICATION FROM COMPUTER SIMULATIONS 25 LIQUID EQUATION OF STATE Chapter 6 Phase Transitions and Nonequilibrium Processes 26 THEORETICAL ANALYSIS OF PHASE TRANSITIONS 27 NONEQUILIBRIUM PROCESSES Bibliography Index

《晶体与液体统计物理学》

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：www.tushu000.com