第一图书网, tushu007.com

<<非平衡统计力学>>

图书基本信息

书名：<<非平衡统计力学>>

13位ISBN编号：9789812383785

10位ISBN编号：9812383786

出版时间：2003-12

出版时间：World Scientific Publishing Co Pte Ltd

作者：Chen, Tian-Quan

页数：420

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

第一图书网, tushu007.com

<<非平衡统计力学>>

内容概要

This book presents the construction of an asymptotic technique for solving the Liouville equation, which is to some degree an analogue of the Enskog – Chapman technique for solving the Boltzmann equation. Because the assumption of molecular chaos has been given up at the outset, the macroscopic variables at a point, defined as arithmetic means of the corresponding microscopic variables inside a small neighborhood of the point, are random in general. They are the best candidates for the macroscopic variables for turbulent flows. The outcome of the asymptotic technique for the Liouville equation reveals some new terms showing the intricate interactions between the velocities and the internal energies of the turbulent fluid flows, which have been lost in the classical theory of BBGKY hierarchy.

第一图书网, tushu007.com

<<非平衡统计力学>>

书籍目录

ForewordPreface1 Introduction 1.1 Historical Background 1.2 Outline of the Book2 H-Functional 2.1 Hydrodynamic Random Fields 2.2 H-Functional3 H-Functional Equation 3.1 Derivation of H-Functional Equation 3.2 H-Functional Equation 3.3 Balance Equations 3.4 Reformulation4 K-Functional 4.1 Definition of K-Functional5 Some Useful Formulas 5.1 Some Useful Formulas 5.2 A Remark on H-Functional Equation6 Turbulent Gibbs Distributions 6.1 Asymptotic Analysis for Liouville Equation 6.2 Turbulent Gibbs Distributions 6.3 Gibbs Mean7 Euler K-Functional Equation 7.1 Expressions of B2 and B3 7.2 Euler K-Functional Equation 7.3 Reformulation 7.4 Special Cases 7.5 Case of Deterministic Flows8 Functionals and Distributions 8.1 K-Functionals and Turbulent Gibbs Distributions 8.2 Turbulent Gibbs Measures 8.3 Asymptotic Analysis9 Local Stationary Liouville Equation 9.1 Gross Determinism 9.2 Temporal Part of Material Derivative of TN 9.3 Spatial Part of Material Derivative of TN 9.4 Stationary Local Liouville equation10 Second Order Approximate Solutions 10.1 Case of Reynolds-Gibbs Distributions 10.2 A Poly-spherical Coordinate System 10.3 A Solution to the Equation (10.24)1 ……11 A Finer K-Functional Equation12 ConclusionsA Some Facts About Spherical HarmonicsBibliographyIndex

第一图书网, tushu007.com

<<非平衡统计力学>>

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:http://www.tushu007.com