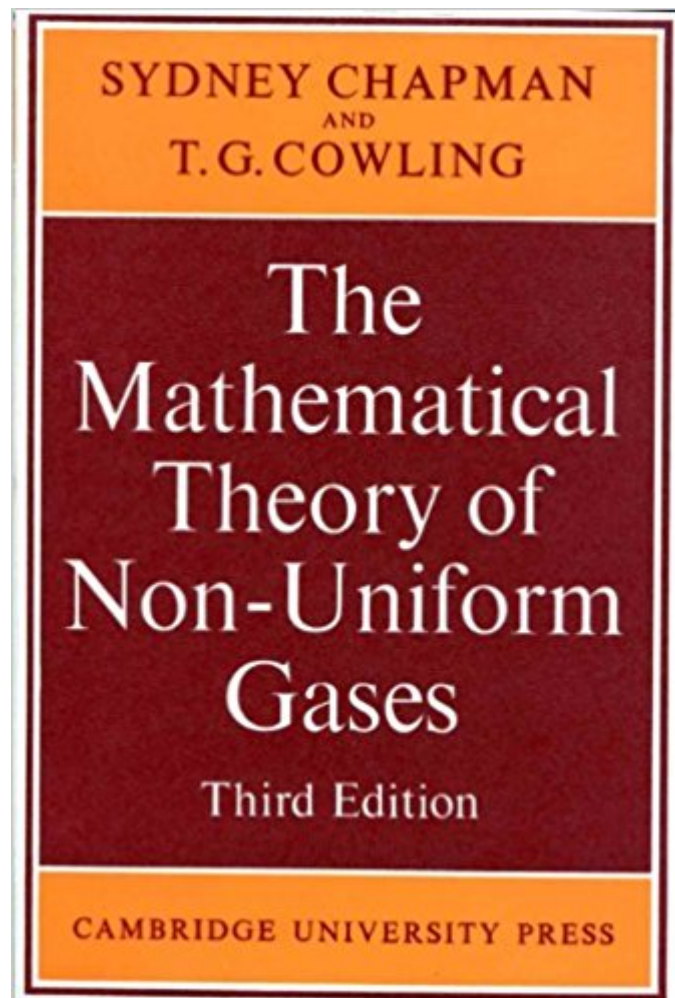




The book was found

The Mathematical Theory Of Non-uniform Gases: An Account Of The Kinetic Theory Of Viscosity, Thermal Conduction And Diffusion In Gases (Cambridge Mathematical Library)





Synopsis

This classic book, now reissued in paperback, presents a detailed account of the mathematical theory of viscosity, thermal conduction, and diffusion in non-uniform gases based on the solution of the Maxwell-Boltzmann equations. The theory of Chapman and Enskog, describing work on dense gases, quantum theory of collisions, and the theory of conduction and diffusion in ionized gases in the presence of electric and magnetic fields is also included in the later chapters. This reprint of the third edition, first published in 1970, includes revisions that take account of extensions of the theory to fresh molecular models and of new methods used in discussing dense gases and plasmas.

Book Information

Series: Cambridge Mathematical Library

Hardcover: 448 pages

Publisher: Cambridge University Press; 1 edition (May 31, 1970)

Language: English

ISBN-10: 0521075777

ISBN-13: 978-0521075770

Package Dimensions: 9 x 6 x 1 inches

Shipping Weight: 1.8 pounds

Average Customer Review: 4.2 out of 5 stars 4 customer reviews

Best Sellers Rank: #1,621,365 in Books (See Top 100 in Books) #49 in Books > Engineering & Transportation > Engineering > Aerospace > Gas Dynamics #406 in Books > Engineering & Transportation > Engineering > Chemical > Fluid Dynamics #991 in Books > Science & Math > Physics > Mechanics

Customer Reviews

This reprint of the third edition of a classic work, originally published in 1970, includes revisions that take account of extensions of the theory to fresh molecular models and of new methods used in discussing dense gases and plasma.

This classic book, now reissued in paperback, presents a detailed account of the mathematical theory of viscosity, thermal conduction and diffusion in non-uniform gases based on the solution of the Maxwell -- Boltzmann equations. The theory of Chapman and Enskog, describing work on dense gases, quantum theory of collisions and the theory of conduction and diffusion in ionized gases in the presence of electric and magnetic fields, is extended in the later chapters. The third

edition was first published in 1970 and included revisions to take account of extensions of the theory to fresh molecular models and of new methods used in discussing dense gases and plasmas. This reissue will therefore be of value to mathematicians, theoretical physicists and chemical engineers interested in gas-theory and its applications. Cambridge Mathematical Library Cambridge University Press has a long and honourable history of publishing in mathematics and counts many classics of the mathematical literature within its list. Some of these titles have been out of print for many years now and yet the methods which they espouse are still of considerable relevance today. The Cambridge Mathematical Library will provide an inexpensive edition of these titles in a durable paperback format and at a price which will make the books attractive to individuals wishing to add them to their personal libraries. It is intended that certain volumes in the series will have forewords, written by leading experts in the subject, which will place the title in its historical and mathematical context. --This text refers to the Paperback edition.

It is well written and organized monograph on the Boltzmann equation. One may feel some difficulty to read this book, due to the vector and tensor convention, which is due to the relatively young history of vector-tensor mathematics. Once you adapt to the notation given in this book you may feel the power of systematic approach.

Chapman and Cowling's outstanding work for kinetic theory. This book is regarded as a Classic in this field. However, the notations are not so familiar to me. So I was somewhat perplexed at first. More introductory texts are, J. Jeans 'An introduction to the kinetic theory of gases' E.H. Kennard 'Kinetic theory of gases with an introduction to statistical mechanics'

Chapman and Cowling's outstanding work for kinetic theory. This book is regarded as a Classic in this field. However, the notations are not so familiar to me. So I was somewhat perplexed at first. More introductory texts are, J. Jeans 'An introduction to the kinetic theory of gases' E.H. Kennard 'Kinetic theory of gases with an introduction to statistical mechanics'

The book deals with the classical statistical mechanics approach of describing gases; it shows how properties as pressure, viscosity and heat flux can be derived. It shows this for dense and dilute gases, and for gas-mixtures.

[Download to continue reading...](#)

The Mathematical Theory of Non-uniform Gases: An Account of the Kinetic Theory of Viscosity,

Thermal Conduction and Diffusion in Gases (Cambridge Mathematical Library) Thermal Physics: An Introduction to Thermodynamics, Statistical Mechanics, and Kinetic Theory (Oxford Science Publications) Heat Conduction Using Green's Functions, 2nd Edition (Series in Computational Methods and Physical Processes in Mechanics and Thermal Sciences) Thermodynamics and the Kinetic Theory of Gases: Volume 3 of Pauli Lectures on Physics (Dover Books on Physics) Elements of the Kinetic Theory of Gases (The International Encyclopedia of Physical Chemistry and Chemical Physics) Kinetic Theory of Gases (Dover Books on Chemistry) Kinetic theory of gases, the: an anthology of classic papers with historical commentary (History of Modern Physical Sciences, 1) Kinetic theory of gases,: With an introduction to statistical mechanics, (International series in physics) Diffusion: Mass Transfer in Fluid Systems (Cambridge Series in Chemical Engineering) Optimal Control and Viscosity Solutions of Hamilton-Jacobi-Bellman Equations (Modern Birkhäuser Classics) Cambridge Global English Stage 9 Workbook: for Cambridge Secondary 1 English as a Second Language (Cambridge International Examinations) Elementary Algebraic Geometry (Student Mathematical Library, Vol. 20) (Student Mathematical Library, V. 20) Kinetic Theory and Transport Phenomena (Oxford Master Series in Physics) Thermodynamics, Kinetic Theory, and Statistical Thermodynamics (3rd Edition) Classical Kinetic Theory of Fluids An Introduction to the Mathematical Theory of Waves (Student Mathematical Library, V. 3) Through Central Borneo: An Account of Two Years' Travel in the Land of the Head-Hunters between the Years 1913 and 1917 (Cambridge Library Collection - Travel and Exploration in Asia) (Volume 2) Local Anesthesia in Dentistry, with Special Reference to Infiltration and Conduction Anesthesia; A Text-book for Dentists, Physicians and Students, Manual of Nerve Conduction Study and Surface Anatomy for Needle Electromyography Local Governance Innovation in China: Experimentation, Diffusion, and Defiance (Routledge Contemporary China Series)

[Contact Us](#)

[DMCA](#)

[Privacy](#)

[FAQ & Help](#)