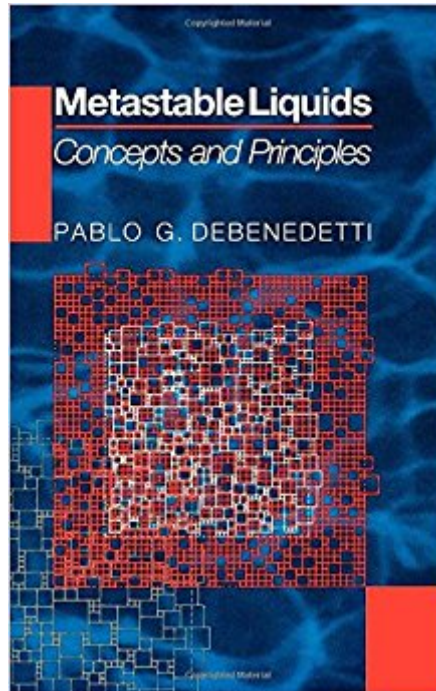




Ebook Directory
the best source of ebook

The book was found

Metastable Liquids



Synopsis

Metastable Liquids provides a comprehensive treatment of the properties of liquids under conditions where the stable state is a vapor, a solid, or a liquid mixture of different composition. It examines the fundamental principles that govern the equilibrium properties, stability, relaxation mechanisms, and relaxation rates of metastable liquids. Building on the interplay of kinetics and thermodynamics that determines the thermophysical properties and structural relaxation of metastable liquids, it offers an in-depth treatment of thermodynamic stability theory, the statistical mechanics of metastability, nucleation, spinodal decomposition, supercooled liquids, and the glass transition. Both traditional topics--such as stability theory--and modern developments--including modern theories of nucleation and the properties of supercooled and glassy water--are treated in detail. An introductory chapter illustrates, with numerous examples, the importance and ubiquity of metastable liquids. Examples include the ascent of sap in plants, the strategies adopted by many living organisms to survive prolonged exposure to sub-freezing conditions, the behavior of proteins at low temperatures, metastability in mineral inclusions, ozone depletion, the preservation and storage of labile biochemicals, and the prevention of natural gas clathrate hydrate formation. All mathematical symbols are defined in the text and key equations are clearly explained. More complex mathematical explanations are available in the appendixes.

Book Information

Series: Physical Chemistry: Science and Engineering

Hardcover: 400 pages

Publisher: Princeton University Press (December 23, 1996)

Language: English

ISBN-10: 0691085951

ISBN-13: 978-0691085951

Product Dimensions: 6.1 x 0.9 x 9.2 inches

Shipping Weight: 1.5 pounds (View shipping rates and policies)

Average Customer Review: Be the first to review this item

Best Sellers Rank: #1,237,588 in Books (See Top 100 in Books) #40 in [Books > Engineering & Transportation > Engineering > Aerospace > Gas Dynamics](#) #195 in [Books > Science & Math > Physics > Applied](#) #206 in [Books > Science & Math > Physics > Nuclear Physics > Particle Physics](#)

Customer Reviews

Winner of the 1997 Award for Best Professional/Scholarly Book in Chemistry, Association of American Publishers "This is an authoritative text . . . both readable and comprehensive. It should provide an invaluable handbook both for experimentalists interested in what is known about metastable liquids and for theoreticians who wish to become aware of the great deal which remains to be explained and understood."--Contemporary Physics

Metastable Liquids provides a comprehensive treatment of the properties of liquids under conditions where the stable state is a vapor, a solid, or a liquid mixture of different composition. It examines the fundamental principles that govern the equilibrium properties, stability, relaxation mechanisms, and relaxation rates of metastable liquids. Building on the interplay of kinetics and thermodynamics that determines the thermophysical properties and structural relaxation of metastable liquids, it offers an indepth treatment of thermodynamic stability theory, the statistical mechanics of metastability, nucleation, spinodal decomposition, supercooled liquids, and the glass transition. Both traditional topics such as stability theory and modern developments including modern theories of nucleation and the properties of supercooled and glassy water are treated in detail. An introductory chapter illustrates, with numerous examples, the importance and ubiquity of metastable liquids. Examples include the ascent of sap in plants, the strategies adopted by many living organisms to survive prolonged exposure to subfreezing conditions, the behavior of proteins at low temperatures, metastability in mineral inclusions, ozone depletion, the preservation and storage of labile biochemicals, and the prevention of natural gas clathrate hydrate formation. All mathematical symbols are defined in the text and key equations are clearly explained. More complex mathematical explanations are available in the appendixes.

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

Metastable Liquids Phase Transitions in Polymers: The Role of Metastable States Hippocrates: Volume VIII, Places in Man. Glands. Fleshes. Prorrhetic 1-2. Physician. Use of Liquids. Ulcers. Haemorrhoids and Fistulas (Loeb Classical Library No. 482) Change It!: Solids, Liquids, Gases and You (Primary Physical Science) What Is the World Made Of?: All About Solids, Liquids, and Gases (Let's-Read-and-Find-Out Science 2) Solids, Liquids, And Gases (Rookie Read-About Science) Joe-Joe the Wizard Brews Up Solids, Liquids, and Gases (In the Science Lab) Solids, Liquids, Gases (Simply Science) Many Kinds of Matter: A Look at Solids, Liquids, and Gases (Lightning Bolt Books) Computer Simulation of Liquids The Properties of Gases and Liquids Properties of Gases and Liquids The Molecular Theory of Gases and Liquids Spectroscopic Analysis of Coal Liquids (Coal Science and Technology Vol 12) Natural Gas Liquids: A Nontechnical Guide Liquids and

Gases: Principles of Fluid Mechanics (Secrets of the Universe) Theory of Simple Liquids, Fourth Edition: with Applications to Soft Matter Handbook of Physical Properties of Liquids and Gases Theory of Simple Liquids: with Applications to Soft Matter Theory of Simple Liquids, Third Edition

[Contact Us](#)

[DMCA](#)

[Privacy](#)

[FAQ & Help](#)