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9.3 Other Partial Derivative Quantities9.4 Partial Derivatives & Differentials; Part IV Entropy; 10 Entropy & Information Theory; 10.1 Why Does Entropy Seem So Complicated?; 10.2 Entropy as Unknown Molecular Information; 10.3 Amount of Information; 10.4 Application to Thermodynamics; 11 Entropy & Ideal Gas; 11.1 Measuring Our Molecular Ignorance; 11.2 Volume Contribution to Entropy; 11.3 Temperature Contribution to Entropy; 11.4 Combined Entropy Expression; 11.5 Entropy, Heat, & Reversible Adiabatic Expansion; 12 Second Law & Spontaneous Irreversible Change
12.1 Heat Engines & Thermodynamic Cycles12.2 Traditional Statements of the Second Law; 12.3 Entropy Statement of the Second Law; 12.4 Information Statement of the Second Law; 12.5 Maximum Entropy & the Clausius Inequality; 13 Third Law, Carnot Cycle, & Absolute Entropy; 13.1 Entropy & Reversible Change; 13.2 Carnot Cycle & Absolute Zero Temperature; 13.3 Third Law & Absolute Entropy; Part V Free Energy; 14 Free Energy & Exergy; 14.1 What Would Happen If Entropy Were a Variable?; 14.2 Helmholtz and Gibbs Free Energies; 14.3 Second Law & Maximum Work; 14.4 Exergy
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Sommario/riassunto

Thermodynamics is the science that describes the behavior of matter at the macroscopic scale, and how this arises from individual molecules. As such, it is a subject of profound practical and fundamental importance to many science and engineering fields. Despite extremely varied applications ranging from nanomotors to cosmology, the core concepts of thermodynamics such as equilibrium and entropy are the same across all disciplines. A Conceptual Guide to Thermodynamics serves as a concise, conceptual and practical supplement to the major thermodynamics textbooks used in various

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