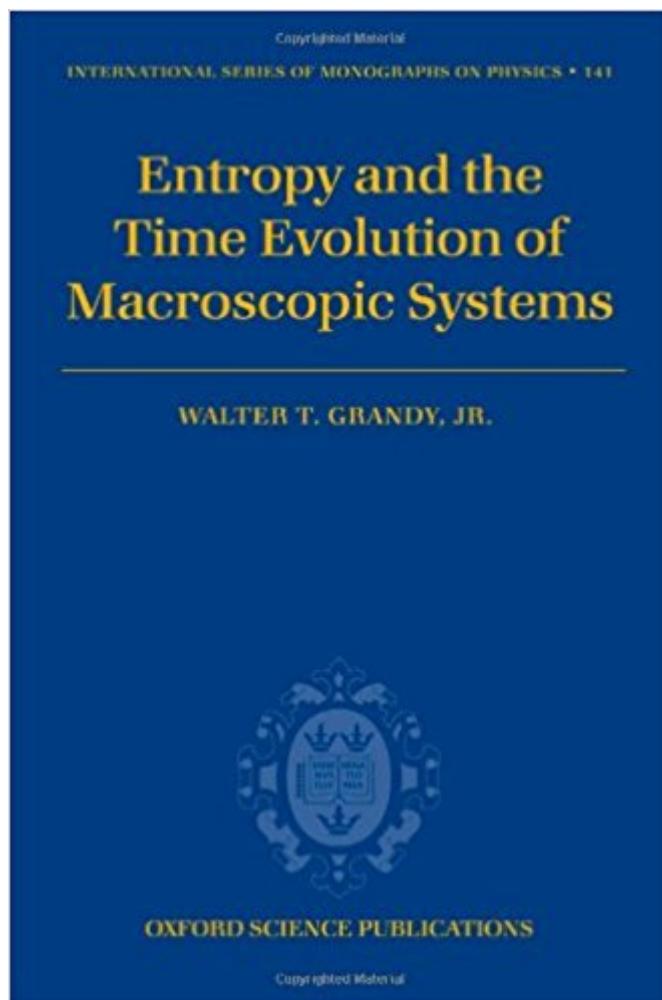


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Entropy And The Time Evolution Of Macroscopic Systems (International Series Of Monographs On Physics)



Synopsis

This book is based on the premise that the entropy concept, a fundamental element of probability theory as logic, governs all of thermal physics, both equilibrium and nonequilibrium. The variational algorithm of J. Willard Gibbs, dating from the 19th Century and extended considerably over the following 100 years, is shown to be the governing feature over the entire range of thermal phenomena, such that only the nature of the macroscopic constraints changes. Beginning with a short history of the development of the entropy concept by Rudolph Clausius and his predecessors, along with the formalization of classical thermodynamics by Gibbs, the first part of the book describes the quest to uncover the meaning of thermodynamic entropy, which leads to its relationship with probability and information as first envisioned by Ludwig Boltzmann. Recognition of entropy first of all as a fundamental element of probability theory in mid-twentieth Century led to deep insights into both statistical mechanics and thermodynamics, the details of which are presented here in several chapters. The later chapters extend these ideas to nonequilibrium statistical mechanics in an unambiguous manner, thereby exhibiting the overall unifying role of the entropy.

Book Information

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Customer Reviews

The author's thoughts on entropy are sophisticated and amongst the most lucid I have read.

Recommended because he addresses some of the great questions of physical science with depth and understanding.

I tried to read through it but gave up in the middle. Author promised to show something but I could not find what it was.

I had ordered this book along with other two (Quantum Mechanics: A Modern Development and The Physics of Atmospheres just in case you were wondering). By the time I received the order it wasn't placed in the usual 's cartoon box, and bigger was my surprise when I opened the package and found that all three books were wet. Shortly after noticing this issue I informed it via e-mail to and they sent to me a new order (yes, that new one arrived in a proper condition). Having sent those three damaged items back to I was completely refunded the total costs of the mailing. Things like this one make this company a reliable one. Good for ! Concerning the author of this reviewed book, I own another two books written by him, namely Foundations of Statistical Mechanics: Volume I: Equilibrium Theory (Fundamental Theories of Physics) and Foundations of Statistical Mechanics: Volume II: Nonequilibrium Phenomena (Fundamental Theories of Physics). I just wanted to share this information with you and truly understand that this is not a proper review, so please come back later for it...

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