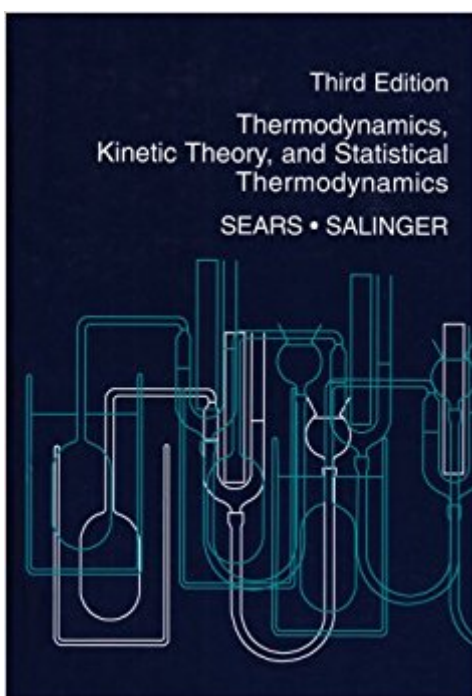


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Thermodynamics, Kinetic Theory, And Statistical Thermodynamics (3rd Edition)



Synopsis

This text is a major revision of *An Introduction to Thermodynamics, Kinetic Theory, and Statistical Mechanics* by Francis Sears. The general approach has been unaltered and the level remains much the same, perhaps being increased somewhat by greater coverage. The text is particularly useful for advanced undergraduates in physics and engineering who have some familiarity with calculus.

Book Information

Hardcover: 454 pages

Publisher: Addison Wesley; 3 edition (January 11, 1975)

Language: English

ISBN-10: 020106894X

ISBN-13: 978-0201068948

Product Dimensions: 6.4 x 1.1 x 9.6 inches

Shipping Weight: 1.8 pounds (View shipping rates and policies)

Average Customer Review: 3.5 out of 5 stars 7 customer reviews

Best Sellers Rank: #938,425 in Books (See Top 100 in Books) #29 in [Books > Engineering & Transportation > Engineering > Aerospace > Gas Dynamics](#) #454 in [Books > Science & Math > Physics > Dynamics > Thermodynamics](#) #925 in [Books > Textbooks > Science & Mathematics > Mechanics](#)

Customer Reviews

Most of the book is devoted to thermodynamics and it doesn't introduce statistical mechanics until the final chapters. As an undergraduate text it provides all you'll need for a solid foundation in thermal physics and it's a bit more rigorous than Schroeder. The problems at the end of the chapters are not as good as the ones you'll find in Schroeder or other standard texts, and are often ambiguously worded. Answers to problems are in the back of the book which lets you check your work (there isn't a solutions manual). It's a book that will get you by the thermal physics portion of the GRE, but I find my knowledge in statistical mechanics to be lacking after a semester with this book. Overall, I think this textbook is better for classical thermodynamics and the Schroeder book is better for statistical mechanics.

Good summary of thermodynamics.

Overcomplicated. The entire book. I'm not just talking rigorous... A good example is the two page

proof that the number of microstates in n particles, if each can range from 0 to q , whereas the sum of all must add up to q , is $n + q - 1$ CHOOSE q . This can be proved (just as formally) in about 3 lines, while being much more intuitive!

Old

"Thermodynamics, Kinetic Theory, and Statistical Thermodynamics (3rd Edition)" is an excellent text to learn the fundamentals. This text should be the text any Physics Professor uses. Do not be fooled by other texts. This one is the best. My professor now is trying to create his own text for Thermo, and it is horrible. Publishers need to be more honest to their clients!

Not very useful. That was my first impression of this book. Suppose I had left my review to the three words above. You would have been left with an empty feeling with expectations unfulfilled, wondering if there was more to it than just those words. You'd probably say my review wasn't very helpful. Well, that about sums up my feelings for this text. Every time I open it for reference, I read a few pages, looking for something that just doesn't seem to be there. I am left with expectations unfulfilled, wondering if I was missing something. I usually put it back on the shelf and move to the next book, thinking "Hmm. That wasn't very helpful." This book sits in my library next to the Callen text on thermo and stat mech. I also have a copy of Reichl's stat mech text. Between Salinger, Callen, and Reichl, one might begin to get a handle on the subject, but not one of these books is the *definitive* text on the subject. I haven't found that one yet. I would suggest that if one is looking for yet another reference text, put this one in the number 2 or number 3 slot on your list.

This is the best introductory thermo, stat mech book available. Very clear with a nice set of problems.

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