

book contain actual experimental data, which are welcome because they make the discussions more relevant. Some figures that seem to include experimental data do not have any references (for example, 9.12). Such omissions should be corrected.

The 37 chapters are short, and each covers a single concept. In general, I found the presentation remarkably clear. But there are exceptions: The discussion of magnetic systems—including the change from $B \, dm$ to $m \, dB$ (in which m is the magnetic moment and B is the magnetic field)—is far too short, as is the coverage of how molecular degrees of freedom freeze out. I do not think the chapter on information theory will be useful to readers who do not already know the material. The chapter on photons is unnecessary because all the results can be obtained more efficiently through statistical mechanics rather than through classical thermodynamics, as the authors reveal in a subsequent chapter. And the characterization of heat as “energy in transit” is quite misleading.

Of more serious concern is the chapter on phase transitions, which is extremely outdated. With a numerical treatment of simple examples, such as percolation and the Ising model in two dimensions, it should be possible for a textbook to explain the fundamental concept that a phase transition is a qualitative change that is apparent only at the macroscopic level. It should also be possible to introduce the basic idea of scaling at second-order phase transitions and provide a short discussion of Monte Carlo simulations. Unfortunately, the Blundells’ coverage falls short; thus, instructors will have to provide supplemental material on the topic.

The section on kinetic theory is interposed before the treatment of thermodynamics. The authors point out that teaching the section is optional and can be delayed or omitted. Apart from the section’s first two chapters, their suggestion is useful, particularly if the book is used in a one-term course. But in any case, it would be helpful if the book were to clearly explain where in the section the ideal-gas approximation is made. For instance, I could not find any discussion of why the treatment of pressure in chapter 6 is only valid for ideal gases, which is not the case for the Maxwell–Boltzmann distribution as described in chapter 5.

Although the problems at the end of each chapter are well chosen, it would help if more were included, especially problems that apply the concepts to different disciplines. The chapters on

special topics that discuss applications are nice, but unfortunately they will likely be dropped in a one-term course. Overall, *Concepts in Thermal Physics* provides an excellent introduction to thermodynamics and statistical mechanics. It deserves serious consideration as a textbook for any undergraduate course on those topics. And the fact that a reasonably priced paperback edition is also available will be welcome news for students.

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