

Ruelle, David**Statistical mechanics. Rigorous results.** (English) Zbl 0177.57301

The Mathematical Physics Monographs Series. New York-Amsterdam: W. A. Benjamin, Inc., xi, 219 p. (1969).

After a rather general introduction, the author analyses the infinite system limit of thermodynamic functions for lattice and continuous systems. This is followed by a discussion of dilute systems, and of the available data on phase transitions. After that follows a discussion of systems which have an invariance group and a discussion of equilibrium states of infinite systems.

Essentially this book is devoted to general results about equilibrium states, and special models are practically completely disregarded as well as rigorous results about non-equilibrium statistical mechanics. As can be expected from the author, who is a leading expert in this field, the account given is authoritative, but – at least to this reviewer – highly mathematical. The average theoretical physicist will find it difficult to read, but rewarding.

Reviewer: D. ter Haar

For a scan of this review see the [web version](#).**MSC:****82-01** Introductory exposition (textbooks, tutorial papers, etc.) pertaining to statistical mechanics**82Bxx** Equilibrium statistical mechanicsCited in **9** Reviews
Cited in **518** Documents