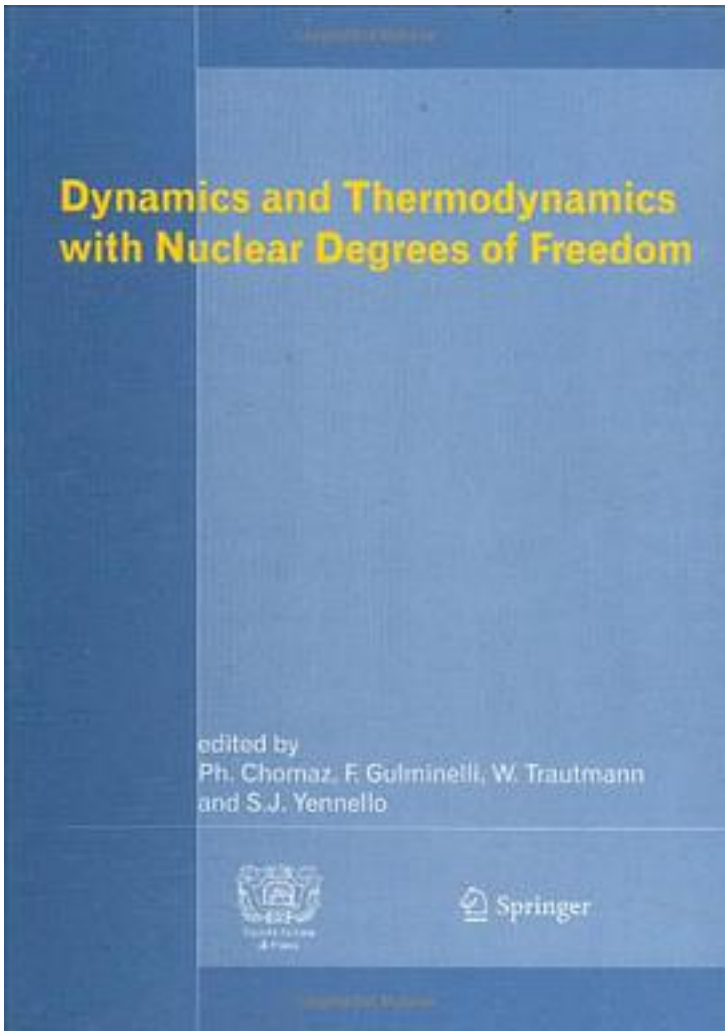
Dynamics and Thermodynamics with Nuclear Degrees of Freedom



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The study of nuclear reaction dynamics and thermodynamics with nuclear degrees of freedom has progressed dramatically in the past 20 years, from inclusive charge distributions to exclusive isotopically resolved fragment observables and from schematic phenomenological break-up models to sophisticated quantum many-body transport theories. A coherent and quantitative understanding of reaction mechanisms and of the underlying nuclear matter equation of state is emerging from the analysis of experimental data and from the theoretical modeling of heavy ion reactions. In addition, the accumulated evidence for phenomena related to the liquid-gas phase transition of nuclear matter has triggered interdisciplinary activities and the transfer of useful methods. In the near future, the availability of radioactive beam facilities is expected to provide unique opportunities for extending our knowledge of the dynamic properties and the nuclear phase diagram towards exotic nuclear systems with important astrophysical implications. The present volume is the outcome of a community-wide review of the field of dynamics and thermodynamics with nuclear degrees of freedom which has been initiated two years ago. The achievements and the outstanding open questions are presented in 26 articles of together 61 authors and collected in six topical sections. All authors are internationally recognized experts in their fields.

作者介绍:

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评论

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