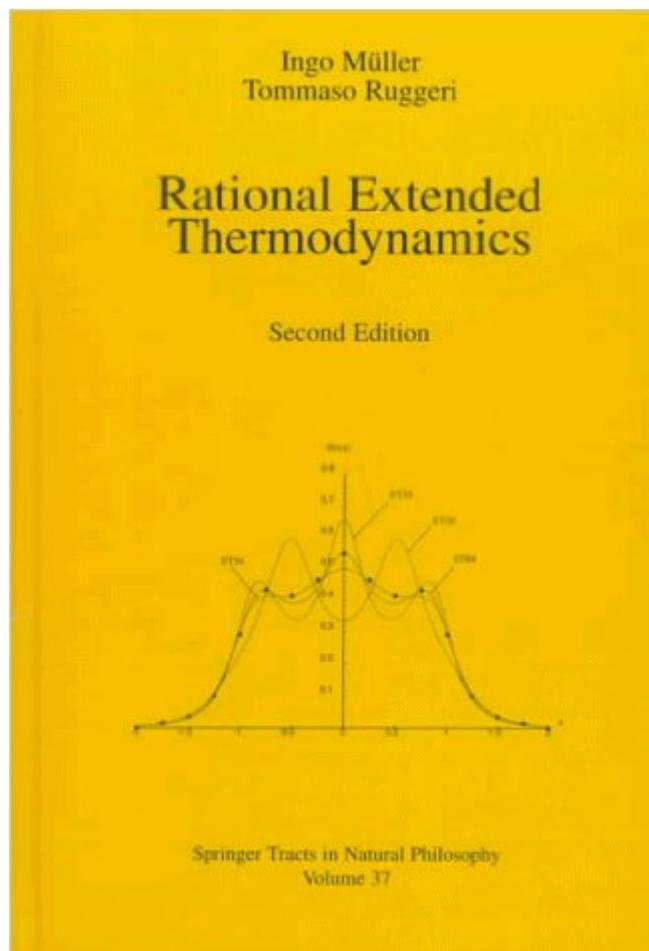


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# Rational Extended Thermodynamics (Springer Tracts In Natural Philosophy)



## Synopsis

THIS IS OFFICIAL PROMO TEXT AND BCC. THE AUTHORS HAVE OK'D IT. Rational extended thermodynamics explores the tenets of non- equilibrium thermodynamics in an efficient and systematic manner; the theory is relevant to processes with rapid changes and steep gradients. After describing the motifs, the early evolution, and the formal structure of this new branch of irreversible thermodynamics, the authors apply the theory to mon-atomic gases, mixtures of gases, relativistic gases, and "gases" of photons, phonons and metal electrons. The disussion brings into perspective the various phenomena called second sound and provides new insight into the role of material frame indifference under Galilean and Euclidean transformations. This new editon has been thoroughly updated and the book as a whole was revised. Much new material has been added, in particular on reacting mixtures, light scattering, radiation thermodynamics and shock wave structure. Moreover, the proximity of the theory to the mathematical theory of hyperbolic systems and to the kinetic theory of gases is revealed. Thus researchers in mathematics and physics, as well as thermodynamicists, may find the book relevant to their work.

## Book Information

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## Customer Reviews

The first edition went quickly out of print. For this second edition considerably revised and enlarged (396 p. of small print instead of 230 p.) the epithet "rational" has been added to the title to emphasize that the equations of non-equilibrium thermodynamics and many results have been

deduced in a systematic way from the simple principles (generators, main field) that govern the theory of hyperbolic systems of balance laws with an additional (energy or entropy) law. This book will be of great interest to researchers in the field but also to applied mathematicians and physicists.

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