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Thermoelectric Effects; 3.3 Paralyzing Criticism; 4 Complex Fluids; 4.1 Basic Rheological Properties; 4.1.1 Linear Viscoelasticity; 4.1.2 Nonlinear Material Behavior; 4.2 Tensors and Scalars as Configurational Variables; 4.2.1 Energy and Entropy; 4.2.2 Poisson Matrix; 4.2.3 Friction Matrix; 4.2.4 Time-Evolution Equations; 4.2.5 Summary of Inputs and Implications; 4.2.6 Example: Dilute Polymer Solutions; 4.2.7 Example: Pompon Model; 4.3 Configurational Distribution Functions; 4.3.1 Dumbbell Model of Polymer Solutions
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6.2.1 Exact Time-Evolution Equation

Sommario/riassunto

Beyond Equilibrium Thermodynamics fills a niche in the market by providing a comprehensive introduction to a new, emerging topic in the field. The importance of non-equilibrium thermodynamics is addressed in order to fully understand how a system works, whether it is in a biological system like the brain or a system that develops plastic. In order to fully grasp the subject, the book clearly explains the physical concepts and mathematics involved, as well as presenting problems and solutions; over 200 exercises and answers are included. Engineers, scientists, and applied mathematicians can all