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	Nota di contenuto	Part I. Statics: 1. Spin systems and fluids -- 2. Critical fluctuations and scaling -- 3. Mean field theories -- 4. Advanced theories in statics --- Part II. Dynamic Models and Dynamics in Fluids and Polymers: 5. Dynamical models 6. Dynamics in fluids -- 7. Dynamics in polymers and gels --- Part III. Dynamics of Phase Changes: 8. Phase ordering and defect dynamics -- 9. Nucleation -- 10. Phase transition dynamics in solids -- 11. Phase transitions of fluids in shear flow.
	Sommario/riassunto	Phase transition dynamics is centrally important to condensed matter physics. This 2002 book treats a wide variety of topics systematically by constructing time-dependent Ginzburg-Landau models for various systems in physics, metallurgy and polymer science. Beginning with a summary of advanced statistical-mechanical theories including the renormalization group theory, the book reviews dynamical theories, and covers the kinetics of phase ordering, spinodal decomposition and

nucleation in depth. The phase transition dynamics of real systems are discussed, treating interdisciplinary problems in a unified manner. Topics include supercritical fluid dynamics, stress-diffusion coupling in polymers and mesoscopic dynamics at structural phase transitions in solids. Theoretical and experimental approaches to shear flow problems in fluids are reviewed. Phase Transition Dynamics provides a comprehensive account, building on the statistical mechanics of phase transitions covered in many introductory textbooks. It will be essential reading for researchers and advanced graduate students in physics, chemistry, metallurgy and polymer science.