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Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Introduction -- What is the Metastability -- Metastability-Collapse by Thermal Fluctuation -- Metastability-Collapse with Quantum Fluctuation -- First-Order Phase Transition in Non-equilibrium Steady Systems -- Eigenvalue Picture of the First-Order Phase Transition -- Coercivity and Permanent Magnet -- Summary.
Sommario/riassunto	To understand phenomena in nature, it is important to focus not only on properties of stationary states, but also their changes in time, that is, the dynamics between bistable states. This book reviews the mechanics of first-order phase transitions and discusses relaxation and collapses of metastable states from various viewpoints, including Kramers' method for the lifetime of metastability, Langer’s analysis on the singularity, effects of thermal fluctuation studied by Néel and Brown, and eigenvalue structures of the transfer-matrix for the phase transitions. The book also goes into the mechanics of metastability in quantum systems from the viewpoints of the eigenvalue problem of the Hamiltonian and the Liouvillian for a dynamical process and discusses relations between quantum tunneling processes and metastability

therein. Lastly, the coercivity of magnets consisting of an ensemble of grains is reviewed. The book is beneficial for those new in the field as a primer on first-order phase transition from modern perspectives. The comprehensive content offers overviews of related topics and allows readers to quickly catch up with developments in the field.