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Nota di contenuto	1. Is liquid a condensed matter or a fluid? -- 2 Normal mode decomposition of atomic motion in solids Instantaneous normal mode spectra and velocity autocorrelation spectra -- 3. Time correlations and their descriptions of materials properties -- 4. Continuity of the solid, liquid, and gas phases of matter.
Sommario/riassunto	This book provides a succinct overview of recent progress in characterization of heat carriers describing atomic motion in liquids. Unlike solids and gases where heat carriers are typically described by phonons and real atomic particles, the nature of effective heat carriers in liquids is still elusive. The emphasis is on two widely used spectral methods to describe heat carriers: instantaneous normal modes and velocity autocorrelation functions. Various bulk materials properties from a bottom-up perspective using these spectra are presented in detail. This book is an ideal introduction to the field for graduate students and young researchers.