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Descrizione fisica	1 online resource (421 p.)
Collana	Lecture notes in physics
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Note generali	Second and substantially enlarged edition of: Field matter interactions in thermoelastic solids, 1978.
Nota di contenuto	General Introduction -- General Introduction -- Basic Concepts -- Equivalence of Different Electromagnetic Formulations in Thermoelastic Solids -- A Survey of Electromagneto-Mechanical Interaction Models -- Equivalence of the Models -- Material Description -- Linearization -- Applications Magnetoelastic (In)stability and Vibrations Electrorheological Fluids -- Magnetoelastic (In)stability and Vibrations -- Electrorheological Fluids.
Sommario/riassunto	This book in two parts delivers a thorough derivation of nonrelativistic interaction models of electromagnetic field theories with thermoelastic solids and viscous fluids, the intention being to derive unique representations for the observable field quantities. Part I, a revised and updated version of LNP 88 "Field Matter Interactions in Thermoelastic Solids," investigates the foundations and the equivalence of various formulations of the interaction of the electromagnetic field with thermoelastic solids in the classical continuum physics limit, while Part II extensively surveys two major fields of applications, namely, magnetoelastic instabilities and vibrations, and electrorheological fluids. This volume is intended for and will be useful to students and

researchers working on all aspects of electromagneto-mechanical interactions in the materials sciences of complex solids and fluids.