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   Edizione   [1st ed. 2006.]

   Descrizione fisica   1 online resource (421 p.)

   Collana   Lecture notes in physics

   Disciplina   530.14

   Soggetti   Thermoelasticity
                     Field theory (Physics)

   Lingua di pubblicazione   Inglese

   Formato   Materiale a stampa

   Livello bibliografico   Monografia

   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