1. Record Nr. UNINA9910484677403321

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Titolo	Continuum mechanics with Eulerian formulations of constitutive equations / / M.B. Rubin
Pubbl/distr/stampa	Cham, Switzerland : , : Springer, , [2021] ©2021
ISBN	3-030-57776-7
Edizione	[1st ed. 2021.]
Descrizione fisica	1 online resource (XIII, 277 p. 25 illus.)
Collana	Solid Mechanics and Its Applications ; ; Volume 265
Disciplina	531.0151
Soggetti	Continuum mechanics Eulerian graph theory
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Includes index.
Nota di contenuto	Introduction -- Basic tensor analysis -- Kinematics -- Balance laws for the purely mechanical theory -- Purely mechanical constitutive equations -- Thermomechanical Theory -- Eigenvalues, Eigenvectors, and Principal Invariants of a Tensor -- Consequences of Continuity -- Lagrange Multipliers -- Stationary Values of Normal And Shear Stresses -- Isotropic Tensors -- An introduction to tensors with respect to curvilinear coordinates -- Summary of tensor operations in specific coordinate systems.
Sommario/riassunto	This book focuses on the need for an Eulerian formulation of constitutive equations. After introducing tensor analysis using both index and direct notation, nonlinear kinematics of continua is presented. The balance laws of the purely mechanical theory are discussed along with restrictions on constitutive equations due to superposed rigid body motion. The balance laws of the thermomechanical theory are discussed and specific constitutive equations are presented for: hyperelastic materials; elastic–inelastic materials; thermoelastic–inelastic materials with application to shock waves; thermoelastic–inelastic porous materials; and thermoelastic–inelastic growing biological tissues.