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                       Introduction; 2 Kinematics of Micropolar Continuum; References; 3
                       Forces and Couples, Stress and Couple Stress Tensors in Micropolar
                       Continua; 3.1 Forces and Couples; 3.2 Euler's Laws of Motion; 3.3
                       Stress Tensor and Couple Stress Tensor; 3.4 Principal Stresses in
                       Micropolar Continua; 3.5 Equations of Motion; 3.6 Boundary-Value
                       Problems; References; 4 Constitutive Equations; 4.1 General Principles
                       Restricting the Constitutive Equations; 4.2 Natural Lagrangian Strain
                       Measures of Cosserat Continuum
                       4.2.1 Strain Measures by Geometrical Approach4.2.2 Principle of Virtual
                       Work and Work-Conjugate Strain Measures; 4.2.3 Invariance of the
                       Polar-Elastic Strain Energy Density; 4.2.4 Vectorial Parameterizations of
                       Strain Measures; 4.3 Kinetic Constitutive Equations; 4.4 Material
                       Symmetry Group; 4.5 Non-Linear Micropolar Isotropic Solids; 4.6
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                       Solids; 4.8 Constraints; 4.9 Constitutive Inequalities; 4.9.1 Constitutive
                       Restrictions in Linear Micropolar Elasticity; 4.9.2 Coleman--Noll
                       Inequality for Micropolar Continuum

| Sommario/riassunto | The book presents foundations of the micropolar continuum mechanics including a short but comprehensive introduction of stress and strain measures, derivation of motion equations and discussion of the difference between Cosserat and classical (Cauchy) continua, and the discussion of more specific problems related to the constitutive modeling, i.e. constitutive inequalities, symmetry groups, acceleration waves, etc. |