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Titolo	Theory of Structured Multiphase Mixtures [[electronic resource] /] / by Flavio Dobran
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Collana	Lecture Notes in Physics, , 0075-8450 ; ; 372
Disciplina	536.7
Soggetti	Thermodynamics Statistical physics Dynamical systems Physics Fluids Materials science Complex Systems Mathematical Methods in Physics Numerical and Computational Physics, Simulation Fluid- and Aerodynamics Characterization and Evaluation of Materials
Lingua di pubblicazione	Inglese
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Nota di contenuto	Field equations of multiphase mixtures -- The material deformation postulate and field equations of multiphase mixtures with structure -- Restrictions imposed on field equations by the principle of material frame-indifference -- Simplification of the theory of structured multiphase mixtures -- Concepts and principles of constitutive theory -- Constitutive equations -- Mixtures with rotation and dilatation.
Sommario/riassunto	In this volume the author gives a detailed presentation of his theory of multiphase mixtures with structure. The book also addresses students, and in addition encourages further research. Based on the concept of averaging the field equations, conservation and balance equations are developed. A material deformation postulate leads to structured

mixtures. The resulting model is compared with those in use elsewhere. The final chapters are devoted to constitutive theory and constitutive equations. In particular, two-phase mixtures are treated in some detail.
