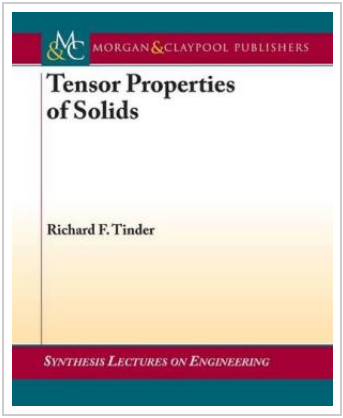




# Tensor Properties of Solids, Part One: Equilibrium Tensor Properties of Solids (Paperback)

By Richard F. Tinder

Morgan Claypool Publishers, United States, 2007. Paperback. Condition: New. Language: English . Brand New Book. Tensor Properties of Solids presents the phenomenological development of solid state properties represented as matter tensors in two parts: Part I on equilibrium tensor properties and Part II on transport tensor properties.Part I begins with an introduction to tensor notation, transformations, algebra, and calculus together with the matrix representations. Crystallography, as it relates to tensor properties of crystals, completes the background treatment. A generalized treatment of solid-state equilibrium thermodynamics leads to the systematic correlation of equilibrium tensor properties. This is followed by developments covering first-, second-, third-, and higher-order tensor effects. Included are the generalized compliance and rigidity matrices for first-order tensor properties, Maxwell relations, effect of measurement conditions, and the dependent coupled effects and use of interaction diagrams. Part I concludes with the second- and higher-order effects, including numerous optical tensor properties.Part II presents the driving forces and fluxes for the well-known proper conductivities. An introduction to irreversible thermodynamics includes the concepts of microscopic reversibility, Onsager s reciprocity principle, entropy density production, and the proper choice of the transport parameters. This is followed by the force-flux equations for electronic charge and heat flow and...



### Reviews

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