

Tensor Analysis and Nonlinear Tensor Functions

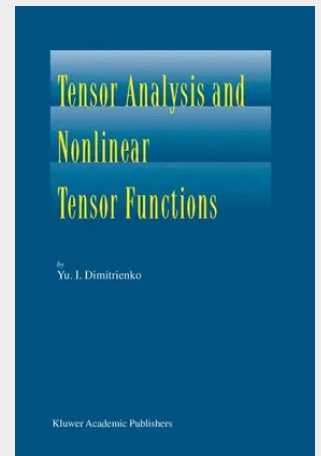
Tensor Analysis and Nonlinear Tensor Functions embraces the basic fields of tensor calculus: tensor algebra, tensor analysis, tensor description of curves and surfaces, tensor integral calculus, the basis of tensor calculus in Riemannian spaces and affinely connected spaces, - which are used in mechanics and electrodynamics of continua, crystallophysics, quantum chemistry etc.

The book suggests a new approach to definition of a tensor in space R , which allows us to show a geometric representation of a tensor and operations on tensors. Based on this approach, the author gives a mathematically rigorous definition of a tensor as an individual object in arbitrary linear, Riemannian and other spaces for the first time.

It is the first book to present a systematized theory of tensor invariants, a theory of nonlinear anisotropic tensor functions and a theory of indifferent tensors describing the physical properties of continua.

The book will be useful for students and postgraduates of mathematical, mechanical engineering and physical departments of universities and also for investigators and academic scientists working in continuum mechanics, solid physics, general relativity, crystallophysics, quantum chemistry of solids and material science.

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