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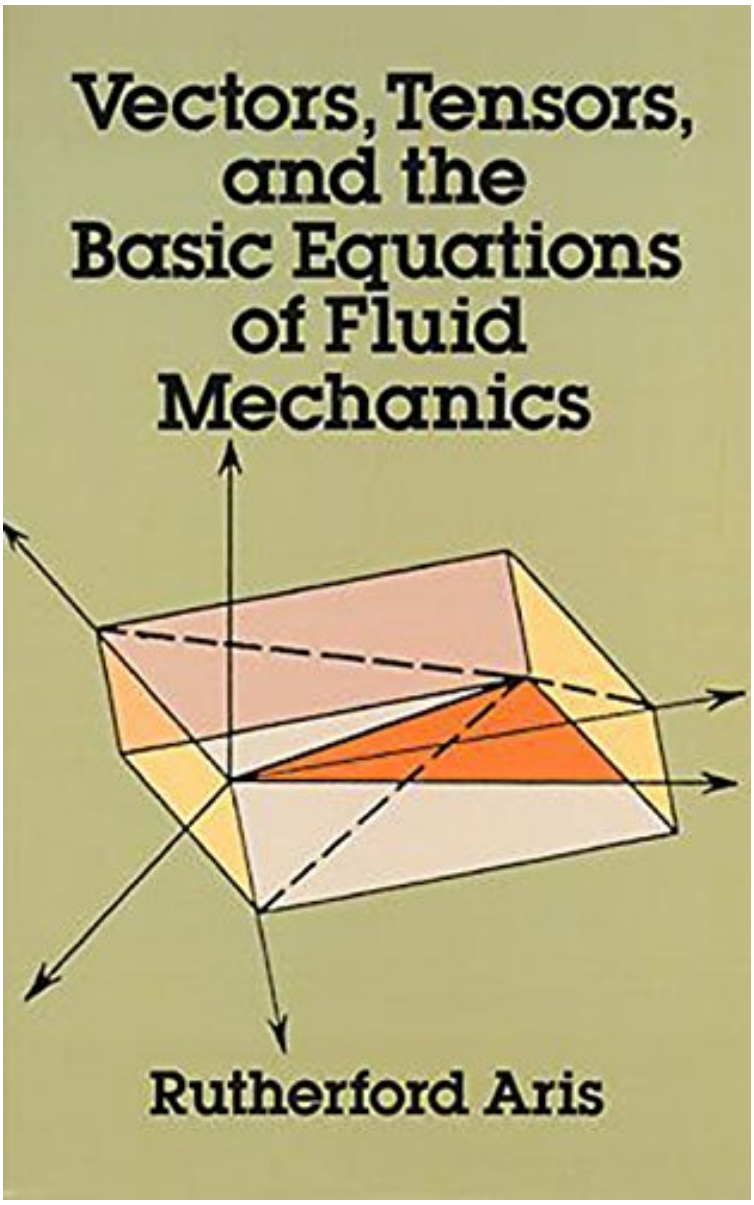

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Description :

Prsentation de l'diteurThis excellent text develops and utilizes mathematical concepts to illuminate physical theories. Directed primarily to engineers, physicists, and applied mathematicians at advanced undergraduate and graduate levels, it applies the mathematics of Cartesian and general tensors to physical field theories and demonstrates them chiefly in terms of the theory of fluid mechanics.Essentially an introductory text, intended for readers with some acquaintance with the calculus of partial differentiation and multiple

integration, it first reviews the necessary background material, then proceeds to explore the algebra and calculus of Cartesian vectors and tensors. Subsequent chapters take up the kinematics of fluid motion, stress in fluids, equations of motion and energy in Cartesian coordinates, tensors, and equations of fluid flow in Euclidean space.The concluding chapters discuss the geometry of surfaces in space, the equations of surface flow and equations for reacting fluids. Two invaluable appendixes present a resume of 3-dimensional coordinate geometry and matrix theory and another of implicit functions and Jacobians. A generous number of exercises are an integral part of the presentation, providing numerous opportunities for manipulation and extension of the concepts presented.