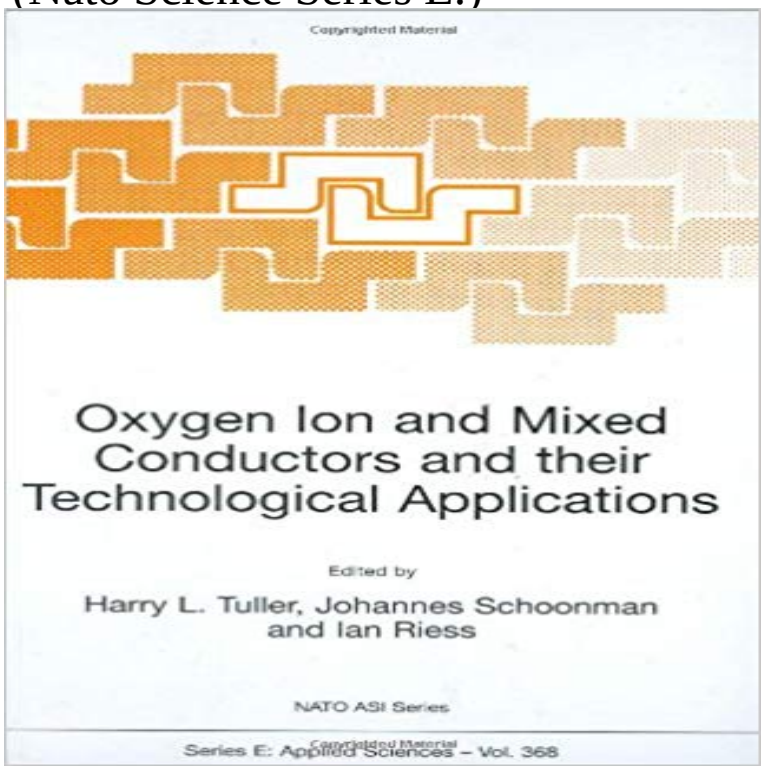
Oxygen Ion and Mixed Conductors and their Technological Applications (Nato Science Series E:)



Progress in the development of oxygen ion and mixed conductors is responsible for innovations in the fields of gas sensors, fuel cells, oxygen permeation membranes, oxygen pumps and electrolyzers. Commercialization has been impeded by materials stability and compatibility issues, high costs of fabrication and inadequate understanding of the interfacial phenomena controlling the operation of these devices. In this text we assemble a unique group of experts whose articles straddle, for the first time, all the key topical areas ranging from fundamentals relating to (a) defects, electrochemical, and interfacial processes, (b) catalysis, electrocatalysis and gas reforming, to design and fabrication including (c) advanced electroceramic processing methods, (d) materials selection and optimization, (e) and applications including scale up, commercialization and competitive technologies. This material was first presented at a NATO Advanced Study Institute held in Erice, Sicily, Italy during the period july 15-30, 1997. All the participants benefited from the integrated and synthetic approach taken to the subject matter with liberal use of examples and case studies. Many opportunities were made available for critical discussions of the key concepts and issues both within the formal sessions as well as in the cafes and restaurants which populate Erice. I join the co-organizers of the Advanced Study Institute, Professors J. Schoonman, I. Riess and M. Balkanski, in thanking NATO for providing support for the ASI. Thanks are also due to Dr.

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Network single ion conductors (NSICs) based on comb-branch polyepoxide ethers and lithium bis(allylmalonato) borate have been synthesized it was found that besides the main glass transition (? transition) there was a distinct **Physical Chemistry of Ionic Materials: Ions and Electrons in Solids - Google Books Result** Oxygen Ion and Mixed Conductors and their Technological Applications (Nato Science Series E:) Advances in Inorganic Chemistry and **Modern Aspects of Electrochemistry, Number 38 - Google Books Result** Ceramic Science for Materials Technologists. Oxygen Ion and Mixed Conductors and their Technological Applications (Nato Science Series

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