Record Nr. UNINA9910133575603321 Energy materials [[electronic resource] /] / edited by Duncan W. Bruce, **Titolo** Dermot O'Hare, Richard I. Walton Pubbl/distr/stampa Chichester, West Sussex, U.K., : Wiley, 2011 **ISBN** 1-283-37305-X 9786613373052 0-470-97806-6 0-470-97778-7 0-470-97779-5 Descrizione fisica 1 online resource (305 p.) Collana Inorganic materials series TEC021000 Classificazione Altri autori (Persone) BruceDuncan W WaltonRichard I O'HareDermot Disciplina 620.11 621.31242 Soggetti Energy storage - Materials Electric batteries - Materials Power electronics - Materials Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Note generali Description based upon print version of record. Nota di bibliografia Includes bibliographical references and index. Nota di contenuto Energy Materials; Contents; Inorganic Materials Series Preface; Preface; List of Contributors: 1 Polymer Electrolytes: 1.1 Introduction: 1.1.1 Context; 1.1.2 Polymer Electrolytes - The Early Years; 1.2 Nanocomposite Polymer Electrolytes; 1.3 Ionic Liquid Based Polymer Electrolytes; 1.3.1 Ionic Liquid Properties; 1.3.2 Ion Gels; 1.3.3 Polymer Electrolytes Based on Polymerisable Ionic Liquids: 1.4 Crystalline Polymer Electrolytes; 1.4.1 Crystalline Polymer: Salt Complexes; References: 2 Advanced Inorganic Materials for Solid Oxide Fuel Cells: 2.1 Introduction 2.1.1 Conventional SOFC Electrolytes2.1.2 Conventional Anodes; 2.1.3 Conventional Cathodes; 2.1.4 Summary; 2.2 Next Generation SOFC Materials; 2.2.1 Novel Electrolyte Materials; 2.2.2 Novel Cathodes; 2.2.3 Ceramic and Sulfur Tolerant Anodes; 2.3 Materials Developments through Processing; 2.4 Proton Conducting Ceramic Fuel Cells; 2.4.1

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Sommario/riassunto

In an age of global industrialisation and population growth, the area of energy is one that is very much in the public consciousness. Fundamental scientific research is recognised as being crucial to delivering solutions to these issues, particularly to yield novel means of providing efficient, ideally recyclable, ways of converting, transporting and delivering energy. This volume considers a selection of the state-of-the-art materials that are being designed to meet some of the energy challenges we face today. Topics are carefully chosen that show how the skill of the synthetic chemist can