1. Record Nr. UNINA9910741155503321 Autore Peng Shengjie Titolo Electrochemical hydrogen production from water splitting: basic, materials and progress / / Shengjie Peng Singapore:,: Springer Nature Singapore:,: Imprint: Springer,, 2023 Pubbl/distr/stampa **ISBN** 981-9944-68-6 [1st ed. 2023.] Edizione 1 online resource (xi, 243 pages): illustrations (some color) Descrizione fisica Disciplina 665.81 Soggetti Hydrogen as fuel Lingua di pubblicazione Inglese Materiale a stampa **Formato** Monografia Livello bibliografico Nota di bibliografia Includes bibliographical references. Nota di contenuto Overview of Hydrogen Energy -- Current Status of Hydrogen Energy Development -- Alkaline Water Electrolysis -- Proton Exchange Membrane Water Electrolysis (PEMWEs) -- Anion Exchange Membrane Water Electrolysis (AEMWE) -- Solid Oxide Electrolysis -- Hydrogen Production by Electrolysis of Seawater -- Industrialization -- The Challenge and Prospect. . Sommario/riassunto This book provides a systematic and comprehensive introduction to the fundamentals of hydrogen energy, hydrogen energy-related technologies and systems, and the environmental and economic impacts of hydrogen energy. This book is rich in content, combining theory with practice and reflecting the latest world achievements in hydrogen energy utilization and research. It is used by a wide range of scientific and technologists engaged in the development and utilization of hydrogen energy and other energy sources. It is also referenced for technical workers in power engineering, aerospace, chemistry, chemical engineering, refrigeration, metallurgy, and those engaged in safety management, as well as for teachers and students of related disciplines in higher education institutions. Furthermore, this book makes some

modest contribution to the development of hydrogen energy by

strengthening the hydrogen energy research teams.