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Sommario/riassunto

This book provides a comprehensive review of the latest hydrogen storage and transportation technologies. Starting with fundamental principles and research frontiers, the book introduces the state-of-the-art technologies in the storage and transportation using high-pressure compressed hydrogen, cryogenics and liquid hydrogen, hydrogen rich liquid compounds and solid-state hydrogen storage materials. Both qualitative and quantitative analyses are presented for each approach. The book also aims to provide hands-on tutorial for professionals and students to work in the fields of hydrogen energy and hydrogen related industries. This book is a valuable primer for professionals in the energy, materials science, chemistry and automotive industry. It is especially useful for those who are engaged in hydrogen production, storage, transportation and utilization. Covering low carbon technologies and carbon footprint as well, this book can also serve as a reference for teachers and students majoring in clean energy and functional materials in colleges and universities. The basis of English translation of this book, originally in Chinese, was facilitated by artificial intelligence. The content was later revised by the author for accuracy. Additional questions and answers via app: Download the Springer Nature Flashcards app free of charge and use exclusive additional material to test your knowledge.