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Autore Kong Biao

Titolo Functional Mesoporous Carbon-Based Film Devices for Energy Systems

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Altri autori (Persone) XuHongbin

XieLei ZhouShan

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energy storage -- Applications for catalysis.

Sommario/riassunto This book introduces the synthesis of functional mesoporous carbon-

based films and their applications in energy systems. In the last decades, the consumption of fossil fuels has led to many problems

such as the energy crisis and climate change. The rapidly increasing energy demands and environmental issues have attracted lots of attention to develop new functional materials for sustainable energy technology. Mesoporous carbon-based films show unique properties and have been regarded as a promising material applied in highly efficient energy storage and conversion systems. Interfacial assembly strategies are usually employed to construct such film devices. In this book, recent developments in synthesis of mesoporous carbon-based film devices through interfacial assembly strategies are illustrated. Additionally, the applications of mesoporous carbon-based film devices for electrochemical energy systems including batteries and electrocatalysis are introduced to demonstrate their potential, as well as describing the mechanisms to enhance the performance of these systems. Finally, some challenges and future outlooks are presented to inspire better development and contributions to this field in coming years. Given its scope, this book appeals to undergraduate students, graduate students, engineers, and researchers involved in related fields.