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Sommario/riassunto

This book provides a comprehensive exploration of two-dimensional (2D) nanomaterials, focusing on their synthesis, properties, and wide range of applications. It covers both top-down and bottom-up strategies for synthesizing 2D nanomaterials, including methods such as etching, mechanical milling, and chemical vapor deposition. The text delves into the intrinsic properties of 2D materials, such as their crystal structure, magnetic, mechanical, electrical, and optical characteristics, as well as their plasmonic properties. The book also discusses the application of 2D nanomaterials in various fields, including energy storage, wastewater treatment, antibacterial technologies, drug delivery systems, and neural tissue engineering. Authored by experts in the field, it is intended for researchers, scholars, and professionals in materials science and nanotechnology, aiming to provide insights into the challenges and future prospects of 2D nanomaterials.