

Special Issue Reprint

Two-Dimensional Materials: From Synthesis to Applications

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The Special Issue “Two-Dimensional Materials: From Synthesis to Applications” highlights groundbreaking advancements in the synthesis, characterization, and diverse applications of 2D materials, featuring 17 meticulously curated articles. This comprehensive collection explores the unique physicochemical properties of 2D materials and their transformative potential across fields like energy, environmental science, electronics, and sensing technologies.

Key topics include the synthesis of hexagonal boron nitride thin films via high-power impulse reactive magnetron sputtering, innovative strategies for enhancing lithium extraction from brines using GO/MXene membranes, and the development of eco-friendly coatings with graphene oxide for superior anticorrosion performance. The issue also delves into high-efficiency photocatalysts, broadband solar absorbers, and functionalized materials for hydrogen evolution and pollutant removal, underscoring the versatility of 2D materials in addressing critical global challenges.

It serves as a valuable resource for researchers, engineers, and technologists working at the intersection of materials science and innovative applications, offering insights into the future of 2D material technologies.

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