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16 November 2025

Defect-Engineered 2D and Hybrid Nanomaterials for Next-Generation Energy Storage Devices

Submission deadline: **30 June 2026**

This Special Issue focuses on recent progress in 2D and hybrid nanomaterials for advanced energy storage devices such as supercapacitors and batteries. It highlights how defect engineering, interface control, and electrolyte optimization can improve charge storage, safety, and durability. Special attention is given to MXenes, polymers, metal oxides, and hybrid electrolytes, as well as spectroscopic and theoretical studies linking structure and performance. The issue also welcomes contributions on scalable synthesis, flexible devices, and sustainable material design. By combining fundamental and applied research, this collection aims to guide the development of next-generation, high-efficiency, and environmentally friendly energy storage technologies.

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Special issue information:

The issue welcomes original research articles and critical reviews that combine experimental, theoretical, and computational approaches to design, synthesize, and characterize advanced energy storage materials. Topics of interest include but are not limited to: • Defect-controlled energy storage in 2D and layered materials

Journal of Energy Storage

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