

Tentative Outline (Preliminary Proposal of Thematic Issue)

Special/Thematic Issue for the journal *Current Chinese Science - Energy*

Title of the Thematic Issue: Advanced Materials for High-Performance Sodium-Ion Batteries
Section Editor's Name: Yongjin Fang

• **Scope of the Thematic Issue:**

Grid-scale energy storage systems with low cost and high performance are needed to meet the requirements of sustainable energy systems. Sodium-ion batteries are attracting great attention from both academic and industrial communities owing to the advantages of low-cost and high abundances of sodium resources. In the past few years, great achievements have been gained in sodium-ion batteries, including high-performance electrode materials, advanced electrolytes, electrode design, and so on.

Though significant advances have been achieved, further improvements are still required in terms of energy/power density and long cyclic stability to promote the commercialization of sodium-ion batteries. With the growing interest from the battery communities, we believe more inspiring work will emerge to develop sodium-ion batteries with a low cost and long-life span for large-scale energy storage applications in the future.

Despite recent advances in sodium-ion battery technology, discoveries and further improvements are still required. In this Special Issue, we are looking for contributions about advanced electrode materials and electrolytes for sodium-ion batteries.

Keywords: sodium-ion batteries, cathode materials, anode materials, electrolytes, separators, interphases and interfaces, energy storage materials, solid-state battery

Sub-topics:

- High-energy electrode materials
- Advanced electrolytes and salts
- Aqueous sodium-ion batteries
- Battery design and commercialization
- Battery failure mechanisms
- Electrochemical performance enhancement
- Mechanism study
- Interfaces and interphases study
- Binders
- Sodium anodes
- Computational methods

Schedule:

- ✧ Complete Thematic issue submission deadline: 30 December 2023

Details of Section Editor:

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