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Zinc-Ion Batteries: Issues and Opportunities

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Message from the Guest Editors

This Special Issue on zinc-ion batteries focuses on the fundamentals, challenges, and the latest exciting developments in Zn-ion battery research. Zn-ion batteries with aqueous electrolytes featuring compelling price-points, competitive performance, and enhanced safety represent advanced energy storage chemistry as a promising alternative to current lithium-ion battery systems. This Special Issue will cover the key topics in cathode material development, electrolyte exploration, zinc anodes protection/modification, novel anode material development, understanding of battery mechanisms, and diverse applications in energy storage systems, portable electronics, and flexible devices.

Topics of interest include, but are not limited to:

- Novel design of highly reversible Zn anodes;
- Optimization of aqueous or organic electrolytes and additives;
- Cathode materials and their energy storage mechanisms;
- Mechanisms of electrochemical activation, insertion, and conversion;
- Cation mobility, electrode/electrolyte interface, and electrolyte decomposition;
- Safety failure analysis;
- High energy density and long-life operation;
- ……

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Message from the Editor-in-Chief

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