Special Issue

Aqueous Metal–Ion Batteries

Message from the Guest Editor

Aqueous metal–ion batteries are considered to be promising candidates for stationary energy storage technology due to their inherent low cost, intrinsic safety, and environmental friendliness. The energy density and cycle life are limited by the narrow electrochemical stable window (≈1.23 V). The aggressiveness of aqueous electrolytes with highly polar and strongly coordinated water usually causes various side reactions. However, water also endows aqueous batteries with some attractive features beyond safety and low cost. Topics of interest include but are not limited to:

- Innovative electrode material for high energy density;
- New electrolyte chemistry and new electrolyte solvation design;
- Surface/interface engineering;
- Advanced electrochemical characterization techniques for interfaces;
- Chemical and phase characterization of materials and failure analysis;
- Stable and cost-effective current collector materials and treatments;
- Innovative battery chemistry with attractive features;
- Overpotential control;
- Functional separators;
- Design and modification of metal anodes;
- Cathode materials for multivalent cation insertion/extraction.

Guest Editor

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