

Special Issue

Advances in Electrolyte Materials for Solid-State Batteries

Message from the Guest Editors

Solid-state batteries (SSBs) have emerged as a key technology for overcoming the limitations of conventional energy storage systems, attributed to their exceptional intrinsic safety and higher energy density. SSBs are now at a critical juncture towards commercialization, where the development of solid electrolytes remains a decisive factor for their commercial viability. However, existing solid electrolyte materials still face challenges that hinder widespread application. This Special Issue aims to provide a comprehensive overview of recent advances in solid electrolyte materials, including review articles summarizing their development and original research papers focused on performance enhancement and applications. By gathering cutting-edge research, this Special Issue seeks to accelerate the progress of solid electrolytes and facilitate the commercialization of SSBs. Key focus areas include the following:

- Ion transport mechanisms;
- Stability optimization;
- Interface engineering;
- Advanced characterization: multiscale analysis techniques;
- Scalable fabrication;
- Emerging design paradigms
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Deadline for manuscript submissions

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