Special Issue

Advancements in Electrode-Electrolyte Interface: From Lithium-Ion to Multi-valent Batteries

Message from the Guest Editors

Solid electrolyte interphase (SEI) is key to the durability of lithium-based batteries and is also relevant for multi-valent batteries beyond lithium-ion. Its stability is of paramount significance in ensuring the efficient operation of batteries, especially in demanding environments such as those encountered in electric vehicles and high-capacity stationary storage systems. An unstable SEI can lead to rapid battery degradation, capacity loss, and potential safety concerns. Our primary focus will be on the stability of the SEI. Topics of interest include but are not limited to the following:

- Solid Electrolyte Interphase (SEI)
- Lithium-based batteries
- Multi-valent batteries
- SEI stability
- Electrode-Electrolyte Interface
- Electrolyte additives
- Electrochemical techniques
- Lithium plating
- Solid-state lithium batteries

We believe that by highlighting the intricacies of the solid electrolyte interphase and its stability, this Special Issue will act as a beacon for researchers, academicians, and industry experts, propelling them towards the development of more reliable, long-lasting, and safer multi-valent and lithium-ion batteries.

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Message from the Editor-in-Chief

Take the opportunity to publish your original scientific work or a review paper concerning battery materials, battery technology or battery application within this new open access journal. Along with material science, the journal also addresses engineering and multidisciplinary research topics, such as cell and system design or storage system integration. Publishing proffers visibility for the benefit of other experts and facilitates discussion of the research results within the field. You are invited to publish your work, read published papers and to participate in topical discussions.

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