Special Issue

Thermal Management in Lithium-Ion Batteries: Latest Advances and Prospects

Message from the Guest Editors

In light of the rapid growth witnessed in the electric vehicle and rechargeable battery markets, this Special Issue presents an opportune platform to explore diverse thermal management technologies. It specifically focuses on their application in battery and electronics systems for transportation applications, aiming to address the evolving demands of the field and foster insights into effective thermal management strategies. Topics of interest include, but are not limited to:

- Assessment of industry approaches and emerging advancements;
- Single-phase cooling/Multi-phase cooling;
- Innovative cooling materials and structures;
- Advanced sensors, thermal control, and fault detection;
- Battery materials and designs with improved thermal properties;
- Strategies to mitigate thermal runaway and propagation;
- Cutting-edge models to gain insights into thermal-related degradation mechanisms;
- New mechanistic models to understand degradation caused by thermal issues;
- Fusion of machine learning algorithms to enhance the precision and efficiency of detection and prediction;
- Extreme conditions such as extremely fast charge and low temperatures.

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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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