Special Issue

Advanced Modeling and State Estimation Technologies for Next-Generation Battery Management

Message from the Guest Editors

This Special Issue aims to provide an exchange platform for researchers and practitioners to present cutting-edge developments in the field of battery modeling, state estimation, safety evaluation, and risk warning. In this Special Issue, original research articles and reviews are welcome. Research areas may include (but are not limited to) the following:

- Physics-based/physics-data hybrid modeling methods for fast battery digital twins;
- Model simplification and reformulation for real-time control purposes;
- Model-based multi-state joint estimation (like SOC/SOH/SOP/SOS);
- Machine learning enabled state estimation and prediction (like SOH/RUL);
- Sensorless temperature estimation and the reconstruction of temperature distribution of large-format battery cells/packs;
- Safety quantification and risk warning based on multi-source information fusion and cloud-end collaboration;
- Degradation-aware state monitoring and performance management strategies.

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Energies is an international, open access journal in energy engineering and research. The journal publishes original papers, review articles, technical notes, and letters. Authors are encouraged to submit manuscripts which bridge the gaps between research, development and implementation. The journal provides a forum for information on research, innovation, and demonstration in the areas of energy conversion and conservation, the optimal use of energy resources, optimization of energy processes, mitigation of environmental pollutants, and sustainable energy systems.

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