Special Issue

Artificial Intelligence-Based State-of-Health Estimation of Lithium-Ion Batteries

Message from the Guest Editors

Lithium-ion batteries have a wide range of applications, but one of their biggest problems is their limited lifetime due to performance degradation during usage. It is, therefore, essential to determine the battery's state of health (SOH) so that the battery management system can control the battery, enabling it to run in the best state, and thus prolong its lifetime. Artificial Intelligence (AI) technologies possess immense potential in inferring battery SOH, and can extract aging information (i.e., SOH features) from measurements and relate them to battery performance parameters, avoiding a complex battery modeling process. Therefore, this Special Issue aims to showcase manuscripts showing efficient SOH estimation methods using AI which exhibit good performance such as high accuracy, high robustness against the changes in working condition, and good generalization, etc. Potential topics:

- Effective data mining of features for AI methods;
- Network structures;
- Learning strategies;
- Transferring AI-based models in between different battery technologies and applications;
- Sequentially updated models.

Guest Editors

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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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