



Machine Learning for Advanced Battery Systems

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Message from the Guest Editors

Dear Colleagues,

Machine learning has significant potential to enable a more economic, efficient, and reliable low-carbon transition of energy systems, such as improving generation and load forecasting, accelerating the design of next-generation battery chemistries, enhancing distributed energy resources coordination, and advancing battery management systems. The purpose of this Special Issue is to provide an overview of the state of the art, and to discuss promising future research directions at the interface between energy and machine learning.

Potential topics include, but are not limited to, the following:

- Machine learning for battery management system including battery lifetime prediction, and optimal charge design;
- Reinforcement learning for distributed optimization and control of large-scale energy systems;
- Machine-learning-based time aggregation method for energy system planning;
- Battery system fault diagnosis with data-driven methods;
- Battery materials design assisted by machine learning.





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