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Charging Safety and Intelligence of Lithium-Ion Batteries

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Deadline for manuscript submissions:
closed (15 May 2024)

Message from the Guest Editors

Dear Colleagues,

Lithium-ion batteries have seen widespread application in numerous important industrial sectors. Nevertheless, safe and intelligent charging of lithium-ion batteries remains challenging, and there is much room for improvement in this regard. Performance degradation occurs throughout the lifespan of a lithium-ion battery, or/and under low-charge status and sub-ambient temperatures. As a result, an optimal charging strategy for a new battery is no longer suitable. The commonly used wired charging mode struggles to meet intelligent charging for autonomous driving cars.

For this Special Issue, we seeking new contributions on the following topics (among others):

- Aging mechanisms of LIBs through in situ and ex situ detection;
- Full-cycle charging safety assessment and strategies for LIBs;
- State estimation methods for LIBs;
- Rapid self-heating methods for LIBs at low temperatures;
- Modeling and control of stationary/dynamic wireless charging systems;
- Innovative applications of wireless charging technologies;
- Foreign object detection technologies for wireless charging systems;
- Assessments of overheating risk of wireless charging.

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Message from the Editor-in-Chief

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