



## Battery Thermal Performance and Management: Advances and Challenges

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### Message from the Guest Editors

The implementation of battery thermal management strategies holds significant theoretical value and provides application guidance for the safe and reliable operation of battery systems; these strategies include cooling/heating methods, which ensure uniformity in the thermal–electrical field, and early warning systems that monitor behavior and offer protection against thermal hazards. Topics included in the Special Issues are as follows:

- Thermal decomposition reaction for electrode and electrolyte;
- Thermal management design (heating/ cooling by liquid, air, etc.);
- Electric vehicle or battery energy storage system integration thermal management strategies (battery, motor, HVAC, etc.);
- Thermal–electrical field uniformity control;
- Thermal runaway tests and behavior;
- Failure battery venting characteristics;
- Battery fire risk assessment and tests;
- Thermal hazard protection design and method;
- Battery thermal runaway modeling method and simulation.





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