Special Issue

Challenges in Circuit Design for Battery Management Systems

Message from the Guest Editor

This Special Issue aims to showcase and disseminate the latest advances in the circuit design aspects of battery management systems, focusing on overcoming the challenges posed by modern applications. Topics of interest for publication include, but are not limited to, the following:

- High-precision analog and mixed-signal circuit design for cell voltage, current, and temperature sensing;
- Power management circuits for ASICs in BMS application;
- Safety-oriented, robust, fault-tolerant, and self-healing BMS circuits;
- Communication architectures and protocols for distributed battery systems;
- ASICs and integrated circuits for battery monitoring and balancing;
- Circuit design for real-time state-of-charge (SOC) and state-of-health (SOH) estimation;
- Thermal management and protection circuits for battery systems;
- Advanced modeling and simulation techniques for BMS circuit validation;
- Low-power and miniaturized circuit solutions for portable and wearable applications;
- Emerging technologies in BMS circuits, including AI-assisted and machine learning-enabled designs.

Guest Editor

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Message from the Editor-in-Chief

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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