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Special Issue Reprint

Towards a Smarter Battery Management System

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This Special Issue, entitled “Towards a Smarter Battery Management System: 3rd Edition”, presents a collection of 10 papers advancing battery management technologies for lithium-ion and next-generation energy storage systems. It highlights key advances in state-of-health and parameter estimation, thermal management, internal short-circuit fault diagnosis, and second-life battery applications. Emerging trends such as physics-informed and deep learning-based state estimation, PV–battery energy storage system integration for EV charging, and techno-economic evaluation of second-life batteries are prominently featured, reflecting the field’s continued shift toward more intelligent, data-driven, and sustainable battery management solutions. This reprint serves as a valuable resource for researchers, engineers, and practitioners seeking to understand and contribute to the development of the next generation of smart battery management systems.

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