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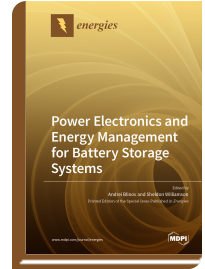
Special Issue Reprint

Power Electronics and Energy Management for Battery Storage Systems

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Edited by
Andrei Blinov
Sheldon Williamson

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The deployment of distributed renewable generation and e-mobility systems is creating a demand for improved dynamic performance, flexibility, and resilience in electrical grids. Various energy storages, such as stationary and electric vehicle batteries, together with power electronic interfaces, will play a key role in addressing these requests thanks to their enhanced functionality, fast response times, and configuration flexibility. For the large-scale implementation of this technology, the associated enabling developments are becoming of paramount importance. These include energy management algorithms; optimal sizing and coordinated control strategies of different storage technologies, including e-mobility storage; power electronic converters for interfacing renewables and battery systems, which allow for advanced interactions with the grid; and increase in round-trip efficiencies by means of advanced materials, components, and algorithms.

This Special Issue contains the developments that have been published by researchers in the areas of power electronics, energy management and battery storage. A range of potential solutions to the existing barriers is presented, aiming to make the most out of these emerging technologies.



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