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## Energy Management in the Multi-Source Systems

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### Message from the Guest Editors

Energy management in multi-source systems, such as the distributed power generation systems-based renewable energies Hybrid Electric Vehicle (HEV), Plug-in HEV (PHEV), and Pure Electric Vehicles (PEV), often present sharp fluctuations due to the intermittencies of the renewable energies sources or the dynamics driving cycles. These fluctuations cause a various energy management needs, causing harm to energy storage system life (batteries, ultracapacitors, etc.) which affect multi-source system performances. The multi-source systems, which include energy storage systems with an optimal energy management, provide solutions to these problems. However, to avoid excessive cost, the appropriate sizing of the energy storage system for given multi-source system performance requirements is needed through the energy storage system design optimization and its usage. In addition, based on nature of sources and the voltage levels for various applications, it is often necessary to interface the power electronics converters for impedance matching between the sources and the load.



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# Special Issue



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## Message from the Editor-in-Chief

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