Special Issue

Second-Life Batteries

Message from the Guest Editors

To minimize the environmental impact of lithium-ion batteries at the end of life, there are two options: to recycle or reuse. A second life prior to recycling the batteries may improve their environmental balance. Second-life batteries are suitable for a number of applications despite their degraded performance. Second-life batteries are either used batteries or a combination of their modules or cells. Due to characteristics dispersion, the elements must be selected and sorted. Performance evolution and battery behavior during second life must be observed. Specific energy management may be needed in second-life applications. ***Topics of interest in relation to second life batteries:*** - Characterization aging techniques and performance dispersion - Post-mortem analysis - Aging, thermal and electric modeling - SoX estimation: State of Charge, State of Function and State of Health - Electro-thermal management and balancing techniques - Optimal design of second-life batteries - Electrical and thermal safety issues - Application of second-life batteries - Life-cycle and techno-economic assessment - Statistical approaches: machine learning, deep learning

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