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Artificial Intelligence-Based State-of-Health Estimation of Lithium-Ion Batteries

Edited by: Remus Teodorescu and Xin Sui

Lithium-ion batteries have a wide range of applications, but one of their biggest problems is their limited lifetime, which is due to performance degradation during usage. It is, therefore, essential to determine the battery's state of health (SOH) so that the battery management system can control the battery, enabling it to run in the best state, and thus prolonging its lifetime. Artificial Intelligence (AI) technologies possess immense potential in inferring battery SOH, and can extract aging information (i.e., SOH features) from measurements and relate them to battery performance parameters, avoiding a complex battery modeling process. Therefore, this Special Issue showcase manuscripts showing efficient SOH estimation methods using AI which exhibit good performance, such as high accuracy, high robustness against the changes in working conditions, good generalization, etc.

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