Battery Capacity Estimation in Electric Vehicles

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Message from the Guest Editors

Dear Colleagues,

According to Bloomberg New Energy Finance, in excess of four million Electric Vehicles (EVs) will be sold worldwide by the end of 2018. The dominant battery technology is based on lithium-ion including, LFP, LTO, LCO, and NMC, but new technologies are emerging too, for example, Li-sulfur, solid-state, Li-air, sodium-ion. The battery capacity is a critical and fundamental parameter in accurate EV range prediction, as well as a part of the State of Health (SOH) measurement which can predict the Remaining Useful Life (RUL). The capacity fade is closely related to the battery degradation process, which varies with the battery chemistry. Considering the existing computational power of BMS, usage of the capacity estimation methods based on observers has its limits. Moreover, the nonlinear model increases the complexity of estimation. The capacity prediction also relies on the reliable and accurate measurement from sensors. Accordingly, obtaining an accurate battery capacity estimation is still a challenge. This Special Issue focuses on recent research progress of battery capacity estimation methods in EV.

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Special Issue

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Message from the Editor-in-Chief

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