

What is battery capacity estimation?

Battery capacity estimation is one of the key functions in the BMS, and battery capacity indicates the maximum storage capability of a battery which is essential for the battery State-of-Charge (SOC) estimation and lifespan management.

What are the different types of battery capacity estimation methods?

Numerous capacity estimation methods have been proposed, which can be generally categorized as model-based methods and data-driven methods[6,7]. Model-based capacity estimation methods depend on mathematical models to describe the behavior of the battery. The capacity is estimated based on the model and the measured voltage/current data .

What is battery capacity?

In essence, the battery capacity is the number and energy of the electrons inside the electrodes[14,15]. One consensus is that the Li-ion battery capacity will fade with battery degradation, which could be influenced by numerous external factors in operation conditions.

Why is capacity important for lithium-ion batteries?

Capacity is a crucial metric for evaluating the degradation of lithium-ion batteries (LIBs), playing a vital role in their management and application throughout their lifespan.

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