

The 111th GREEN Seminar



Impedance And Noise as Non-invasive Battery Analysis Tools

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Given the rapid increase of battery powered transportation; being able to follow battery performance and health parameters accurately and noninvasively is one of the challenges of today. Methods involving various numerical manipulations of the potential and current as functions of time severely overlook the fundamental phenomena happening inside the battery.

Electrochemical Impedance Spectroscopy (EIS) has established itself as a prime analysis method for batteries that allows the independent investigation of the various processes while the battery is intact.

On the other hand, Noise is the ultimate noninvasive method as it can measure properties without even applying any signals. In short, it is a method that investigates the potential for signatures of stochastic events happening inside the battery.

In my presentation, I will highlight progress we have made in using impedance in ways that are not prone to subjective data analysis methods and further show how the voltage noise can be a very valuable non-perturbing method to analyze batteries.

Venue: Auditorium, 1F, NanoGREEN/WPI-MANA Bldg.,
Namiki-site

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