

## Methods and Systems for Battery Monitoring

**Track Code:** 2020-JUNG-69146

**Categories:**

- Electrical Engineering
- Mechanical Engineering

**Keywords:**

- Active Monitoring
- Automotive
- Batteries
- Electric Vehicles & Cars
- Electrical Engineering
- Energy Storage
- Energy Systems
- Li-ion Batteries
- Mechanical Engineering
- Monitoring
- Rechargeable

Researchers at Purdue University have developed a new battery state monitoring system to enhance performance, avoid failure, and prolong lifetime for batteries in electronic vehicle and energy storage system applications. This approach measures states of charge (SoC) and health (SoH) in batteries with higher accuracy and speed than current technologies. Purdue researchers implement an ampere hour counting (AHC) approach that induces a magnetic field to quantify the electrochemical state of batteries. In addition, this technique makes up for Eddy current loss in measuring SoH by opening charging discharging paths during inductive coil excitation.

**Advantages:**

- Accurate
- High Speed
- Noninvasive

**Potential Applications:**

- Electronic Vehicles
- Energy Storage Systems

**Technology Validation:** Testing compared with current technology

**People:**

- Jung, Byunghoo (Project leader)
- Park, Chiwook

**Intellectual Property:**

**Application Date:** July 21, 2021  
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**Contact OTC:**

Purdue Office of Technology Commercialization  
The Convergence Center  
101 Foundry Drive, Suite 2500  
West Lafayette, IN 47906

Phone: (765) 588-3475  
Fax: (765) 463-3486  
Email: [otcip@prf.org](mailto:otcip@prf.org)