

Battery Quality and Performance

Inventors: Gary Koenig et al.



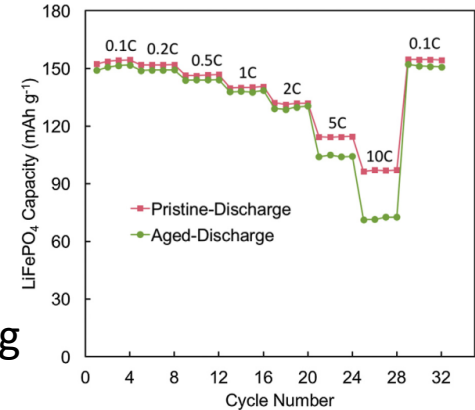
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Battery Research & Manufacturing

- Rate capability is important metric for materials (esp. cathode) that require fast charge and/or high power output.
- Ability of a battery's active materials to retain electrochemical capacity is highly dependent on multiple processes, materials, and interfaces while discharging.

Problem:

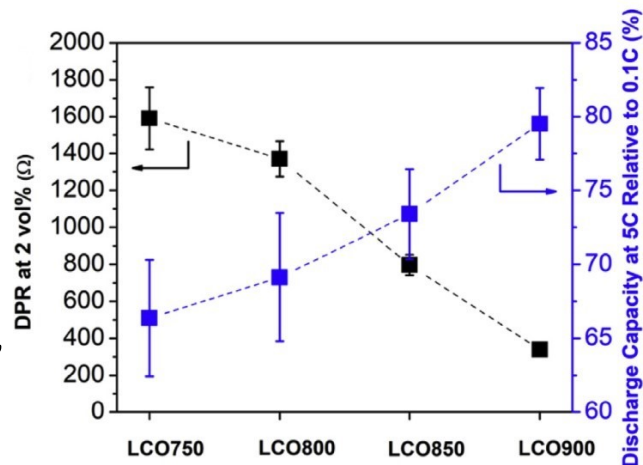
- Rate capability varies, depends on several factors including materials, manufacturing, cell construction, assembly.
- Piloting and troubleshooting cell performance can take weeks and is costly.



Dispersed Particle Resistance (DPR)

Solution: UVA researchers developed DPR to evaluate the active materials used in performance battery cells

- Validates active material quality metric before/during/after cell assemblies
- Reusable test equipment, easy to operate, low cost per characterization
- From days/weeks to minutes per assessment



Relevant Publications

- J. Electro. Soc., 164 (2): A151-A155 (2017) by G. Koenig et al.
- Electro. Acta, 253: 163–170 (2017) by G. Koenig et al.
- Electro. Acta, 281: 822-830 (2018) by G. Koenig et al.

Intellectual Property

- Tech ID: KOENIG-CHARQC
 - Title: System and Method for Characterizing Conductive Materials
 - US Pat. App. 15/815,195 filed Nov. 16, 2017

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