

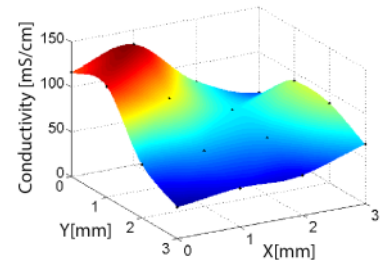
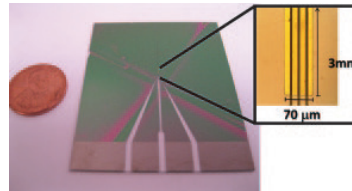
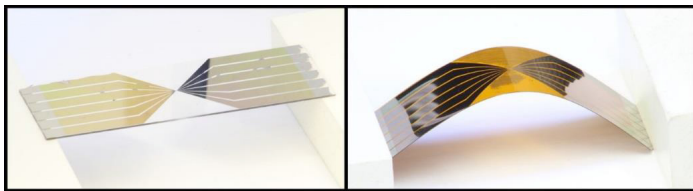


Flexible, Compliant Multiline Microprobes for Measurements of Material Electrical Properties

BYU #2017-002

DESCRIPTION

Researchers at BYU developed new surface probes that can accurately measure electronic conductivity of battery film coatings. The invention consists of multiple lines of conductive material that have been deposited/patterned on a flexible, compliant substrate (e.g. electrical traces on a flexible printed circuit board). A computer-controlled fixture allows the probe to be scanned across the surface of the electrode sample, allowing a local conductivity map to be created. The method also allows simultaneous measurement of bulk film conductivity and contact resistance between the film and the current collector.



PROBLEM SOLVED

The ability to measure the electronic conductivity of battery film coatings is a pressing need in the battery industry. However, these measurements can be difficult, and prior methods have not been sufficiently accurate and robust. The technology developed at BYU overcomes these challenges and even outlines a method to make these measurements part of a roll-to-roll process that could be adapted to a battery manufacturing line. Also, it has the ability to show greater heterogeneity in the structure of battery films through local measurements.

KEY ADVANTAGES

- » *Allows for greater heterogeneity to be shown*
- » *Provides more robust, accurate and reliable measurements*
- » *Has the potential to be implemented in a commercial production process*

Offer:
License
Exclusive
World Wide
All Fields of Use

APPLICATIONS

This invention will benefit battery manufacturers as it will aid in improving manufacturing processes as well as basic research into the performance of battery materials and films. The technology has been validated with several commercially produced electrodes.

IP STATUS:
US Provisional Application
62/453846
US Application 14/246007



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