Asylum Research Launches Scanning Probe Microscopy Technique for Mapping Electrochemical Phenomena on the Nanoscale

Asylum Research has introduced the Electrochemical Strain Microscopy (ESM) imaging technique for mapping electrochemical phenomena on the nanoscale:

Developed by Oak Ridge National Laboratory and Asylum Research, ESM is an innovative scanning probe microscopy (SPM) technique capable of probing electrochemical reactivity and ionic flows in solids on the sub-ten-nanometer level. It is the first technique that measures ionic currents directly, providing a new tool for mapping electrochemical phenomena on the nanoscale.

The capability to probe electrochemical processes and ionic transport in solids is invaluable for a broad range of applications for energy generation and storage ranging from batteries to fuel cells. ESM has the potential to aid in these advances with three major improvements over other conventional technologies:

1. the resolution to probe nanometer-scale volumes

2. the inherent ability to decouple ionic from electronic currents with

3. imaging capability extended to a broad range of spectroscopy techniques reminiscent of conventional electrochemical tools

Nina Balke of Oak Ridge National Laboratory will be presenting recent results at the International Workshop on Scanning Probe Microscopy for Energy Applications in Mainz, Germany, June 8-10 2011.

Contact

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