

# A Method For Electrochemical Deposition And Modification

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## BRIEF DESCRIPTION

The use of electrostatic and electrochemical modification using standard electronic test equipment instead of specialized potentiostats has been developed and proven by researchers at UCI. The precision application of complex, tailored electrochemical sequences provides the ability to both characterize and chemically modify nanoscale materials and circuits.

## FULL DESCRIPTION

Electrochemistry requires the precise control of voltages and currents at three electrode wires. Dedicated instruments called potentiostats or galvanostats are commercially available to accomplish control. However, UCI researchers have developed a new technique using simply a “4-wire” resistance meter resulting in a less expensive and highly versatile device allowing complex electrochemical experiments to be performed beyond those normally possible with standard potentiostats.

## SUGGESTED USES

Electrodeposition, plating, materials synthesis and characterization, battery and fuel cell research

## ADVANTAGES

Inexpensive, use of simple standard equipment

## STATE OF DEVELOPMENT

Developed/proven

## TESTING

Results in publications noted

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## OTHER INFORMATION

## CATEGORIZED AS

- » **Energy**
  - » Storage/Battery
- » **Engineering**
  - » Engineering
- » **Materials & Chemicals**
  - » Nanomaterials
- » **Nanotechnology**
  - » Tools and Devices
- » **Sensors & Instrumentation**
  - » Analytical
  - » Scientific/Research

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