



TECHNOLOGY

Improved Method for Manufacturing Metal Impregnated Elastomers as Compliant Electrodes

OVERVIEW

There has been increasing interest in flexible electronics, for applications ranging from artificial skins and flexible displays to smart clothing. These applications require compliant electrodes to provide interconnections between chips and other components.

Researchers at the University of Maryland have developed a technique to manufacture electrically conductive elastomers which could be used as compliant electrodes. These materials are stretchable, like a rubber band, but conductive, like a metal. This new technique for producing the electrodes provides the following advantages:

1. High electrical conductivity (greater than 101 S/cm).
2. Excellent elasticity.
3. Maintaining electrical conductivity and mechanical integrity even at large deformations (up to 100%)
4. Manufacturing time of only 3 hours.
5. Can be fabricated in a variety of shapes using UV light.

Compliant electrodes have high utility in applications such as flexible circuits, stretchable electrical connections, and electromagnetically shielding and charge dissipating textiles. These electrodes also find use in strain gauges for measurement of large mechanical deformations and other sensing applications.

For additional information please contact the Office of Technology Commercialization, University of Maryland. Phone: 301-405-3947.

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Additional Information

INSTITUTION

University of Maryland, College Park

PATENT STATUS

Patent(s) pending

LICENSE STATUS

Contact OTC for licensing information

CATEGORIES

- Industrial Processing

EXTERNAL RESOURCES

- [US Patent 7,695,647](#)

PS-2006-036