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12/15/2005 6:49:00 PM -0500

NewsTrack

Stretchable silicon meets electronics

URBANA, Ill., Dec. 15 (UPI) -- University of Illinois scientists say they've developed a fully stretchable form of single-crystal silicon with micron-sized, wave-like geometries.

The researchers say the new material can be used to build high-performance electronic devices on rubber substrates.

"Stretchable silicon offers different capabilities than can be achieved with standard silicon chips," said John Rogers, a professor of materials science and engineering and co-author of the study.

Functional, stretchable and bendable electronics could be used in applications such as sensors and drive electronics for integration into artificial muscles or biological tissues, structural monitors wrapped around aircraft wings and conformable skins for integrated robotic sensors, said Rogers.

The ribbons of silicon produced by the new process are about 100 nanometers thick -- 1,000 times smaller than the diameter of a human hair.

"The resulting system of wavy integrated device elements on rubber represents a new form of stretchable, high-performance electronics," said Young Huang, a professor of mechanical and industrial engineering and co-author of the paper. "The amplitude and frequency of the waves change ... as the system is stretched or compressed."

The study appears in the journal Science, as part of the Science Express Web site.



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Defiant Blair says he will 'battle on'

By HANNAH K. STRANGE

UPI U.K. Correspondent

12/21/2005 1:00:00 PM -0500

British Prime Minister Tony Blair dismissed suggestions Wednesday that he no longer had the authority to implement his agenda and that his days in Downing ...

India seeks nuclear deal with U.S.

By MARTIN WALKER

UPI Editor

12/21/2005 1:48:00 PM -0500

India has warned that its relations with the U.S. are "at a crossroads" over Congressional blockage of the proposed nuclear deal agreed in July.

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