



HOME COMMUNITY NEWS VIDEO IMAGES SPACE SCIENCE TECH HEALTH EDUCATION FUN SHOP SITEMAP SEARCH

Space Science Technology Health General Sci-fi & Gaming Oddities International Business Politics Education Entertainment Sports

E-mail Print Comment Font Size Digg del.icio.us Discuss article Buzz up! Stumble It!



[Download full size image](#)

Solar Power With A Twist

Posted on: Monday, 6 October 2008, 07:25 CDT

Solar power is now available with a twist, thanks to U.S. researchers who found a way to make efficient silicon-based solar cells that are flexible enough to be rolled around a pencil and transparent enough to be used to tint windows on buildings or cars.

The finding appeared Sunday in the journal Nature Materials.

The technology offers a new way to process conventional silicon by slicing the brittle wafers into ultra thin bits and carefully transferring them onto a flexible surface.

"We can make it thin enough that we can put it on plastic to make a rollable system. You can make it gray in the form of a film that could be added to architectural glass," said John Rogers of the University of Illinois at Urbana-Champaign, who led the research.

"It opens up spaces on the fronts of buildings as opportunities for solar energy," Rogers said.

Solar cells are in high demand due to higher oil prices and concerns over climate change.

Many companies, including Japanese consumer electronics maker Sharp Corp and Germany's Q-Cells are making thin-film solar cells. However, those cells typically are less efficient at converting solar energy into electricity than conventional cells.

Rogers said his technology uses conventional single crystal silicon. "It's robust. It's highly efficient. But in its current form, it's rigid and fragile," he said.

Researchers used a special etching method that slices chips off the surface of a bulk silicon wafer. The sliced chips are 10 to 100 times thinner than the wafer.

Rogers said, once sliced, a device picks up the bits of silicon chips "like a rubber stamp" and transfers them to a new surface material.

"These silicon solar cells become like a solid ink pad for that rubber stamp. The surface of the wafers after we've done this slicing become almost like an inking pad," he said.

"We just print them down onto a target surface."

The last step is to electrically connect these cells to get power out of them, he said.

Rogers envisions the material being "rolled up like a carpet and thrown on the truck."

He said the technology has been licensed to a startup company called Semprius Inc in Durham, North Carolina, which is in talks to license the technology.

On the Net:

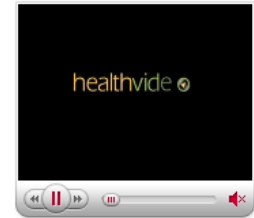
[Nature Materials](#)
[University of Illinois at Urbana-Champaign](#)

Source: redOrbit Staff & Wire Reports

[More News in this Category](#)

Related Articles

[Solar Power Showcased at Democratic National Convention](#)
[AMG Awarded Major Contract for Solar Silicon Melting and Crystallisation Furnace Systems](#)



[Easing Back Pain Without Surgery](#)

Oct 10, 2008, 7:25 am
[Performing Surgery Without Knives](#)

Oct 10, 2008, 7:19 am
[The First Stars in the Universe](#)

Oct 10, 2008, 6:44 am
[Easing Back Pain Without Surgery](#)

Oct 10, 2008, 6:36 am
[Steroids May Have Long-Lasting Effect](#)

Oct 10, 2008, 5:39 am
[Just a Little Exercise Can Boost Metabolism](#)

Oct 10, 2008, 5:23 am
[Math Model Predicts Breast Cancer Relapse](#)

[More Videos](#)

[Affordable Car Insurance](#)
Get Your Free Car Insurance Quo
Start Saving w/ The Hartford...
[TheHartfordAuto.com](#)

[I Had High Blood Pressure](#)
Now it's down to 120/75. Find out
did it without drugs
[www.resperate.com](#)

[Your 2008 Credit Score](#)
A good credit score is 700+. View
yours online instantly now, FREE.
[www.CreditReportAmerica.com](#)

Related News

[Report Warns of Great Lakes Perfect Storm](#)
[Missing Hikers Found in Minn. Wilderness](#)
[Economy Has Changed U.S. Sugar Deal](#)
[Phoenix Lander Still Operating on Mars](#)
[Camp Pendleton Brush Fire Contained](#)
[Bacterial Link to Colon Cancer Studied](#)
[Uneviscerated Fish Warning in New York](#)
[No Luck in Search for 2 Missing Hikers](#)
[Congresswomen's Brother's Body Recovered](#)
[High Court Justices Hear Sonar-Whale Case](#)

Global Solar Energy Introduces First Thin-Film Alternative for Silicon Module and BIPV Manufacturing
 AMG Subsidiary Announces Solar Silicon Operational Review By Photon Consulting
 Signet Solar Unveils Plans for Thin-Film Solar Module Manufacturing in India
 Solar Silicon Shortage to End in 2008: Executives
 Japanese Firm Makes Progress to Make Larger Silicon Wafers for Computer Chips
 Evergreen Solar and Q-Cells Announce Partnership With REC; Leading Solar Silicon Supplier Joins EverQ Venture
 SunPower Announces Discovery of "Surface Polarization" Effect In High-Efficiency Solar Cells; Patent Protection Sought on Solar Cell Designs and System Configurations
 IBM, Sony, Sony Computer Entertainment Inc. And Toshiba Unveil Cell Processor; First Details of Multicore Chip Comprising Power Architecture and Synergistic Processors

Taiwanese Coral Reefs Endure Against the Odds
 Pacific 'Chemical Equator' is Discovered
 U.S. Announces 'Biofuels Action Plan'
 Preening Bosses Mimic Behaviour of Monkeys
 Navy Report Spreads Blame for Carrier Fire

Affordable Car Insurance

Get Your Free Car Insurance Quote & Start Saving w/ The...
TheHartfordAuto.com

High Blood Pressure?

Lower it naturally with RESPeRATE, the proven non-drug way to...
www.resperate.com

Your 2008 Credit Score

A good credit score is 700+. View yours online instantly now,...
www.CreditReportAmerica.com

Online Mgt Training

Management Training Certificates From Notre Dame - 100%...
www.NotreDameOnline.com

Mortgage Rates at 5.50%

\$200,000 loan for \$771/month. See New Payment - No SSN Rqd....
Refinance.LeadSteps.com

Refinance Now 5.2% Fixed!

Home Refinance: 160,000 mortgage for \$633/mo. No SSN req...
www.LendGo.com

Rate this article:



User Comments (0)

Comment on this article

Your Name

Text from the image

BUSY

Comment

max 1200 chars

* All fields are required

Send

Most Popular Stories

Mars Odyssey Changing Orbit For Extended Mission
 Global Warming Threatens Warm Climate Species
 Scientists Unveil Unbreakable Quantum Encryption Network
 Test Mice Show How Brain Produces Natural Antidepressant Raising a Rhino
 XS Games Unveils AirG Peripheral For PopStar Guitar
 90 Students in Montana Start Shots for Rabies
 Satellite Analysis Reveals South Ossetian Damage
 Social Networks Go to Work
 \$3.3M of Obama Funds Not Linked to Any State
 Girls Take More Time Adjusting In Language-Learning Environments
 Actor Nolte Escapes Fire at Malibu Home
 Red Sox Turn to Dice-K for Game 1 Red Sox Vs. Rays

redOrbit Friends

- Breaking News**
Space
Science
Technology
Health
Sci-fi & Gaming
More...
- Streaming Video**
Top Picks
Science
Health
More...
- Images and Photos**
Images of the Day
Image Galleries
Wallpapers
More...
- Space Exploration**
Mars Phoenix Mission
Astronomy
Human Spaceflight
Ask the Astronomer
More...
- Science and Research**
Instruments
Calculator
Ask the Scientist
More...
- Technology**
Tech Today
Sites of the day
More...
- My Health**
Health
Health Videos
More...
- Our Community**
My RedOrbit
My Weather
More...

Advertising | About Us | Contact Us | Privacy Statement | Terms of Service | Abuse Reporting | RSS Feeds
© 2002-2008 redOrbit.com. All rights reserved. All other copyrights remain the property of their respective owners