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## Self-assembly of solar cells uses silicon and gold

University of Minnesota researchers have used silicon and gold to overcome the challenges of gravity to develop self-assembling solar cells.



Solar cells which can be self-assembled could be done so in a cheap and simple way, after researchers from the University of Minnesota overcame previous challenges including gravity in the micrometer range.

The team had previously attempted to make self-assembling electronic components by using gravity to drive the process, although chemical processes can be used in nanoscale systems.

Heiko Jacobs and Robert Knuesel created a flexible substrate of a thin layer of semiconducting copper which was covered with propylene-terephthalate. Regular depressions were etched into the layer and the sheet was dipped into molten solder.

Each depression had a silicon cube - which has a coating of water-repelling molecules - with one gold face, which had a water-attracting coating.

"This method allows one to use single-crystal silicon, which is far superior to other types of silicon for making solar cells," Babak Parviz, a nano-engineering professor at the University of Washington in Seattle, told the BBC.

The study was revealed in Proceedings of the National Academy of Sciences.

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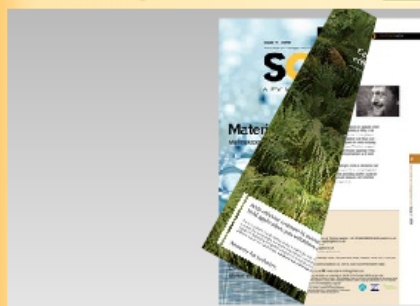


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