

Solar power inspired by origami

Can origami be used on solar panels?

Applying origami principles on rigid silicon solar panels- a material considerably thicker than the paper used for the traditional Japanese art - the BYU-conceived solar array would unfold to nearly 10 times its stored size.

What is an origami-inspired solar array?

One technique that has been used for an origami-inspired solar array is called a Miura fold. This well-known origami fold was invented by Japanese astrophysicist Koryo Miura. When you open the structure, it appears to be divided evenly into a checkerboard of parallelograms.

Can solar-powered origami microfliers change their shape in mid-air?

Here, we designed solar-powered origami microfliers that can change their shape in mid-air to vary their dispersal distance. Our key observation is that leaf-out origami structures exhibit distinct falling modes in their two states: a tumbling behavior conducive to wind dispersal and a stable descent state less affected by wind.

Can origami-based solar steam generator use solar energy?

For the first time, we report a deployable, three-dimensional (3D) origami-based solar steam generator capable of near full utilization of solar energy.

Could origami be used in spacecraft?

Brian Trease, a researcher at NASA's Jet Propulsion Laboratory in Pasadena, holds a prototype of a solar panel array that folds up in the style of origami. Origami has been a hot topic in technology recently. Brian Trease at NASA's Jet Propulsion Laboratory has been thinking about how it could be used in spacecraft.

Can origami be used in engineering?

"Space is a great place for a solar panel because you don't have to worry about nighttime and there are no clouds and no weather," he said. "Origami could also be used for antennas, solar sails and even expandable nets used to catch asteroids." The research team has already looked beyond the final frontier for origami applications in engineering.

Utah-based company Sego Innovations is developing a brand new portable solar panel charger that is inspired by the movements of origami. The panels are able to be folded up similar to the Japanese art in order to ...

a flat sheet of paper. Among the various applications of origami-inspired engineering, solar-power generation has emerged as a particularly promising field. Solar-powered systems are typically ...

Levante upscales origami-inspired portable solar charging with systems that expand like wings to multiple times their packed size. With hundreds of watts of power, the units are an intriguing ...

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Researchers say origami could be useful one day in utilizing space solar power for Earth-based purposes. Imagine an orbiting power plant that wirelessly beams power down to Earth using microwaves. Sending the solar ...

NASA Invents a Folding Solar Panel Inspired by Origami. One of NASA's biggest challenges: How to transport and deploy bulky objects as compactly and lightly as possible. A prototype of a new ...

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For those of us on smaller boats, it's always a challenge to figure out how and where to place enough solar panels to power our electrical needs. The past several years have brought lots of innovations, and now comes an ...

Miura-origami folding, invented by Japanese astrophysicist Koryo Miura, is a rigid form of the flat-origami-folding technique that allows one to transform flat materials with a ...

unique, origami-inspired solutions for elevated lunar solar array systems. Requirements Both projects require lightweight, robust, re-deployable solutions that are supported on a stable ...

Heliogyro Solar Sail with Self-Regulated Centrifugal Deployment Enabled by an Origami-Inspired Morphing Reflector Rui Wua,?, Peter C.E. Roberts a, Constantinos Soutisb, Carl Diver ...

Caltech researchers inspired by Japanese origami design theory are preparing to launch a small satellite prototype into orbit in December. The roughly 3.9 square-inch prototype is capable of ...

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