

What is the current design of Caltech's space solar power project?

Caltech's vision for a constellation of sail-like solar panels that unfurl once they reach orbit is the current design, according to Sergio Pellegrino, Joyce and Kent Kresa Professor of Aerospace and Civil Engineering and co-director of SSPP. The flexible power transmission arrays are essential to this design.

What is the goal of the Space Solar Power Project (SSPP)?

The Space Solar Power Project (SSPP) aims to harvest solar power in space and transmit it to the Earth's surface. Wireless power transfer was demonstrated on March 3 by MAPLE, one of three key technologies being tested by the Space Solar Power Demonstrator (SSPD-1), the first space-borne prototype from Caltech's Space Solar Power Project (SSPP).

How did the Caltech effort start?

The Caltech effort to develop space solar power began after philanthropist Donald Bren learned about the potential for space-based solar energy manufacturing as a young man after reading an article in Popular Science magazine.

What is the space-based solar power project (SSPP)?

Through the Space-based Solar Power Project (SSPP), a team of Caltech researchers is working to deploy a constellation of modular spacecraft that collect sunlight, transform it into electricity, then wirelessly transmit that electricity wherever it is needed—including to places that currently have no access to reliable power.

What is space-based solar power?

Space-based solar power is the concept of using mirrors in space to concentrate sunlight and transmit it to Earth.

What has the space solar power prototype demonstrated?

A space solar power prototype... has demonstrated its ability to wirelessly transmit power in space and to beam detectable power to Earth for the first time. It was launched into orbit in January and is operational.

In a First, Caltech's Space Solar Power Demonstrator Wirelessly Transmits Power in Space Caltech to Launch Space Solar Power Technology Demo into Orbit in January Professor Hajimiri Receives ASCIT Teaching ...

Ali Hajimiri is Professor of Electrical Engineering at Caltech. His research areas include silicon photonics, Integrated THz and mm-wave, and bio sensing. ... Director of Caltech Holistic ...

Caltech's Space Solar Power Demonstrator, shown orbiting Earth in this artist's conception, was launched on 3 January. Caltech. One can dismiss the 50-kilogram SSPD-1 as yet another nonstarter ...

Intrigued by the potential for space solar power, Bren approached Caltech's then-president Jean-Lou Chameau

in 2011 to discuss the creation of a space-based solar power research project. In the years to follow, Bren and his ...

In his October 31 Watson Lecture, the first in the 2018-19 series, Caltech's Sergio Pellegrino will discuss the Caltech Space Solar Power Project's pursuit to conceive, design, and demonstrate a scalable vision for a ...

Wireless power transfer was demonstrated on March 3 by MAPLE, one of three key technologies being tested by the Space Solar Power Demonstrator (SSPD-1), the first space-borne prototype from Caltech's Space ...

A research agreement between the Northrop Grumman Corporation and Caltech provides up to \$17.5M for the development of scientific and technological innovations necessary to enable a space solar power system. Three Caltech ...

SSPD-1 is the first spaceborne prototype from Caltech's Space Solar Power Project (SSPP). [Caltech story] On a cool, clear evening in May 2023, Caltech electrical ...

Launched in January, SSPD-1 is the first spaceborne prototype from Caltech's Space Solar Power Project (SSPP). It carries three onboard experiments, each designed to test key technologies for an orbital power ...

In collaboration with the Caltech Space Solar Power Project, our research investigates concepts of operations for planar space solar power satellites. The baseline planar space solar power satellite architecture under consideration ...

The Caltech Space Solar Power Demonstration One Mission, 2022 IEEE International Conference on Wireless for Space and Extreme Environments (WiSEE). ... Attitude maneuver design for ...

Space Solar Power Technology Demo ???() 2023 1 2 ??????: 2023 1 3 6:55 a.m. PT?Transporter-6 ?????????? ? ...

This paper describes Caltech's Space Solar Power Demonstration One (SSPD-1) payload and upcoming mission on Momentus Space Vigoride 5. SSPD-1 is comprised of three experiments ...

A sponsored research agreement with Northrop Grumman Corporation will provide Caltech up to \$17.5 million over three years for the development of the Space Solar Power Initiative (SSPI), to enable a space ...

C'est une premi&#232;re. Le Space Solar Power Demonstrator (SSPD), d&#233;velopp&#233; par le Caltech et mis en orbite en janvier 2023, est parvenu &#224; transmettre de la puissance &#233;lectrique depuis l'espace vers la Terre, sous ...

SSPD-1 is the first spaceborne prototype from Caltech's Space Solar Power Project (SSPP). [Caltech story] On a cool, clear evening in May 2023, Caltech electrical engineer Ali Hajimiri and four members of his lab ...

A space solar power prototype that was launched into orbit in January is operational and has demonstrated its ability to wirelessly transmit power in space and to beam detectable ...

SSPD-1 was launched in January 2023 as part of the California Institute of Technology's (Caltech) Space Solar Power Project (SSPP), the primary goal of which is to harvest solar power in space and ...

Caltech's Space Solar Power Project has around US\$120 million to work with, and is making some incredible progress toward the goal of wireless energy beamed from space. Caltech.

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