

## Aerospace Group Photovoltaic Panel Project

How has SSPP changed space solar technology?

"SSPP gave us a unique opportunity to take solar cells directly from the lab at Caltech into orbit, accelerating the in-space testing that would normally have taken years to be done. This kind of approach has dramatically shortened the innovation-cycle timefor space solar technology, " says Atwater. MAPLE: Wireless Power Transfer in Space

What is space photovoltaic technology?

These space activities require a cost-effective, sustainable source of onboard energy, such as solar photovoltaics. Traditionally, space photovoltaic technology is based on group III-V materials (such as gallium arsenide with indium phosphide and germanium for multi-junction cells) due to their high performance and radiation resistance.

Are solar cells a reliable energy source for aerospace applications?

Solar cells (SCs) are the most ubiquitous and reliable energy generation systems for aerospace applications. Nowadays, III-V multijunction solar cells (MJSCs) represent the standard commercial technology for powering spacecraft, thanks to their high-power conversion efficiency and certified reliability/stability while operating in orbit.

Where are Airbus sparkwing solar panels made?

An additional six of Airbus' Sparkwing solar panels have been selected by Aerospacelab to accommodate their ramp up towards higher satellite production volumes. The panels are designed and produced at Airbus' Dutch site in Leiden.

Will sspd-1 help chart the future of space solar power?

Now, with SSPD-1's mission in space concluded, engineers on Earth are celebrating the testbed's successes and learning important lessons that will help chart the future of space solar power. "Solar power beamed from space at commercial rates, lighting the globe, is still a future prospect.

Are flexible solar arrays a good option for space missions?

For space missions with high power requirements (>=25 kW),flexible solar arrays are beneficialbecause they allow for the deployment of a larger area of solar cells without substantially increasing the mass of the system.



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