

What is space solar power?

Space Solar Power - delivering solar energy economically from space to markets on Earth- is one of the few new systems concepts that has the potential to make a dramatic difference for the future of energy, the environment and the global economy.

Can solar power be used in space?

The concept of generating solar power in space for wireless transmission to receivers on the ground has been discussed at some length during the past three decades. During the first decades of the new century, global demand for electrical power is projected to grow dramatically -- perhaps doubling from 12 terawatts to more than 24 terawatts.

Can space solar power solve major energy problems on Earth?

Space Solar Power (SSP), combined with Wireless Power Transmission (WPT), offers the far-term potential to solve major energy problems on Earth. In this paper WPT options using radio waves and light waves are considered for both long-term and near-term SSP applications.

What is a solar-powered steam-methane reformer (SMR)?

[...] With funding from the U. S. Department of Energy (DOE) and SolarThermoChemical LLC, PNNL is developing a solar-powered steam-methane reformer (SMR). The reformer sits at the focal point of a parabolic dish concentrator, with the concentrated solar energy providing the endothermic heat of reaction.

Can space solar power be used as a terrestrial energy source?

This paper discusses the viability of beaming solar power from space as a terrestrial energy source in the future. It presents an analytic method for evaluating space solar power (SSP) as an investment, and discusses sources of data for determining both costs and benefits.

How many hours a day can a solar power station receive?

A solar power generation station on a mountaintop near the moon's North or South pole can receive sunlight 708 hours per lunar day, for continuous power generation. Power can be beamed from this station over long distances using a laser-based wireless power transmission system and a photo-voltaic receiver.

John C. Mankins, is a distinguished physicist and former NASA scientist renowned for his extensive work in space-based solar power. With a career spanning 25 years at NASA and CalTech's Jet Propulsion Laboratory, ...

John Mankins refers to such markets as Commercial Premium Niche Power (C-PNP) where the power prices are substantially dependent on the location, generation capacity ...

SPS-ALPHA (Solar Power Satellite via Arbitrarily Large Phased Array) is a novel, bio-mimetic approach to

the challenge of space solar power. If successful, this project will ...

A NASA illustration of two kinds of space-based solar power systems it studied, comparing their cost and environmental impact with alternative energy sources. ... "It's just ...

This book makes the case for Space Solar Power; recounting the history of this fascinating concept and summarizing the many different ways in which it might be accomplished. The ...

John Mankins, Nobuyuki Kaya and ... Multi-Layer and Multi-Objective Optimization Design of Supporting Structure of Large-Scale Spherical Solar Concentrator for the Space ...

SBSP has one further advantage, says John Mankins, a former NASA physicist and current co-chair of the International Academy of Astronautics" Permanent Committee on Space Solar Power. "Space solar ...

The Case for Space Solar Power By John Mankins Book review by Adam Manning Space Solar Power has always seemed a tantalisingly attractive concept; harnessing some of the enormous and endless power of the Sun that ...

SPACE Canada Solar Power Alternative for Clean Energy is a not-for-profit organization dedicated to the promotion of solar energy from space - an abundant and sustainable source ...

Space Solar Power/ John C. Mankins. \$49.99 Regular Price. \$39.99 Sale Price. Add to Cart. Details. This book makes the case for Space Solar Power; recounting the history of this fascinating concept and summarizing the many ...

Guest: John Mankins; Topics: John's project with the US and Australia, space solar power technology, costs, regulatory concerns, national and international support, technology ...

The Case for Space Solar Power by John C. Mankins.A must read landmark book! This groundbreaking book by renowned expert John Mankins lays out a path forward that is both doable and affordable: within a dozen years or less, ...

In contrast, a space solar power study by John Mankins presented at the 38th annual International Astronautical Federation conference found some systems with an estimated cost of \$6 billion to \$8 billion, producing 250 megawatts of ...

This book presents the argument for an exciting method of accessing renewable energy from our neighbor, the Sun. The approach presented by the author, John Mankins, a visionary ...

The Case for Space Solar Power By John Mankins Book review by Adam Manning Space Solar Power has always seemed a tantalisingly attractive concept; harnessing some of the ...

Moreover, the SPS-ALPHA concept, Mankins said, enables a solar-power satellite that can be assembled entirely from individual system elements that weigh no more than 110 to 440 pounds (50 to 200 ...

John Mankins year published | 2014. This book makes the Case for Space Solar Power. recounting the history of this fascinating concept and summarizing the many different ...

Book review: The Case for Space Solar Power by John C. Mankins. Mankins, John C. ... decades. In the late 1990s, NASA, realising that much progress has been made in many ...

Space Solar Power: Achievable in a Generation? Affordable and Abundant Solar Power in Space (Up to MW and Greater...)! Clean, safe, affordable and virtually limitless solar ...

ABSTRACT The concept of generating solar power in space for wireless transmission to receivers on the ground has been discussed at some length during the past ...

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