Optical solar power generation system

Dish Stirling systems have demonstrated the highest efficiency of any solar power generation system by converting nearly 30% of direct normal incident (DNI) solar radiation into ...

Based on high efficiency and wide spectral splitter film and Fresnel lens, we have theoretically investigated a full solar-spectrum power-generation system. Designed nano ...

Solar thermal power plants today are the most viable alternative to replace conventional thermal power plants to successfully combat climate change and global warming. ...

An optical fiber daylighting system using a small linear Fresnel reflector as the sunlight collector may save more than 70% electric consumption for 5 h on the Summer ...

A new photovoltaic generation unit based on the application of holographic technologies called a Holo-Window is proposed in this work. The basic principle and the ...

SDSS has been proposed as a promising eco-friendly technology for commercial clean power generation and smart grid distributed applications. The concept of ...

The performance of a portable concentrated solar thermoelectric power generator (CS-TEG) system that uses an optical concentrator to concentrate sunlight was investigated. ...

Standard photovoltaic solar cells (PV cells) use only about half of the light spectrum provided by the sun. The infrared part is not utilized to produce electricity. Instead, ...

Solar energy is the world"s most abundant source of energy, it has been shown to have significant potential to meet a considerable portion of the world"s energy demand [1], ...

The concentrator is an optical device that efficiently collects sunlight onto a small area, thereby increasing the energy density of solar radiation [].On the one hand, the ...

Abstract The heliostat field is an important subsystem of the tower CSP station. The optimal layout of the heliostat field is one of the key issues to be solved in the early stage ...

For example, the solar dish/Stirling thermal power generation system (named XEM-Dish system) with a rated power of 38 kW developed by the author, which has a ...

Solar dish/Stirling power generation system is an important power generation equipment in CSP technology,

mainly composed of parabolic dish concentrator system and ...

The output power density of the proposed underwater bubble power generation system using the hybrid generator is 287 mW/m 3, which is 275 times higher than previous ...

The optical fiber-solar cell hybrid system (left) and the test of the fiber-optic solar cell (right) ... "This technology can significantly reduce the area for solar power generation by ...

The authors and their colleagues have been developing a new solar power system called the optical waveguide (OW) system for solar power utilization in space. In this ...

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