

\*Corresponding author's e-mail:593617953@qq Solar thermal power generation technology research Yudong Liu<sup>1\*</sup>, Fangqin Li<sup>1</sup>, and Jianxing Ren<sup>1</sup>, Guizhou Ren<sup>1</sup>, Honghong Shen<sup>1</sup>, and Gang Liu<sup>1</sup> <sup>1</sup>Colleg of Energy and Mechanical Engineering, Shanghai University of Electric Power, Shanghai, China Abstract ina is a big consumer of energy resources.

The efficiency of Solar hydrogen production has improved. a novel hydrogen production approach using full spectrum solar energy by combining photothermal synergistic reaction with photovoltaic power generation electrolysis water is proposed by Li et al. [29], and the efficiency of this approach can reach 21.05 %.

As a clean and renewable energy, solar energy has three characteristics compared with fossil fuel: firstly, the nuclear fusion inside the sun can last for several billion to ten billion years, thus solar energy is an inexhaustible energy for human; secondly, the solar radiation can reach any region on the earth without regional restriction or transportation problem, ...

According to the working temperature of solar energy utilization system, it can be divided into three types: low-temperature heat utilization (<100 o C), mid-temperature heat utilization (100 ...

Solar Photothermal-Photovoltaic Integrated System. It mainly includes photothermal-photovoltaic integrated device, thermal storage system and thermal power generation system or ...

JZNEE Advanced New Energy Equipment. The main products of Zhenjiang New Energy Technology Limited Company include a variety of equipment, such as new energy equipment (wind energy, photovoltaic, solar thermal), marine ...

Study of China's optimal solar photovoltaic power development ... China started generating solar photovoltaic (PV) power in the 1960s, and power generation is the dominant form of solar energy (Wang, 2010).After a long peroid of development, its solar PV industry has achieved unprecedented and dramatic progress in the past 10 years (Bing et al., 2017).The average ...

Photothermal equipment of Guangzhao Solar Power Generation Company. Localized Surface Plasmon Resonance (LSPR) is usually utilized as the driving force for photothermal conversion of noble metal materials (Mayer and Hafner, 2011).The free electrons on the surface of the materials will be excited by the light source to form an electron cloud, and the charge interaction ...

China's Largest Photothermal Power Plant Drives New Energy. China's largest photothermal power plant, capable of clean energy power generation and energy storage, is driving a 'new type of power

system" in the country...

the adoption of photothermal power generation technology, where the solar energy heat generation equipment replaces the original unit's coal-fired boiler. The steam turbine and

In conventional photovoltaic systems, the cell responds to only a portion of the energy in the full solar spectrum, and the rest of the solar radiation is converted to heat, which increases the temperature of the cell and thus reduces the photovoltaic conversion efficiency [[8], [9], [10]]. Silicon-based solar cells are the most productive and widely traded cells available ...

Renewable energy plays a significant role in achieving energy savings and emission reduction. As a sustainable and environmental friendly renewable energy power technology, concentrated solar power (CSP) integrates power generation and energy storage to ensure the smooth operation of the power system. However, the cost of CSP is an obstacle ...

At present, solar power generation technology can be divided into solar photovoltaic power (PV) and concentrated solar power (CSP) (Chen and Fan 2012). Solar PV power generation utilizes photoelectric effect to directly convert solar energy into electricity, which is a direct photoelectric conversion mode. CSP is light-heat-electric conversion ...

They can be widely used in many industries such as Solar Tracking, Constructions, Metals, Lifts and so many more. Fixedstar Started to supply slewing drives for a 10 MV CSP station since 2011 to Delingha, Qinghai China. Up to end of 2022, we have supplied more than 200,000 slewing drives to multiple Solar Power S tation for both CSP and PV system.

In recent years, the Chinese government has promulgated numerous policies to promote the PV industry. As the largest emitter of the greenhouse gases (GHG) in the world, China and its policies on solar and other renewable energy have a global impact, and have gained attention worldwide [9] this paper, we concentrated on studying solar PV power ...

Photothermal power generation collects sunlight through a heat collector, heats the heat storage medium, and converts it into stable and sustainable electrical energy through the combination of steam turbine and generator.

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