Yichu solar energy

At present, solar energy is widely used as a kind of clean energy. The main solar radiation range under AM 1.5 is about 300 ~ 3000 nm. In this paper, we designed an efficient, ultra-broadband perfect solar absorber to have as long absorption bands in this range as possible to help alleviate the energy problem.

Organic solar cells (OSC) based on organic semiconductor materials that convert solar energy into electric energy has been constantly developing at present, and also an effective way to solve the ...

The power conversion efficiency (PCE) of perovskite solar cells (PSCs) have soared to a certified value of 25.5% in recent years, exceeding that of the commercialized rivals, such as polycrystalline silicon, cadmium telluride copper indium gallium (di)selenide CIGS, and CdTe thin-film solar cells. The hybrid perovskite family is soluble in ...

2D Ruddlesden-Popper perovskites (RPPs) have emerged as a promising solar cell material. A group of novel RPPs with cyclohexane methylamine (CMA) as a spacer cation is presented. Unlike previously reported RPPs, the deposited films of (CMA)2(MA)n-1PbnI3n+1 (MA is CH3NH3+, n = 1, 2, 3, ...) exhibit multiple phases with reverse-graded quantum well (QW) ...

Metal halide perovskite, characterized by an inexpensive fabrication process and adjustable bandgap, has made remarkable advancements in small-area perovskite solar cells (PSCs) with power conversion efficiency (PCE) over 26 % [1], attributed to the continuous improvement of the passivation project of the perovskite component optimization and crystallization regulation, and ...

Perovskite solar cells (PSCs) have shown power conversion efficiencies (PCEs) of over 26% that rival crystalline silicon cells, but their projected application was largely postponed by the device instability, particularly the degradation that originated from the defective bottom interfaces. Here, we introduc

Research in materials science is contributing to progress towards a sustainable future based on clean energy generation, transmission and distribution, the storage of electrical and chemical energy, energy efficiency, and better energy management systems. Civilization continues to be transformed by our ability to harness energy beyond human and animal power. A series of ...

Li, Q. et al. Halide diffusion equilibrium and its impact on efficiency evolution of perovskite solar cells. Adv. Energy Mater. 12, 2270203 (2022). Article Google Scholar ... Yichu Zheng. Physics ...

Dr. Cui"s lab is interested in a broad range of nanoscale properties including electronic, photonic, electrochemical, mechanical, catalytic and interfacial properties. Understanding these properties has important technological implications in energy conversion and storage, electronics, biotechnology and environmental

technology.

Perovskite solar cells (PSCs) have shown power conversion efficiencies (PCEs) of over 26% that rival crystalline silicon cells, but their projected application was largely postponed by the device instability, particularly the degradation that originated ...

Development of single-component organic solar cells employing a conjugated double-cable polymer is an elegant strategy to overcome the microstructure instability of typical bulk-heterojunction organic solar cells. This communication demonstrates that single-component solar cells can exhibit excellent thermal- and photostability under harsh conditions, such as 90 ...

Organic solar cells (OSC) based on organic semiconductor materials that convert solar energy into electric energy has been constantly developing at present, and also an effective way to solve the energy crisis and reduce carbon emissions. In the past several decades, efforts have been made to improve the photoelectric conversion efficiency (PCE) of OSCs. During ...

A global leading integrated energy group provides pipe coating, engineering & fabrication services, manufacturing pipes, and more to the oil and gas worldwide. Enquiry. About Us ... 161/22.8kV Yichu 300MW Solar PV Substation. Project Name: 161/22.8kV Yichu 300MW Solar PV Substation: Customer: ABB-Hitachi: Project Owner: GES: Year: 2021 ...

Hydrogen energy is considered the most promising energy source due to its final product of only water. There are several ways to produce hydrogen 1-4 and the most renewable way is to use solar energy through a photocatalytic process. However, several factors hinder the commercialization of photocatalytic hydrogen production, that is, high cost ...

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Yichu Li: Investigation. Yiming Cui: Validation. Runze Xue: Investigation. ... To this end, the tripartite objectives of this study unfold as follows: i) investigating offshore solar energy features, which include spatial distribution of PV resource and its monthly and hourly variations, along with an examination of climate change impacts; ii ...

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