

Title: Solar Thin Film Power News

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Are thin-film solar cells Rethinking the interface between light absorbing materials?

Researchers have made a key advance in thin-film solar cell technology by rethinking one of its most problematic regions: the interface between the light-absorbing material and the metal contact. Credit: Shutterstock The introduction of a nanometric germanium oxide layer drastically improved device performance and stability.

Are thin-film solar cells a viable alternative to crystalline silicon?

Alongside this push, scientists have increasingly explored thin-film solar cells as an alternative to conventional crystalline silicon devices. These thinner designs can be produced at lower cost, show more consistent manufacturing outcomes, and are well-suited for use in lightweight and flexible electronic applications.

Is tin monosulfide a good material for thin-film solar cells?

Among the candidate materials, tin monosulfide (SnS) has emerged as a strong option for next-generation thin-film solar cells. It is inexpensive and non-toxic, setting it apart from more established technologies that depend on limited elements such as indium, gallium, and tellurium.

Are CdTe thin-film solar cells efficient?

X. Wu, High-efficiency polycrystalline cdte thin-film solar cells, Solar energy 77 (2004) 803-814. E. Bicałci, N. Rosenblatt, D. Modi, et al., Arsenic-doped cdsete solar cells achieve world record 22.3% efficiency, IEEE Journal of Photovoltaics 13 (2023) 510-515. M. Hattarki, B. Dokken, T. Zhu, A. Adhikari, et al.,

To be located in the city of Gaffney in Cherokee County, South Carolina, the new facility will fabricate thin film solar cells from First Solar's existing fleet of factories into solar...

Scientists at Oxford University Physics Department have developed a revolutionary approach which could generate increasing amounts of solar electricity without the need for silicon ...

In June 2025, Ascent Solar announced a 12-month Collaborative Agreement with NASA's Marshall Space Flight Center (MSFC) and Glenn Research Center (GRC) to develop thin-film PV arrays for ...

As the world urgently seeks clean energy solutions, solar power stands out for its abundance and scalability compared to other renewable energy sources. In recent years, ...

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problematic regions: the interface between the light-absorbing material and the metal ...

These CIGS cells are flexible and require only a fraction of the material used for silicon solar cells. Combining them with perovskite significantly improves their efficiency.

Ascent Solar plans to optimize thin-film CIGS modules to receive distributed power plus sunlight. According to the company, partnerships with Cislunar Industries and others aim to let a ...

This paper examines the potential of thin-film solar cells as scalable and cost-effective alternatives to crystalline silicon technologies. A detailed comparison of their performance, costs, and market ...

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