

European Solar and Energy Storage Solutions

Optical discs can generate solar power



Overview

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The Northwestern researchers have demonstrated that a Blu-ray disc's strings of binary code 0s and 1s, embedded as islands and pits to store video information, give solar cells the near-optimal surface texture to improve their absorption over the broad spectrum of sunlight.

Blu-ray discs are so great at capturing light, a team of engineers from Northwestern University thought they would test how well Blu-ray works for solar panels. After all, solar panels.

Forget commentaries or deleted scenes; a new special feature found within Blu-ray discs unleashes the power to harness the sun. Researchers from Northwestern University, in a study published in.

The Northwestern researchers have demonstrated that a Blu-ray disc's strings of binary code 0s and 1s, embedded as islands and pits to store video information, give solar cells the near-optimal surface texture to improve their absorption over the broad spectrum of sunlight. Can a Blu-ray Disc help solar cells absorb sunlight?

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Could old Blu-ray movie discs make solar cells more efficient?

As it turns out, old Blu-ray movie discs can be turned into something other

than just colorful drink coasters: their semi-reflective surfaces may be the key to making more efficient solar cells. This discovery was made by engineers from Northwestern University and published in the journal Nature.

Can Blu-ray discs be recycled into solar panels?

While it's certainly appealing to think about recycling our Blu-ray discs directly into more efficient solar panels, a more realistic approach might be to use the mass-production infrastructure that's already in place to create optical media that's adapted to improving solar cell performance.

Can Blu-ray patterned solar cells be used for light trapping?

The overall broadband absorption enhancement of a Blu-ray patterned solar cell was measured to be 21.8 percent, the researchers report. "In addition to improving polymer solar cells, our simulation suggests the Blu-ray patterns could be broadly applied for light trapping in other kinds of solar cells," Sun said.

Does a Blu-ray imprinted solar cell increase power conversion efficiency?

When comparing the results for the Blu-ray imprinted solar cell to a non-patterned solar cell, the Blu-ray imprinted cell showed a 21.8% increase in light absorption over the entire solar spectrum, leading to an 11.9% increase in power conversion efficiency.

Does Blu-ray work for solar panels?

Blu-ray discs are so great at capturing light, a team of engineers from Northwestern University thought they would test how well Blu-ray works for solar panels. After all, solar panels must also trap light as it comes in.

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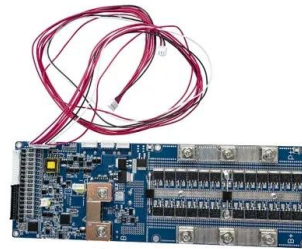


Discovery paves way for "optical battery" to generate solar power

The researchers say the discovery paves the way for the creation of an "optical battery" that could harness power from the sun without the use of solar cells. SUBSCRIBE AD ...

How To Make Extra-Efficient Solar Panels Using Old Blu ...

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Can You Make a Solar Cell From a CD? A Surprising ...

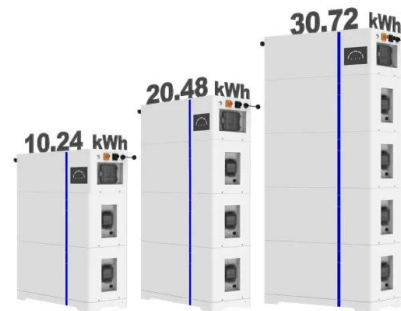
CD solar cells are also less efficient than big solar panels, which can be 15-20% efficient or more. Applications and Real-World Use Cases. CD solar cells don't produce a lot of power, but they're great for small electronics. ...

Blu-ray disc can be used to improve solar cell ...

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