



Will Blu-ray develop photovoltaic panels

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.

Are Blu-ray discs good for solar cells?

Already one of the best ways to store high-definition movies and television shows because of their high-density data storage, Blu-ray discs also improve the performance of solar cells-- suggesting a second use for unwanted discs -- according to new research from Northwestern University.

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.

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.

How do Blu-ray patterned solar panels work?

The mold was then pressed onto a pre-fabricated polymer active layer to transfer the pattern, and evaporative electrode deposition completed the solar panel. Overall, the Blu-ray-patterned panels absorbed an impressive 21.8 percent more light than non-patterned panels. This raised the panels' power conversion efficiency by nearly 12 percent.

Why are Blu-ray discs etched with nanostructures?

Although they may look smooth, Blu-ray discs are etched with nanostructures--the islands and pits that store the information contained in high-definition movies. These nanostructures are also what make Blu-ray discs shiny and colorful in the light. This ability to trap light made them potential test subjects for imprinting solar cells.

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There are still kinks to be worked out with the technology, but if it catches on, it won't just improve solar panel efficiency--it might save Blu-ray discs from total obsolescence. ...

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 ...

Semi transparent solar panels are a specific type of transparent solar panel with a light transmittance below 100%. Whereas transparent solar panels allow nearly all visible light to pass through while ...

This research proposal examines different structures of Blu-Code, a combination of Blu-Ray disc, copper wire, and Zener diode, as an alternative solar panel. The researchers aim to compare the electricity generated by flat, concave, and ...

Solar panel technology advances include greater solar cell efficiency and the use of new and more abundant solar panel materials. top of page. ... development, and technological breakthroughs. Today, solar panel ...

Maybe by replicating the microscopic, glassy wonderland of the surface of a Blu-ray disc onto a solar panel, the engineers could up a solar panel's performance. This isn't as weird of an idea ...



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