ACTIVE MATERIAL FOR SIMULTANEOUS CONVERSION AND STORAGE OF SOLAR ENERGY

A light-responsive material that continues working even after sunlight disappears

Problem / Market Need

Solar energy is clean and abundant, but most solar technologies stop working immediately when sunlight disappears. As a result, solar systems usually require separate storage technologies or additional components to maintain energy supply.

This separation between energy generation and storage increases system complexity, costs, and maintenance requirements. There is a need for improved materials that can continue supporting energy processes even after light exposure ends, enabling more efficient and reliable solar technologies.

Description of Solution / Technology

Researchers at North-West University (NWU) have developed a new light-responsive material that continues to remain active even after sunlight is no longer present.

Unlike conventional materials used in solar technologies, this material can sustain activity after light exposure ends. This property makes it possible to support processes that involve both solar energy conversion and energy storage in a more efficient way.

The material can be used as an active component in photovoltaic technologies and catalytic energy systems where sustained activity improves performance and efficiency.

Key Benefits / Advantages

- Continues working even after sunlight disappears
- Supports improved solar energy conversion processes
- Enables more efficient renewable energy technologies
- Environmentally friendly material for clean energy systems
- Applicable across several energy and catalytic technologies

Applications / Relevant Industries

- Renewable Energy: improved materials for solar energy technologies
- Hydrogen Production: catalyst materials for hydrogen generation processes
- Fuel Cells: materials used in electricity generation systems
- Clean Energy Technologies: advanced materials for sustainable energy solutions

Stage of Development

The material has been successfully developed and tested under laboratory conditions. Initial studies confirm its ability to sustain activity after light excitation.

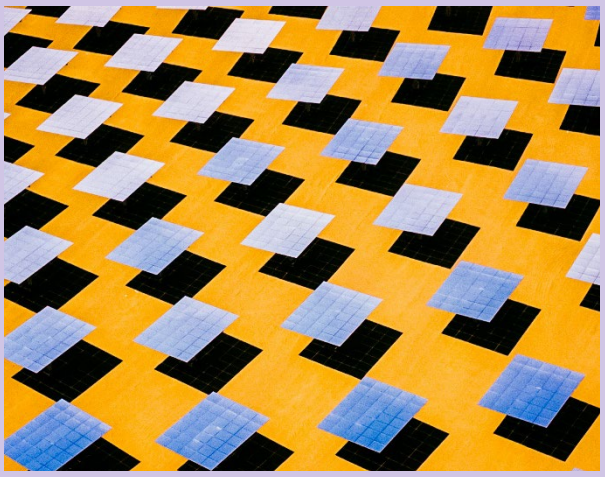
Further work will focus on optimizing the material and integrating it into practical solar energy and catalytic systems.

Intellectual Property Status

A patent application has been filed under the Patent Cooperation Treaty (PCT).

Opportunity

This technology is available for further development and collaboration. Industry partners in renewable energy, advanced materials, and clean energy technologies are invited to explore opportunities for joint development and commercialization.



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