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## Solar glass tellurium

Can tellurite glass be used as a light-energy harvester?

Researchers effectively converted tellurite glass, pictured here as part of a chip, into a light-energy harvester by using femtosecond laser light. Solar cells and glass are often both made from silicon.

Could nanoscale tellurium & tellurium oxide crystals generate electricity?

This curiosity led to the unexpected discovery of nanoscale tellurium and tellurium oxide crystals, both semiconducting materials, forming where the glass was exposed to the laser. The presence of semiconducting materials on a surface exposed to daylight could potentially generate electricity.

Can tellurite glass produce a current?

After etching a simple line pattern onto a 1 cm diameter tellurite glass and exposing it to UV light and the visible spectrum, Torun found it could generate a current consistently for months. Bellouard expressed his excitement at the breakthrough, saying, "We're locally turning glass into a semiconductor using light."

What are the optical properties of tellurite glass?

Particularly, tellurite glass exhibits interesting optical properties such as high linear and nonlinear refractive indexes, photochromism and photoluminescence when doped with transition metals, rare-earth ions, and quantum dots, for instance [,,].

Abstract Tellurium (Te) is a dispersed metalloid widely used in solar energy, thermoelectric conversion, metallurgy, chemical industry and other fields. With the rapid ...

An NYU Tandon-led research team has developed a novel technique to significantly enhance the performance of cadmium telluride (CdTe) solar cells. Unlike ...

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Cadmium and tellurium form a stable semiconductor compound, CdTe, that is used in thin-film photovoltaic (PV) cells. CdTe PV cells are used in some ...

CdTe Photovoltaic Glass Cadmium Telluride (CdTe) photovoltaic glass is a type of solar photovoltaic glass that incorporates thin-film photovoltaic ...

From promising solid-state battery technology that could eliminate range anxiety for electric vehicle owners to ...

This book provides expert coverage of the physical properties of new non-crystalline solids--tellurite glass smart materials--and the latest applications of these materials, offering ...

Solar glass is a specialized low-iron, tempered soda-lime silicate glass, often enhanced with an anti-reflective coating. This combination delivers ultra-high light transmittance, superior ...

EPFL researchers turned tellurite glass, a glass that has tellurium as part of the production process, into a "transparent" light-energy harvester by etching semiconductive ...

The technology could be used to turn glass windows into power-generating solar panels. Vancouver, BC, Canada, February 8, 2024 - First Tellurium Corp. (CSE: FTEL, OTC: ...

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An NYU Tandon-led research team has developed a novel technique to significantly enhance the performance of cadmium telluride ...

Tellurium's Bright Future in Solar Energy Tellurium, one of the Earth's rarest elements, is emerging as a transformative force in the clean energy revolution. As a critical ...

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