

What is the impact factor of solar energy materials and solar cells?

Sol. Energy Mater. Sol. Cells Solar Energy Materials and Solar Cells is a scientific journal published by Elsevier covering research related to solar energy materials and solar cells. According to the Journal Citation Reports, Solar Energy Materials and Solar Cells has a 2020 impact factor of 7.267.

What is solar energy materials & solar cells?

An International Journal Devoted to Photovoltaic, Photothermal, and Photochemical Solar Energy Conversion Solar Energy Materials & Solar Cells is intended as a vehicle for the dissemination of research results on materials science and technology related to photovoltaic, photothermal and photoelectrochemical solar energy conversion.

What are solar cells made of?

Solar cells are made of semiconductor materials; given the broad solar spectrum, their fundamental efficiency limit is determined by several factors (Fig. 1).

What is a solar cell?

Solar Cells, covering single crystal, polycrystalline and amorphous materials utilising homojunctions and heterojunctions, Schottky barriers, liquid junctions and their applications. Also of interest is analysis of component materials, individual cells and complete systems, including their economic aspects.

What is the rank of solar energy materials and solar cells?

The overall rank of Solar Energy Materials and Solar Cells is 2127. According to SCImago Journal Rank (SJR), this journal is ranked 1.503. SCImago Journal Rank is an indicator, which measures the scientific influence of journals.

What is the SJR of solar energy materials and solar cells?

The Solar Energy Materials and Solar Cells has an SJR (SCImago Journal Rank) of 1.503, according to the latest data. It is computed in the year 2023. In the past 9 years, this journal has recorded a range of SJR, with the highest being 2.190 in 2014 and the lowest being 1.459 in 2017.

The latest impact score (IS) of the Solar Energy Materials and Solar Cells is 7.31 is computed in the year 2023 as per its definition and based on Scopus data. 7.31 It is increased by a factor of around 0.55, and the percentage change is 8.14% compared to the preceding year 2021, indicating a rising trend. The impact score (IS), also denoted as the Journal impact score ...

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The solar panels that you see on power stations and satellites are also called photovoltaic (PV) panels, or photovoltaic cells, which as the name implies (photo meaning "light" and voltaic meaning "electricity"), convert sunlight directly into electricity. A module is a group of panels connected electrically and packaged into a frame (more commonly known as a solar ...

187; SOLAR ENERGY MATERIALS AND SOLAR CELLS. Abbreviation: SOL ENERG MAT SOL C
ISSN: 0927-0248 eISSN: 1879-3398 ... ENERGY & FUELS - SCIE. WoS Core Citation Indexes: SCIE -
Science Citation Index Expanded. Journal Impact Factor (JIF): 6.3 5-year Impact Factor: 6

The tandem organic thin-film solar cell has also been studied by utilizing active layer materials of C6PcH2 and poly(3-hexylthiophene) and the interlayer of LiF/Al/MoO3 structure, and a high Voc ...

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Solar energy is a form of renewable energy, in which sunlight is turned into electricity, heat, or other forms of energy we can use is a "carbon-free" energy source that, once built, produces none of the greenhouse gas emissions that are driving climate change. Solar is the fastest-growing energy source in the world, adding 270 terawatt-hours of new electricity ...

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only one citation. 9.13% of ...

Solar Energy Materials and Solar Cells goes beyond the discussion of Solar cell as it connects it with closely related disciplines like. Transmittance which is related to area like Electrode, Anti-reflective coating which is related to area like Quantum efficiency.. Issues in Doping were discussed, taking into consideration concepts from other ...

Innovative Thin-Film Solar Cells: Materials and Manufacturing Processes. The world of solar power is changing fast with new thin-film solar cells. Materials like Cadmium Telluride (CdTe) and Copper Indium Gallium Diselenide (CIGS) are leading the way. They offer more efficient and cheaper options for harnessing sunlight.

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The most efficient way to harness solar energy as an emerging source of energy is its photoelectric conversion using solar cells. Though, there is a maximum limit for conversion ...

Commentary on Technoeconomic Analysis of High-Value, Crystalline Silicon Photovoltaic Module Recycling Processes [Solar Energy Materials and Solar Cells 238 (2022) 111592] M. Tao, N. Click, L. Ricci. Article 111677 View PDF;

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5 days ago· Solar cell, any device that directly converts the energy of light into electrical energy through the photovoltaic effect. The majority of solar cells are fabricated from silicon--with increasing efficiency and lowering cost as the materials range from amorphous to polycrystalline to crystalline silicon forms.

Solar energy is the radiation from the Sun capable of producing heat, causing chemical reactions, or generating electricity. The total amount of solar energy received on Earth is vastly more than the world's current and anticipated energy requirements. If suitably harnessed, solar energy has the potential to satisfy all future energy needs.

The unique properties of these OIHP materials and their rapid advance in solar cell performance is facillitating their integration into a broad range of practical applications including building-integrated photovoltaics,

tandem solar cells, energy storage systems, integration with batteries/supercapacitors, photovoltaic driven catalysis and ...

The photovoltaic effect is used by the photovoltaic cells (PV) to convert energy received from the solar radiation directly in to electrical energy [3]. The union of two semiconductor regions presents the architecture of PV cells in Fig. 1, these semiconductors can be of p-type (materials with an excess of holes, called positive charges) or n-type (materials with excess of ...

Abbreviation of Solar Energy Materials and Solar Cells. The ISO4 abbreviation of Solar Energy Materials and Solar Cells is Sol. Energy Mater Sol. Cells . It is the standardised abbreviation to be used for abstracting, indexing and referencing purposes and meets all criteria of the ISO 4 standard for abbreviating names of scientific journals.

Special Issue "SiliconPV 2022": Proceedings of the 12th International Conference on Silicon Photovoltaics. SiliconPV 2022 is the key event for sharing and understanding cutting-edge developments and upcoming trends in Silicon Photovoltaics. It focuses on science and advanced technologies along the value chain of crystalline silicon cells and modules.

Nature Reviews Materials - Nearly all types of solar photovoltaic cells and technologies have developed dramatically, especially in the past 5 years. Here, we critically compare the different types...

A solar module comprises six components, but arguably the most important one is the photovoltaic cell, which generates electricity. The conversion of sunlight, made up of particles called photons, into electrical energy by a solar cell is called the "photovoltaic effect"; - hence why we refer to solar cells as "photovoltaic", or PV for short.

This work explores the underlying principles of solar energy exploitation, focusing on energy collection technologies as the primary means of solar energy conversion. The physics of the state-of-the-art mechanisms, the photovoltaic effect, and the advancements that have driven the transformation of solar energy into a viable and sustainable ...

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