

Are perovskite solar cells the future of photovoltaic technology?

In the field of photovoltaic technology, perovskite solar cells are breakthroughs that present a very promising route toward the successful and economical conversion of solar energy. However, as is typical in any emerging technology, PSCs encounter a number of formidable obstacles.

How do perovskite films affect energy-efficient solar cell performance?

The quality and morphology of the perovskite films influence the device performance of the perovskite solar cell. Hence, proper control and full understanding of the production method is needed for energy-efficient perovskite solar cell. Lately, numerous preparation techniques have been documented for perovskite films.

What are the characteristics of perovskite solar cells?

Perovskite solar-cells In general, photovoltaic performance of the perovskite solar cells is ascribed from their intrinsic properties like high absorption coefficient , tunable band gap , large carrier diffusion-length , ambipolar carrier-transport ability and carrier mobility .

Could perovskite solar energy be a cost-effective alternative?

Since perovskite PV can be produced with common materials, using much less energy and solution processing methods, researchers are hopeful that this technology could deliver efficient solar energy at a fraction of the cost of existing technologies.

Why do perovskite solar cells have a moisture resistant intergranular interface?

Synergistically, the improved charge separation and transportation of the perovskite film lead to accomplish excellent photovoltaic performance. Therefore, the perovskite solar cells with moisture resistant perovskite intergranular interface exhibit the improved stability.

Are perovskite photovoltaics a conflict of interest?

The authors declare no conflict of interest. Abstract Perovskite photovoltaics (PVs) are an emerging solar energy generation technology that is nearing commercialization. Despite the unprecedented progress in increasing power conversion effic...

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