Special Issue

Advancements and Trends in Perovskite Photovoltaics

Message from the Guest Editors

Perovskite solar cells are notably inexpensive and relatively simple to manufacture, having already achieved a power conversion efficiency exceeding 26%, compared to conventional silicon solar cells. This high efficiency allows perovskite solar cells to produce more electricity from the same amount of sunlight. Moreover, perovskite-based tandem solar cells have surpassed a power conversion efficiency of 34% and have shown significant potential for further improvement. By combining two different types of solar cell with distinct absorption properties, tandem solar cells can capture a broader range of the solar spectrum, potentially resulting in even higher efficiency. This advancement could enhance the competitiveness of solar energy against traditional fossil fuels and contribute to a more sustainable and energy-efficient future.

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