Special Issue

Advanced Developments of Photovoltaic Devices and Perovskite Solar Cells

Message from the Guest Editors

Since the 21st century, the demand for energy has risen sharply. The use of traditional fossil energy such as coal, oil, and natural gas has brought serious environmental pollution. As a clean energy, solar energy has gradually entered the field of vision of researchers. Solar cells represent the most common way to develop and utilize solar energy, and its development has evolved through three generations. Among them, perovskite solar cells make up a new and promising type of solar cell. They have many advantages, such as high efficiency, low cost, and simple processing, and its power conversion efficiency has skyrocketed from 3.8% to 25.5% in 13 years. These achievements should be attributed to the advantages of perovskite-absorbing materials, such as high light absorption coefficients, long carrier diffusion lengths, and high defect tolerance. This Special Issue aims to present and disseminate the most recent advances related to the perovskite materials, perovskite solar cells, and other perovskite devices.

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Energies is an international, open access journal in energy engineering and research. The journal publishes original papers, review articles, technical notes, and letters. Authors are encouraged to submit manuscripts which bridge the gaps between research, development and implementation. The journal provides a forum for information on research, innovation, and demonstration in the areas of energy conversion and conservation, the optimal use of energy resources, optimization of energy processes, mitigation of environmental pollutants, and sustainable energy systems.

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