Special Issue

Progress in Organic and Perovskite Solar Cells

Message from the Guest Editor

Organic and perovskite solar cells (OSCs and PSCs) are emerging as a promising candidate for the replacement of existing silicon-based solar cells. These types of thin-film solar cells have several benefits such as flexibility with lightweight, large area coverage, low-manufacturing costs, and compatibility with roll-to-roll printing technology. An impressive power conversion efficiency (PCE) of 18.2% (OSC) and 25.5% (PSC) under one sun condition has been achieved and now researchers are further looking to enhance the PCE along with the stability of the solar cells. Recently, OSCs and PSCs were moreover investigated to harvest energy from indoor light sources (e. g. LED, CFL, halogen lamps, etc.) due to the development of various low power indoor electronic gadgets such as the Internet of Things, sensor nodes, wearable electronic devices, and wireless sensor devices. Further development of new materials and device engineering is crucial for improving the quality of solar cells and bring them to market. In this Special Issue, we aim to cover the synthesis and design of new materials, device engineering, and advanced characterization of the organic and perovskite solar cells.

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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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