Special Issue

Emerging Technologies for Multijunction Solar Cells

Message from the Guest Editors

In photovoltaic (PV) power generation, tandem and multijunction solar cells that consist of stacks of two, three or more subcells have demonstrated potential for exceptionally high conversion efficiency. These technologies can open opportunities for new applications, such as building integrated PVs and their use in transportation systems. Recent technological innovations have made it possible to combine a variety of materials, such as silicon, chalcogenides, perovskites, organics, quantum structures, etc., in addition to conventional III–V semiconductors. This Special Issue solicits papers related to the experimental and theoretical aspects of tandem and multijunction solar cells based on combinations of any kind of the aforementioned materials. Topics include material design and development, material/device-level characterization, processing, novel/unique architectures, stacking methods (monolithic, metamorphic, mechanical, wafer/layer bonding, etc.), and device reliability testing.

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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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