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Emerging Technologies for Multijunction Solar Cells

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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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Special Issue



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Message from the Editor-in-Chief

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