



Perovskite Materials and Devices— Progress and Challenges

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Message from the Guest Editors

Dear Colleagues,

Halide perovskite materials (HPMs) have been proven to be superior semiconductor materials owing to their extraordinary optical and optoelectronic properties, including high light absorptivity, long diffusion length, and large carrier mobility. Benefiting from these fascinating features, HPMs demonstrate vast potential in various optoelectronic fields, such as in solar cells, light-emitting diodes, photodetectors, and memories. Recently, explosive progress in HPM research has made them competitive with traditional semiconductor materials. For instance, the power conversation efficiency (PCE) of perovskites reaches 23.3% within several years, which is comparative to commercial Si-based solar cells. This outstanding optoelectronic performance is truly attractive; however, stability issues have become a crucial and hot topic for commercial applications. Fortunately, a series of strategies have emerged to improve the stability and efficiency of the devices...

For further reading, please follow the link to the Special Issue Website at: mdpi.com/si/18813

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Message from the Editor-in-Chief

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