Special Issue

Progress of Perovskite Solar Cells: A Focus on Stability

Message from the Guest Editors

Perovskite solar cells have been the most promising breakthrough in photovoltaic technology in the last few decades because of their high efficiency and ability to be produced via solution processing methods. While recent years have seen notable advancements, with power conversion efficiency surpassing 26%, perovskite solar cells' stability is still far from satisfactory for commercial feasibility. Perovskite solar cells degrade when exposed to heat, oxygen, moisture, and light. One of the most critical issues facing the field at the moment is increasing the stability of perovskite solar cells, which is what we aim to address in this Special Issue. Studies focusing on intrinsic enhancements—such as adjusting the stoichiometry of the perovskite and altering the interfaces—are encouraged since they can lessen the instability linked to interfacial materials ((ETLs), (HTLs), and electrodes (Ag, Au, Al, Cu, Carbon, etc., and FTO, ITO, PET, etc.) and the inherent vulnerabilities of the perovskite itself. Improvements in extrinsic stability, like encapsulation, which can lessen exposure to factors that cause degradation, are also of interest.

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