

Buried interface modification in perovskite solar cells: a materials perspective

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Organic–inorganic hybrid perovskite solar cells (PSCs) are promising third-generation solar cells.

They exhibit high power conversion efficiency (PCE) and, in theory, can be manufactured with less energy than several more established photovoltaic technologies, particularly solution-processed PSCs. Various materials have been widely utilized to modify the buried bottom interface to improve the performance and long-term stability of PSCs. Here, the latest progress in modifying the buried interface to enhance the performance and stability of PSCs is examined from a materials standpoint, which is classified into inorganic salts, the organic molecular and polymer, carbon materials, perovskite-related materials, and 2D materials. This material perspective is useful in determining the tactics for achieving the theoretical PCE value of PSCs. It also serves as a solid reference of interface adjustment for other layered structure heterojunction devices.