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Impact of Growth Conditions on the $CH_3NH_3PbI_3$ Perovskite Solar Cells, Studied by Low-Energy μSR

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Metal halide perovskites (MHPs) have attracted great attention in recent years due to their enormous potential for application in optoelectronic devices. However, the defects at surface/interfaces and grain boundaries of perovskite films, which impede the further enhancement of power conversion efficiency (PCE) and long-term stability of halide perovskite solar cells (PSCs), still need to be fully understood. Here, we studied the impact of different growth conditions on the interface and grain boundaries of $CH_3NH_3PbI_3$ perovskite films by low-energy μSR. Our measurements show that low-energy μSR can become a powerful technique for studying the defect engineering of PSCs.

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