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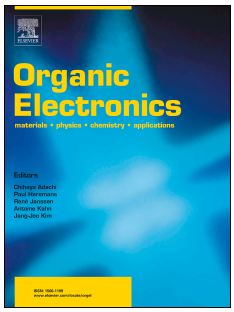

Influence of organic cations on intrinsic properties of lead iodide perovskite solar cells

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The internal absorption, charge recombination and internal quantum efficiency of lead iodide perovskite solar cells (PeSCs) based on $CH_3NH_3PbI_3$ ($MAPbI_3$) and $HC(NH_2)_2PbI_3$ ($FAPbI_3$) perovskites were investigated. The results show that $FAPbI_3$ layer exhibits a wider internal absorption spectra than $MAPbI_3$ layer, and $FAPbI_3$ PeSCs possess lower charge recombination and higher charge collection efficiency due to the superior transport property of $FAPbI_3$ perovskite, leading to higher internal quantum efficiency (IQE) than $MAPbI_3$ PeSCs.