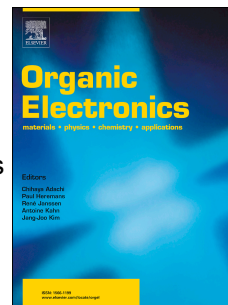


# Accepted Manuscript

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

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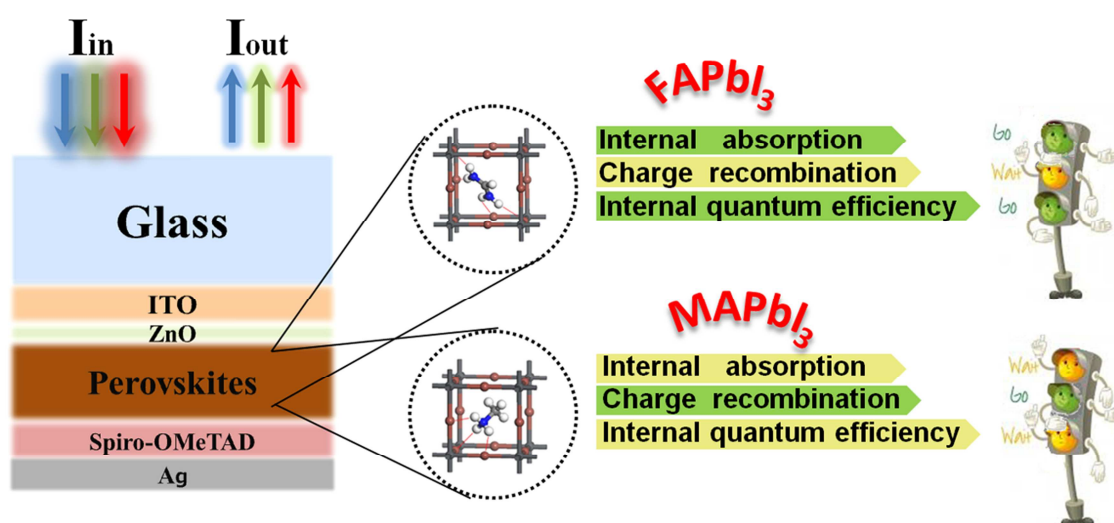
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The internal absorption, charge recombination and internal quantum efficiency of lead iodide perovskite solar cells (PeSCs) based on  $\text{CH}_3\text{NH}_3\text{PbI}_3$  ( $\text{MAPbI}_3$ ) and  $\text{HC}(\text{NH}_2)_2\text{PbI}_3$  ( $\text{FAPbI}_3$ ) perovskites were investigated. The results show that  $\text{FAPbI}_3$  layer exhibits a wider internal absorption spectra than  $\text{MAPbI}_3$  layer, and  $\text{FAPbI}_3$  PeSCs possess lower charge recombination and higher charge collection efficiency due to the superior transport property of  $\text{FAPbI}_3$  perovskite, leading to higher internal quantum efficiency (IQE) than  $\text{MAPbI}_3$  PeSCs.



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