

# Advanced Energy Materials and Research

## Insights into the dynamic interplay between mobile ions and photovoltaic performance of organometal halide perovskites

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**A**bstract  
The dynamic interplay between mobile ions and photovoltaic performance of organometal halide perovskites is investigated. The results show that the presence of mobile ions leads to a significant decrease in the photovoltaic performance of the perovskite. This is attributed to the formation of a space charge layer, which causes a local electric field that opposes the built-in field of the perovskite. The results suggest that the presence of mobile ions is a major factor limiting the performance of organometal halide perovskites. The results also show that the presence of mobile ions leads to a significant increase in the dark current of the perovskite. This is attributed to the formation of a space charge layer, which causes a local electric field that opposes the built-in field of the perovskite. The results suggest that the presence of mobile ions is a major factor limiting the performance of organometal halide perovskites.



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