



Showcasing Research from the Group of Professor Kunio Awaga at Nagoya University, Japan.

Rate-determining process in MISIM photocells for optoelectronic conversion using photo-induced pure polarization current without carrier transfer across interfaces

We investigated [metal|insulator|semiconductor|insulator|metal] (MISIM) photocells, a recently developed architecture for high-speed organic photodetectors. The electric polarization in the S layer, induced by modulated light illumination, propagates into the outer circuit as a polarization current through the I layers without any carrier transfer across the interfaces. The present results reveal a common rate-determining process caused by an imbalance between a slow depolarization in the dark and a fast polarization under illumination.

As featured in:



See Seiya Yokokura,
Kunio Awaga *et al.*,
Phys. Chem. Chem. Phys.,
2019, **21**, 13440.



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