

EES Catalysis

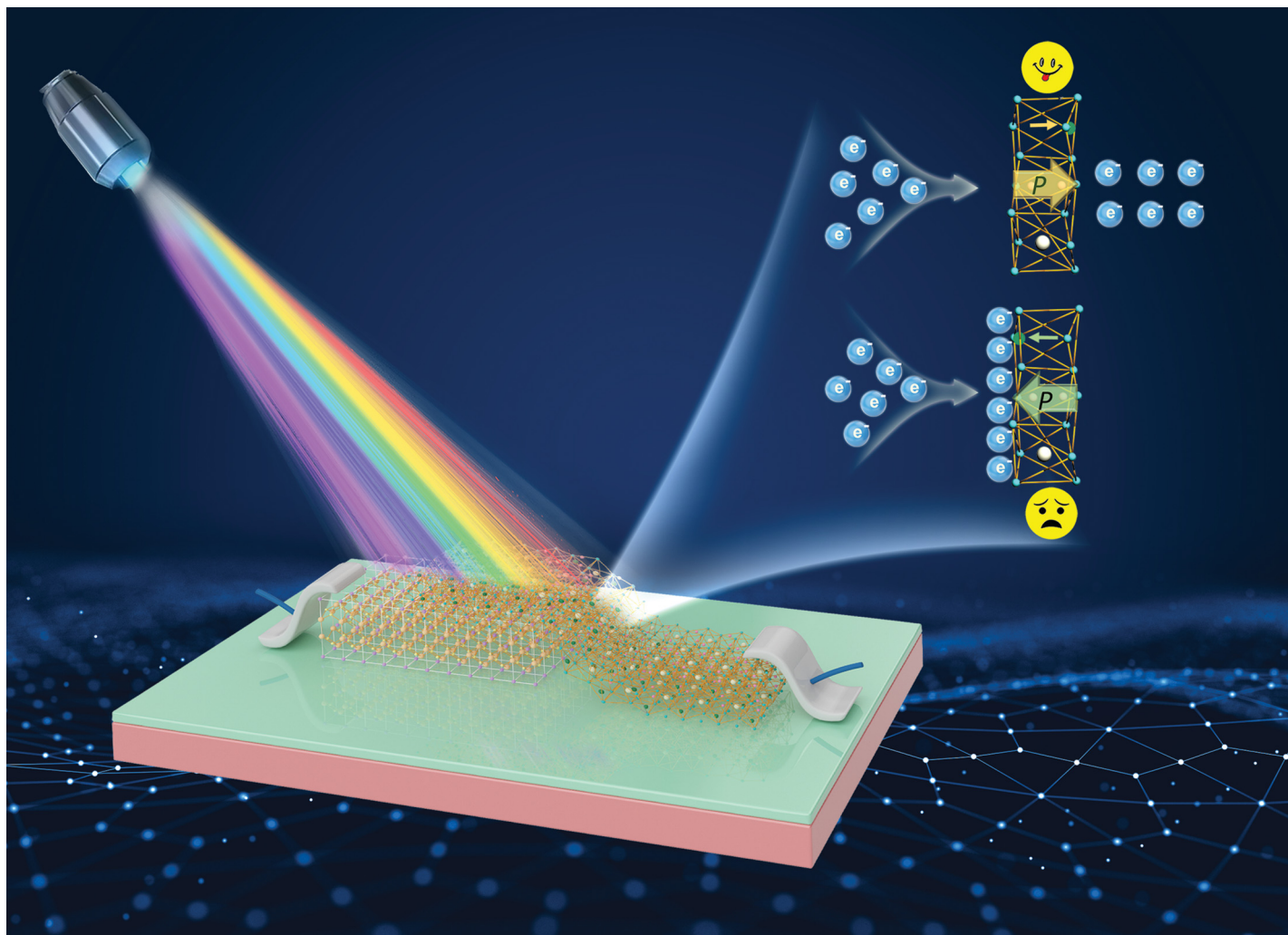
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Showcasing research from the Group of Prof. Weiming Xiong
at the School of Physical Science and Technology,
Guangxi University, China

Enhanced photoelectric performance of $\text{Bi}_2\text{O}_2\text{Se}/\text{CuInP}_2\text{S}_6$
heterojunction via ferroelectric polarization in
two-dimensional CuInP_2S_6

This work reveals the enhanced photoelectric performance of $\text{Bi}_2\text{O}_2\text{Se}/\text{CuInP}_2\text{S}_6$ heterojunction. With modulation of the ferroelectric-polarization-induced built-in electric field in CuInP_2S_6 , the photogenerated carriers in $\text{Bi}_2\text{O}_2\text{Se}$ are effectively separated to form a stable current that is independent of the applied voltage. Therefore, the photoelectric performance of the heterojunction is significantly improved. This work provides an effective approach to enhance the photoelectric response and stability of $\text{Bi}_2\text{O}_2\text{Se}$ via the ferroelectric-polarization-induced built-in electric field of CuInP_2S_6 .

As featured in:



See Weiming Xiong *et al.*,
Phys. Chem. Chem. Phys.,
2024, **26**, 21357.