Novel Wearable Solar Cell

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Background

Fiber-shaped solar cell
- Advantage: lightweight, integratable and weaveable
- Category: dye-sensitized solar cell (DSC), polymer solar cell (PSC) and perovskite solar cell
- Power conversion efficiency: record efficiency of 8.45% obtained from graphene/platinum hybrid fiber
- Structure: Twisted and coaxial

Organic electrolyte for fiber-shaped DSC

- Negligible absorption of the visible light
- High efficiency

DSC textile
- New fabrication by stacking textile electrode
- Easy integration into the fabric

Fiber-shaped PSC
- All-solid-state structure
- Promising for flexible electronics

Conclusion and outlook

- Discovering highly catalytic counter electrode
- Develop efficient DSC electrolytes
- High efficient and low-cost perovskite solar cells are also integrated into a fiber format
- From fiber-shaped solar cell to solar cell textile

Representative publication


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