

Humidity-Driven Crystallization of Vertical Grain-Boundary Bulk-Heterojunction Hybrid Perovskite Films for Solar Cells and Optoelectronic Applications

Disclosure Number

201503580

Technology Summary

A bulk heterojunction structured perovskite solar cell comprises single-crystalline grains and active, vertical grain boundaries. A method of making the new material comprises spin-coating a precursor in layer-by-layer fashion and subsequent exposure to a humidity controlled atmosphere to drive the complete formation of crystalline hybrid perovskite films. Thus, a novel composition of matter is enabled by a new, industrially scalable, processing method of making perovskite solar cells.

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