



Doping and Defect Chemistry of Organometal Halide Perovskite

余晖 博士 香港中文大学电子工程系

报告摘要:

Solution-processed photovoltaics (PVs) have attracted increasing attention of the scientific and industrial communities due to the light-weight, low-cost and manufacturing flexibility of the technology since 1990s. In the past twenty years, people have made great effort to improve the power conversion efficiency of solution-processed photovoltaics. Recently, a promising class of photovoltaic (PV) materials, organometal halide perovskites with a chemical formula of AMX_3 , has received a lot of attention due to their excellent electronic properties, low temperature processability, and high power conversion efficiency (PCE).

Perovskite solar cells have been improved at a rapid pace and have already reached ~22% PCE within four years of development due to the deeper understanding on the fundamental science of the materials and devices, such as the formation mechanisms of perovskite materials, the correlation between microstructure and properties, and interface engineering. While doping as the most important technique in conventional semiconductor industry has not been systematically inspected in organometal halide perovskite materials. Here, I'd like to introduce my ideas and current work about doping and defect chemistry in organometal perovskite materials.



报告人简介:

余晖博士，2008年7月在中南大学材料科学与工程学院获得学士学位，2012年1月在清华大学材料科学与工程系获得硕士学位，2016年8月，在香港中文大学电子工程系获得博士学位。目前在香港中文大学电子工程系继续从事研究工作。主要研究兴趣包括薄膜太阳能电池、量子点红外探测器件、柔性电子器件（柔性太阳能电池，柔性电池以及柔性传感器）、热界面材料等。

报告时间: 2016年12月27日 (星期二) 上午 10:00-11:00

报告地点: 中南大学南校区 先进材料超微结构与超快过程研究所211报告厅

联系人: 阳军亮 (junliang.yang@csu.edu.cn)