

# Journal of Semiconductors



Volume 38 Number 1 January 2017

## Special Topic on Perovskite Solar Cells

- 011001 Preface to the Special Topic on Perovskite Solar Cells (1 page)**  
Jingbi You
- 011002 Recent progress in stability of perovskite solar cells (9 pages)**  
Xiaojun Qin, Zhiguo Zhao, Yidan Wang, Junbo Wu, Qi Jiang, and Jingbi You
- 011003 Applications of cesium in the perovskite solar cells (8 pages)**  
Fengjun Ye, Wenqiang Yang, Deying Luo, Rui Zhu, and Qihuang Gong
- 011004 Research progress of low-dimensional perovskites: synthesis, properties and optoelectronic applications (9 pages)**  
Xinzhe Min, Pengchen Zhu, Shuai Gu, and Jia Zhu
- 011005 Recent progress of dopant-free organic hole-transporting materials in perovskite solar cells (10 pages)**  
Dongxue Liu and Yongsheng Liu
- 011006 Calculation studies on point defects in perovskite solar cells (10 pages)**  
Dan Han, Chenmin Dai, and Shiyou Chen
- 014001 The investigation of an amidine-based additive in the perovskite films and solar cells (6 pages)**  
Guanhaojie Zheng, Liang Li, Ligang Wang, Xingyu Gao, and Huanping Zhou
- 014002 The effect of grain orientation on the morphological stability of the organic–inorganic perovskite films under elevated temperature (6 pages)**  
Dong Wang, Yue Chang, Shuping Pang, and Guanglei Cui
- 014003 Perovskite/silicon-based heterojunction tandem solar cells with 14.8% conversion efficiency via adopting ultrathin Au contact (6 pages)**  
Lin Fan, Fengyou Wang, Junhui Liang, Xin Yao, Jia Fang, Dekun Zhang, Changchun Wei, Ying Zhao, and Xiaodan Zhang
- 014004 A simple fabrication of  $\text{CH}_3\text{NH}_3\text{PbI}_3$  perovskite for solar cells using low-purity  $\text{PbI}_2$  (5 pages)**  
Nanjie Guo, Taiyang Zhang, Ge Li, Feng Xu, Xufang Qian, and Yixin Zhao
- 014005 Designing novel thin film polycrystalline solar cells for high efficiency: sandwich CIGS and heterojunction perovskite (6 pages)**  
Tianyue Wang, Jiewei Chen, Gaoxiang Wu, Dandan Song, and Meicheng Li
- 014006 Large area perovskite solar cell module (4 pages)**  
Longhua Cai, Lusheng Liang, Jifeng Wu, Bin Ding, Lili Gao, and Bin Fan

(Continued on inside back cover)

## **SEMICONDUCTOR PHYSICS**

- 012001 First-principle calculation on mechanical and thermal properties of B2-NiSc with point defects (5 pages)**  
Zhipeng Yuan, Hongbao Cui, and Xuefeng Guo

## **SEMICONDUCTOR MATERIALS**

- 013001 Preparation and characterization of sphere-like Cu<sub>2</sub>SnS<sub>3</sub> nanoparticles and their dropcasted thin films (9 pages)**  
Zohreh Shadrokh, Ahmad Yazdani, and Hosein Eshghi

## **SEMICONDUCTOR DEVICES**

- 014007 Extraction of physical Schottky parameters using the Lambert function in Ni/AlGaN/GaN HEMT devices with defined conduction phenomena (5 pages)**  
O. Latry, A. Divay, D. Fadil, and P. Dherbécourt

- 014008 Physical mechanism of resistance switching in the co-doped RRAM (6 pages)**  
Jin Yang, Yuehua Dai, Shibin Lu, Xianwei Jiang, Feifei Wang, and Junning Chen

## **SEMICONDUCTOR INTEGRATED CIRCUITS**

- 015001 Novel design techniques for noise-tolerant power-gated CMOS circuits (7 pages)**  
Rumi Rastogi and Sujata Pandey