

人工晶体学报

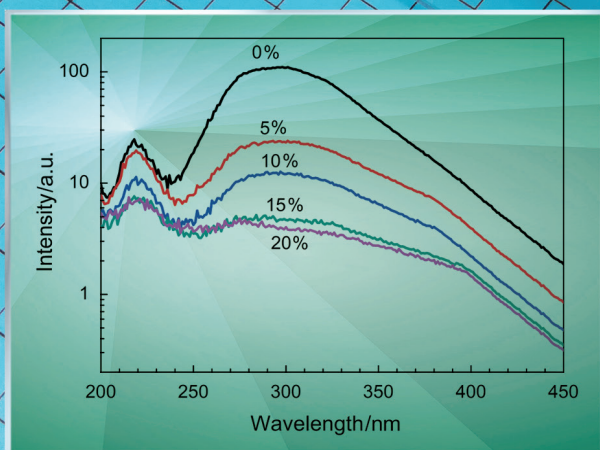
JOURNAL OF SYNTHETIC CRYSTALS

2022年6月 第51卷 第6期

Vol.51 No.6

封面文章

掺杂抑制氟化钡晶体慢闪烁成分研究进展 郑嘉茜 陈俊锋 李翔 卢保奇 冯鹤



YAlO₃:Ce 晶体的生长及性能研究

移动加热器法生长碲锌镉晶体的组分
运输与界面形貌研究

光子晶体多组元缺陷态问题研究

主办：中材人工晶体研究院有限公司

第 51 卷 第 6 期 2022 年 6 月

目 次

· 封面文章 ·

掺杂抑制氟化钡晶体慢闪烁成分研究进展 郑嘉茜,陈俊锋,李翔,卢保奇,冯鹤(951)

· 研究论文 ·

YAlO₃:Ce 晶体的生长及性能研究 丁言国,叶崇志(965)

移动加热器法生长碲锌镉晶体的组分输运与界面形貌研究
..... 张嘉泓,张继军,王林军,徐哲人,曹祥智,卢伟(973)

光子晶体多组元缺陷态问题研究 王立群,严佳新,卢欣,石丽伟,张肖利(986)

Fe 掺杂 GaN 晶体非极性面的光学各向异性研究
..... 武圆梦,胡俊杰,王森,易觉民,张育民,王建峰,徐科(996)

无位错 Te-GaSb(100)单晶抛光衬底的晶格完整性
..... 冯银红,沈桂英,赵有文,刘京明,杨俊,谢辉,何建军,王国伟(1003)

铜镓共掺杂对 n-ZnO 纳米棒/p-GaN 异质结生长行为和光电性能的影响
..... 尹佳奇,余春燕,翟光美,李天保,张竹霞(1012)

完全 Heusler 合金 Cr₂ZrSb/Sc₂FeSn(100)异质结的结构、电磁特性及电子性质
..... 贾维海,杨昆,王智,周庭艳,黄海深,吴波(1020)

溅射温度对 ITO/Ag/ITO 多层复合薄膜的结构和光电性能的影响
..... 程媛媛,黄瑜佳,朱归胜,徐华蕊,万乐,焦培文,汪坤喆(1028)

SiW₁₂、CsPbI₃协同提高 TiO₂纳米管光电转换效率的研究 张 博, 蔺明宇, 孙淑艳, 罗新泽(1034)

钝化剂乙酰水杨酸对钙钛矿太阳能电池性能影响的研究

..... 任锦涛, 陈 青, 霍 宇, 吴治昕, 余春燕, 翟光美(1042)

铅基卤化物钙钛矿太阳电池的模拟研究 肖建敏, 袁吉仁, 王 鹏, 邓新华, 黄海宾, 周 浪(1051)

基于构象灵活的 N-杂环配体构筑的 3D 拟卤化亚铜配合物的合成、结构和性质研究

..... 秦英恋, 秦建芳(1059)

Ba₃Bi₂(PO₄)₄:Tb³⁺ 荧光粉的制备与性能研究 崔瑞瑞, 陈 倩, 张 鑫, 邓朝勇(1069)

Ti/SnO₂-IrO₂电极的制备及其电化学降解对氯苯酚 杨江涛, 李 璇, 陈泽红, 张 蔚, 王忠德(1076)

EDTA 辅助水热法合成 BiYO₃ 及其高效光还原 CO₂ 性能研究 杜 康, 寇丽芳, 张小超(1085)

以尿素为氮源合成 AlN 粉体过程中非晶碳的石墨化 雷 骏, 黄豪贤, 习鑫鑫, 程艳玲, 林华泰(1092)

· 综合评述 ·

钙钛矿及类钙钛矿热致变色单晶材料的研究进展 吴新栋, 张 潮, 刘晓霖(1099)

g-C₃N₄基异质结的光催化应用研究进展 杨思琪, 郑永杰, 张宏瑞, 赵云鹏, 田景芝(1110)

基于 POLO 钝化接触结构的晶硅电池技术及其研究进展

..... 张天杰, 屈小勇, 郭永刚, 吴 翔, 高嘉庆, 张 博, 杨爱静, 刘军保, 李跃恒, 林 涛(1122)

熔盐法制备三元层状 MAX 相陶瓷的研究进展 张 斌, 胡前库, 李丹丹, 王李波, 周爱国(1132)

· 简 讯 ·

南开大学培育成功“青莲紫”宝石 (972)

JOURNAL OF SYNTHETIC CRYSTALS

Vol. 51, No. 6 June 2022 (Series No. 284)

CONTENTS

• Cover Paper •

Research Progress on Suppression of Slow Scintillation Component in Barium Fluoride Crystal by Doping

..... ZHENG Jiaqian, CHEN Junfeng, LI Xiang, LU Baoqi, FENG He(951)

• Research Articles •

Growth and Properties of $\text{YAlO}_3:\text{Ce}$ Crystal DING Yanguo, YE Chongzhi(965)

Study on Component Transport and Interface Morphology of CdZnTe Crystals Grown by Traveling Heater Method

..... ZHANG Jiahong, ZHANG Jijun, WANG Linjun, XU Zheren, CAO Xiangzhi, LU Wei(973)

Multi-Component Defect State of Photonic Crystals WANG Liqun, YAN Jiabin, LU Xin, SHI Liwei, ZHANG Xiaoli(986)

Optical Anisotropy of Non-Polar Surfaces of Fe-Doped GaN Crystal

..... WU Yuanmeng, HU Junjie, WANG Miao, YI Juemin, ZHANG Yumin, WANG Jianfeng, XU Ke(996)

Lattice Perfection of Dislocation-Free (100) Te-GaSb Single Crystal Polished Substrate

..... FENG Yinhong, SHEN Guiying, ZHAO Youwen, LIU Jingming, YANG Jun, XIE Hui, HE Jianjun, WANG Guowei(1003)

Effect of Indium and Gallium Co-Doping on Growth Behavior and Photoelectric Properties of n-ZnO Nanorods/p-GaN

Heterojunction YIN Jiaqi, YU Chunyan, ZHAI Guangmei, LI Tianbao, ZHANG Zhuxia(1012)

Structure, Electromagnetic and Electronic Properties of Complete Heusler Alloy $\text{Cr}_2\text{ZrSb}/\text{Sc}_2\text{FeSn}$ (100) Heterojunction

..... JIA Weihai, YANG Kun, WANG Zhi, ZHOU Tingyan, HUANG Haishen, WU Bo(1020)

Effect of Sputtering Temperature on the Structure and Photoelectric Properties of ITO/Ag/ITO Multilayer Composite

Films CHENG Yuanyuan, HUANG Yujia, ZHU Guisheng, XU Huarui, WAN Le, JIAO Peiwen, WANG Kunzhe(1028)

SiW_{12} Cooperating with CsPbI_3 to Improve the Photoelectric Conversion Efficiency of TiO_2 Nanotubes

..... ZHANG Bo, LIN Mingyu, SUN Shuyan, LUO Xinze(1034)

Effect of Acetylsalicylic Acid Passivator on the Performance of Perovskite Solar Cells

..... *REN Jintao, CHEN Qing, HUO Yu, WU Zhixin, YU Chunyan, ZHAI Guangmei*(1042)

Simulation of Lead-Based Halide Perovskite Solar Cells

..... *XIAO Jianmin, YUAN Jiren, WANG Peng, DENG Xinhua, HUANG Haibin, ZHOU Lang*(1051)

Synthesis, Structure and Properties of 3D Copper (I) Pseudohalide Compound Constructed by Conformationally Flexible N-Heterocyclic Ligand

..... *QIN Yinglian, QIN Jianfang*(1059)

Preparation and Property of $\text{Ba}_3\text{Bi}_2(\text{PO}_4)_4:\text{Tb}^{3+}$ Phosphors

..... *CUI Ruirui, CHEN Qian, ZHANG Xin, DENG Chaoyong*(1069)

Preparation of Ti/SnO₂-IrO₂ Electrode and Its Electrochemical Degradation of p-Chlorophenol

..... *YANG Jiangtao, LI Xuan, CHEN Zehong, ZHANG Wei, WANG Zhongde*(1076)

EDTA-Assisted Hydrothermal Synthesis of BiYO₃ with High-Efficient Photoreduction CO₂ Performance

..... *DU Kang, KOU Lifang, ZHANG Xiaochao*(1085)

Graphitization of Amorphous Carbon During Synthesis of AlN Powder with Urea as Nitrogen Source

..... *LEI Jun, HUANG Haoxian, XI Xinxin, CHENG Yanling, LIN Huatay*(1092)

• Reviews •

Research Progress on the Perovskite and Perovskite-Like Thermochromic Single Crystal Materials

..... *WU Xindong, ZHANG Chao, LIU Xiaolin*(1099)

Research Progress of g-C₃N₄-Based Heterojunctions in Photocatalytic Applications

..... *YANG Siqu, ZHENG Yongjie, ZHANG Hongrui, ZHAO Yunpeng, TIAN Jingzhi*(1110)

Crystalline Silicon Cells Technology Based on POLO Passivation Contact Structure and Its Research Progress

..... *ZHANG Tianjie, QU Xiaoyong, GUO Yonggang, WU Xiang, GAO Jiaqing, ZHANG Bo, YANG Aijing, LIU Junbao, LI Yueheng, LIN Tao*(1122)

Research Progress on Synthesis of Ternary Layered MAX Phase Ceramics by Molten Salt Method

..... *ZHANG Bin, HU Qianku, LI Dandan, WANG Libo, ZHOU Aiguo*(1132)