

## 第 52 卷 第 3 期 2023 年 3 月

### 目 次

#### · 综合评述 ·

线锯切片技术及其在碳化硅晶圆加工中的应用

..... 张俊然,朱如忠,张 玺,张序清,高 煜,陆赞豪,皮孝东,杨德仁,王 蓉(365)

柔性无机铁电薄膜的制备及其在存储器领域应用研究进展 .....

戚佳斌,谢欣瑜,李忠贤(380)

铜基硫化物光催化改性研究进展 .....

余海燕,梁海欧,白 杰,李春萍(394)

#### · 研究论文 ·

LBO 晶体对长腔 Nd:GYAP 激光器 ~1 μm 波段激光性能优化研究

..... 陈邱笛,郑为比,张沛雄,李 真,陈振强(405)

引力波伽马射线暴探测用大尺寸溴化镧晶体封装件的制备及性能研究

..... 赵美丽,孙涛峰,桂 强,张春生,王树印,刘 珊,李新乔,安正华,杨 生(414)

CdSe 晶体光参量振荡器的热透镜效应仿真研究 .....

沈成贵,孙 辉,唐 川,高秀英,周世斌,曾体贤(421)

Au 掺杂 Hg<sub>3</sub>In<sub>2</sub>Te<sub>6</sub> 成键机制与电子性质的第一性原理研究

..... 高 求,罗 燕,罗江波,刘米丰,杨 榛,赵 涛,傅 莉(428)

铪铁双掺铈酸锂晶体的光折变参量研究 .....

师丽红,申绪男,阎文博(436)

单晶金刚石声子非简谐衰减效应研究

..... 李 斌,胡秀飞,杨旂秋,王英楠,谢雪健,彭 燕,杨祥龙,王希玮,胡小波,徐现刚,冯志红(442)

AlGaInN/InGaN 应变补偿 DBR 结构设计 .....

张君华,贾志刚,董海亮,臧茂荣,梁 建,许并社(452)

少量锗的加入对铜锌锡硒薄膜及其器件性能的影响

..... 余 纳,许从艳,李秋莲,陈玉飞,赵永刚,周志能,杨 鑫,王书荣(460)

Mg<sub>3</sub>Bi<sub>2</sub>/Mg<sub>2</sub>Sn 纳米复合膜的微结构及热电性能

..... 杨 爽,宋贵宏,陈 雨,冉丽阳,胡 方,吴玉胜,尤俊华(467)

退火时间及后退火对 Cu<sub>2</sub>(Cd<sub>x</sub>Zn<sub>1-x</sub>)SnS<sub>4</sub>/CdS 薄膜太阳能电池性能影响的研究

..... 王佳文,黄 勇,郑超凡,王语灏,王 威,毛梦洁(476)

基于 CuS 空穴传输材料的钙钛矿电池的性能研究 .....

黄孝坤,杨爱军,黎健生,江琳沁,邱 羽(485)

高温循环载荷下石英坩埚气孔-裂纹应力强度因子数值模拟 .....

赵国彦,瞿 立,李 进,马 润(493)

利用溶质-溶剂模型预测晶体成核的难易 .....

王广乐,王 冲,李海朝,秦亚茹,杨金芳,时文亚,赖国军(501)

单羟基咪唑的合成、晶体的生长和光动力抗菌活性研究 .....

吴淑琼,

何裕良,郑嘉琪,黄婉瑜,陈培妮,莫晓琳,叶嘉欣,欧晓倩,林佳颖,郭惠琳,黄慧琳,许逸戈,史 蕾,余婷婷,钟永辉(510)

微氧条件下镁氧化过程原位观测及机制研究 .....

卢竞涵,吴淑静,卢泽浩,杜雨萌,马永强,曹 冲(520)

水热釜填充度与溶液 pH 值对水热法制备钙磷涂层的影响 .....

邹梓杨,吴松全,杨 义,王 皞,黄爱军(526)

氨气沉淀法制备碱式硝酸铜及其形貌机理研究 .....

王新安,范天博,赵一波,刘 森,郭洪范,李 雪(536)

# JOURNAL OF SYNTHETIC CRYSTALS

Vol. 52, No. 3      March 2023      (Series No. 293)

## CONTENTS

### • Reviews •

Wire Saw Slicing and Its Application in Silicon Carbide Wafers Processing

..... ZHANG Junran, ZHU Ruzhong, ZHANG Xi, ZHANG Xuqing, GAO Yu, LU Yunhao, PI Xiaodong, YANG Deren, WANG Rong(365)

Research Progress on Preparation of Flexible Inorganic Ferroelectric Thin Film and Its Application in Memory Field

..... QI Jiabin, XIE Xinyu, LEE ChoongHyun(380)

Research Progress of Photocatalytic Modification of Copper Based Sulfides

..... YU Haiyan, LIANG Haiou, BAI Jie, LI Chunping(394)

### • Research Articles •

Optimization of  $\sim 1 \mu\text{m}$  Band Laser Performance of Long Cavity Nd:GYAP Laser with LBO Crystal

..... CHEN Qiudi, ZHENG Weibi, ZHANG Peixiong, LI Zhen, CHEN Zhenqiang(405)

Preparation and Properties of Large Size  $\text{LaBr}_3$  Crystal Packages for Gravitational Wave Gamma-Ray Burst Detection

..... ZHAO Meili, SUN Taofeng, GUI Qiang, ZHANG Chunsheng, WANG Shuyin, LIU Shan, LI Xinqiao, AN Zhenghua, YANG Sheng(414)

Simulation of Thermal Lens Effect in CdSe Crystal Optical Parametric Oscillator

..... SHEN Chenggui, SUN Hui, TANG Chuan, GAO Xiuying, ZHOU Shibin, ZENG Tixian(421)

First-Principles Study on Bonding Mechanism and Electronic Properties of Au Doped  $\text{Hg}_3\text{In}_2\text{Te}_6$

..... GAO Qiu, LUO Yan, LUO Jiangbo, LIU Mifeng, YANG Zhen, ZHAO Tao, FU Li(428)

Study on the Photorefractive Parameters of Lithium Niobate Crystals Doped with Fe and Hf

..... SHI Lihong, SHEN Xunan, YAN Wenbo(436)

Anharmonic Phonon Decay Effect of Single Crystal Diamond

..... LI Bin, HU Xiufei, YANG Yiqiu, WANG Yingnan, XIE Xuejian, PENG Yan, YANG Xianglong, WANG Xiwei, HU Xiaobo, XU Xiangang, FENG Zhihong(442)

Design of AlGaInN/InGaN Strain-Compensation DBR Structure

..... ZHANG Junhua, JIA Zhigang, DONG Hailiang, ZANG Maorong, LIANG Jian, XU Bingshe(452)

Effect of a Small Amount of Ge on the Properties of  $\text{Cu}_2\text{ZnSnSe}_4$  Films and Devices

..... YU Na, XU Congyan, LI Qiulian, CHEN Yufei, ZHAO Yonggang, ZHOU Zhineng, YANG Xin, WANG Shurong(460)

Microstructure and Thermoelectric Properties of  $\text{Mg}_3\text{Bi}_2/\text{Mg}_2\text{Sn}$  Nanocomposite Films

..... YANG Shuang, SONG Guihong, CHEN Yu, RAN Liyang, HU Fang, WU Yusheng, YOU Junhua(467)

Effect of Annealing Time and Post-Annealing on Performance of  $\text{Cu}_2(\text{Cd}_x\text{Zn}_{1-x})\text{SnS}_4/\text{CdS}$  Thin Film Solar Cells

..... WANG Jiawen, HUANG Yong, ZHENG Chaofan, WANG Yuhao, WANG Wei, MAO Mengjie(476)

Performance of Perovskite Solar Cells Based on CuS Hole Transport Materials

..... HUANG Xiaokun, YANG Aijun, LI Jiansheng, JIANG Linqin, QIU Yu(485)

Numerical Simulation of Stress Intensity Factor for Pore-Crack in Quartz Crucible under High Temperature Cyclic Loading

..... ZHAO Guoyan, QU Li, LI Jin, MA Run(493)

Prediction of Crystal Nucleation Difficulty Using Solute-Solvent Model

..... WANG Guangle, WANG Chong, LI Haichao, QIN Yaru, YANG Jinfang, SHI Wenya, LAI Guojun(501)

Synthesis, Crystal Growth and Photodynamic Antibacterial Activity of Monohydroxy Corrole

..... WU Shuqiong, HE Yuliang, ZHENG Jiaqi, HUANG Wanyu, CHEN Peini,

MO Xiaolin, YE Jiaxin, OU Xiaoqian, LIN Jiaying, GUO Huilin, HUANG Huilin, XU Yige, SHI Lei, SHE Tingting, ZHONG Yonghui(510)

*In Situ* Observation and Mechanism Study on the Oxidation Process of Magnesium under Trace Oxygen Condition

..... LU Jinghan, WU Shujing, LU Zehao, DU Yumeng, MA Yongqiang, CAO Chong(520)

Effects of Filling Condition and pH Value on the Calcium-Phosphate Coatings Prepared via Hydrothermal Method

..... ZOU Ziyang, WU Songquan, YANG Yi, WANG Hao, HUANG Aijun(526)

Preparation and Morphology Mechanism of Basic Copper Nitrate by Ammonia Precipitation

..... WANG Xin'an, FAN Tianbo, ZHAO Yibo, LIU Sen, GUO Hongfan, LI Xue(536)