

目 次

• 020 激光器与激光光学 •

| | | | | |
|---|-----|-----|-------|---------|
| 气体冷却激光二极管抽运的固体激光放大模块设计及热管理研究 | 徐鹏翔 | 李学春 | 王江峰 等 | 1002001 |
| 基于泊松过程的半导体激光器空间辐射效应研究 | 刘 韵 | 赵尚弘 | 杨生胜 等 | 1002002 |
| 激光陀螺合光装配中信号的稳健高斯滤波方法 | 马 立 | 周辅君 | 谢 炜 等 | 1002003 |
| 百瓦级 1030 nm 皮秒脉冲掺镱全光纤激光器 | 孙若愚 | 金东臣 | 曹 懿 等 | 1002004 |
| 三主镜部分相干加速光束的产生及其光学特性研究 | 吴 琼 | 任志君 | 金洪震 | 1002005 |
| 500 kHz, 6 ns 高重复频率电光腔倒空 Nd:YVO ₄ 激光器 | 石朝辉 | 刘学松 | 黄玉涛 等 | 1002006 |
| LD 抽运 Cr ⁴⁺ :YAG 被动调 Q 内腔式 PbWO ₄ 锁模拉曼激光器实验研究 | 贾海旭 | 丁双红 | 刘佳佳 等 | 1002007 |

• 030 激光加工与应用 •

| | | | | |
|--|-----|-----|-------|---------|
| NiTiNb 激光焊接接头退火前后的显微组织和力学性能分析 | 陆巍巍 | 陈玉华 | 黄永德 等 | 1003001 |
| 车用超高强钢 22MnB5 及 22MnB5-Q235 光纤激光焊接接头组织及性能的研究 | 贾 进 | 杨尚磊 | 倪维源 等 | 1003002 |
| 送丝速度对镀锌钢激光钎焊接头性能影响研究 | 马 凯 | 于治水 | 张培磊 等 | 1003003 |
| H13 钢表面激光原位自生 TiC 颗粒增强复合涂层的微观结构和摩擦磨损性能 | 姚 爽 | 刘洪喜 | 张晓伟 等 | 1003004 |
| 激光熔覆生物陶瓷涂层物相分析 | 鲍雨梅 | 高海明 | 许景顺 等 | 1003005 |
| 热丝填充激光焊接光斑直径与对接间隙裕度研究 | 张书权 | 吴杰峰 | 方 超 等 | 1003006 |
| 5083 铝合金光纤激光填丝焊接工艺 | 孔晓芳 | 李 飞 | 吕俊霞 等 | 1003007 |
| AZ91D-T6 铸造镁合金激光冲击强化和高周疲劳性能研究 | 张青来 | 吴铁丹 | 钱 阳 等 | 1003008 |
| 2060 铝锂合金光纤激光填丝焊接工艺研究 | 安 娜 | 张心怡 | 王启明 等 | 1003009 |
| 飞秒激光工艺参数对加工 TiC 陶瓷微孔的影响 | 王禹茜 | 张军战 | 刘永胜 等 | 1003010 |
| 镀锌钢板搭接光纤激光焊接中搭接间隙的研究 | 张 帆 | 李 芳 | 王诗恩 等 | 1003011 |
| 二维激光连续切割移动材料路径算法及约束 | 胡 鹏 | 胡春燕 | 蒋念平 | 1003012 |
| TiAl 合金激光冲击强化工艺探索及强化机制研究 | 陆 莹 | 赵吉宾 | 乔红超 | 1003013 |
| 17-4PH 不锈钢表面激光熔覆 Stellite6 合金涂层高周疲劳行为研究 | 赵文雨 | 芦凤桂 | 李铸国 等 | 1003014 |

• 040 激光医学与生物学 •

| | | | | |
|----------------------------------|-----|-----|-------|---------|
| 基于脉冲激光二极管的小型化光学分辨式光声显微成像系统 | 曾吕明 | 刘国栋 | 杨迪武 等 | 1004001 |
|----------------------------------|-----|-----|-------|---------|

• 050 光纤光学与光通信 •

| | | | | |
|---------------------------------------|-----|-----|-------|---------|
| 全光纤结构的光纤环被动锁相相干合成研究 | 杨保来 | 王小林 | 周 朴 等 | 1005001 |
| 相位调制法抑制 2 μm 光纤激光受激布里渊散射效应的实验研究 | 伍惟骏 | 王 雄 | 肖 虎 等 | 1005002 |
| 基于 #1 理论方差的光学陀螺长期随机误差分析 | 程旭维 | 汤霞清 | 黄湘远 | 1005003 |
| 选择性空气孔塌缩技术实现七芯光子晶体光纤低损耗熔接 | 张成栋 | 周旋凤 | 陈子伦 等 | 1005004 |

• 060 材料 •

| | | | | |
|--|-----|-----|-------|---------|
| 准相位匹配碲化镓晶体制作工艺及脉冲 CO ₂ 激光倍频研究 | 王 昊 | 惠勇凌 | 姜梦华 等 | 1006001 |
| Er ³⁺ /Yb ³⁺ 共掺氟化物颗粒的红外光谱特性及 Judd-Ofelt 理论分析 | 刘芳超 | 刘铁根 | 郭洪龙 等 | 1006002 |

• 070 薄膜 •

| | | | | |
|---|-----|-----|-------|---------|
| 相移 Rugate 薄膜空间滤波器的设计 | 章 瑛 | 易 葵 | 齐红基 等 | 1007001 |
| 基底温度对电子束沉积 SiO ₂ 薄膜的影响 | 杜倩倩 | 王文军 | 李淑红 等 | 1007002 |

• 080 测量与计量 •

| | | | | |
|-------------------------------|-----|-----|-------|---------|
| 差动共焦显微边缘轮廓检测与定位方法 | 刘大礼 | 王 允 | 邱丽荣 等 | 1008001 |
| InGaAs PIN 光电探测器的加速老化研究 | 金露凡 | 张雅婷 | 王海艳 等 | 1008002 |
| 单颗粒煤粉声悬浮全息测量实验研究 | 赵华锋 | 吴学成 | 周斌武 等 | 1008003 |

• 090 全息与信息处理 •

| | | | | |
|--------------------------------|-----|-----|-----|---------|
| 计算机模拟光强与偏振非均匀性对全息干涉结构的影响 | 吕 浩 | 王守智 | 王 霞 | 1009001 |
|--------------------------------|-----|-----|-----|---------|

| | |
|---|----------------------|
| • 110 太赫兹技术 • | |
| 基于马尔可夫约束的被动式太赫兹图像复原 | 孙 骁 赵源萌 邓 朝等 1011001 |
| • 130 大气与海洋光学 • | |
| 基于 Monte Carlo 方法的混浊大气偏振模式全天域建模 | 王子谦 张旭东 金海红等 1013001 |
| 非 Kolmogorov 湍流对高斯-谢尔光束的瑞利区间和湍流距离的影响 | 汤明玥 李宾中 王宇峰等 1013002 |
| • 140 遥感与传感器 • | |
| 一种基于交叉认证和经验模态分解的滤波算法及其在激光雷达回波信号降噪处理中的应用 | 王欢雪 刘建国 张天舒等 1014001 |
| 基于带吸收介质表面缺陷光子晶体的高通量检测 | 陈 颖 卢 波 范卉青 1014002 |
| 差分吸收激光雷达监测北京灰霾天臭氧时空分布特征 | 范广强 张天舒 付毅宾等 1014003 |
| 三维激光雷达在火炮偏离角测量中的应用 | 李丹妮 呼 丹 王劲松等 1014004 |
| • 150 光谱学 • | |
| 激光诱导铝合金等离子体的时间演化过程研究 | 郑培超 刘红弟 王金梅等 1015001 |
| • 160 光学设计与制造 • | |
| 靶场紫外望远系统光学设计 | 李 博 1016001 |
| “细胞工厂”显微监测装置的光学设计 | 李 琦 向 阳 谷俊达等 1016002 |
| 小型激光直写光刻系统 | 胡永璐 徐文东 王 闯等 1016003 |

CONTENTS

| | |
|---|---|
| • 020 LASERS AND LASER OPTICS • | |
| Gas-Cooled Laser Diode-Pumped Solid-State Laser Amplification Module Design and Thermal Management | <i>Xu Pengxiang Li Xuechun Wang Jiangfeng et al.</i> 1002001 |
| Study on Space Radiation Effects of Laser Diodes Based on Poisson Process | <i>Liu Yun Zhao Shanghong Yang Shengsheng et al.</i> 1002002 |
| Robust Gaussian Filtering of Signals for Beam-Coupling Assembly of Ring Laser Gyroscopes | <i>Ma Li Zhou Fujun Xie Wei et al.</i> 1002003 |
| Hundred-Watt-Level 1030 nm Ytterbium-Doped Picosecond All-Fiber Laser | <i>Sun Ruoyu Jin Dongchen Cao Yi et al.</i> 1002004 |
| Generation of Partially Coherent Optical Accelerating Regular Triple-Lobe Beams and Their Optical Properties | <i>Wu Qiong Ren Zhijun Jin Hongzhen</i> 1002005 |
| 500 kHz, 6 ns High Repetition-Rate Electro-Optical Cavity Dumped Nd:YVO ₄ Laser | <i>Shi Zhaohui Liu Xuesong Huang Yutao et al.</i> 1002006 |
| Laser-Diode-Pumped Cr ³⁺ :YAG Passively Q-Switched Intracavity PbWO ₄ Mode-Locked Raman Laser | <i>Jia Haixu Ding Shuanghong Liu Jiajia et al.</i> 1002007 |
| • 030 LASER PROCESSING AND APPLICATIONS • | |
| Microstructure and Mechanical Property Analysis about NiTiNb Laser Welding Joint around Heat Treatment | <i>Lu Weiwei Chen Yuhua Huang Yongde et al.</i> 1003001 |
| Microstructure and Properties of Fiber Laser Welded Joints of Motor Ultrahigh-Strength Steel 22MnB5 and 22MnB5-Q235 | <i>Jia Jin Yang Shanglei Ni Weiyuan et al.</i> 1003002 |
| Study of Influence of Wire Feeding Speed on Properties of Laser Brazing Joint of Zinc-Coated Steel | <i>Ma Kai Yu Zhishui Zhang Peilei et al.</i> 1003003 |
| Microstructure and Wear Property of TiC Particle Reinforced Composite Coatings on H13 Steel Surface by Laser <i>in-situ</i> Synthesis | <i>Yao Shuang Liu Hongxi Zhang Xiaowei et al.</i> 1003004 |
| Phase Analysis of Bioceramic Coatings by Laser Cladding | <i>Bao Yumei Gao Haiming Xu Jingshun et al.</i> 1003005 |
| Research on Focused Spot Diameter and Butt Joint Gap Margin in Laser Welding with Hot Wire Filler | <i>Zhang Shuquan Wu Jiefeng Fang Chao et al.</i> 1003006 |
| Fiber Laser Welding of 5083 Aluminum Alloy with Filler Wire | <i>Kong Xiaofang Li Fei Lü Junxia et al.</i> 1003007 |
| Study on High Cycle Fatigue Properties and Laser Shock Processing of AZ91D-T6 Cast Magnesium Alloy | <i>Zhang Qinglai Wu Tiedan Qian Yang et al.</i> 1003008 |
| Fiber Laser Welding of 2060 Aluminum-Lithium Alloy with Filler Wire | <i>An Na Zhang Xinyi Wang Qiming et al.</i> 1003009 |
| Effect of Femtosecond Laser Parameters on TiC Ceramic Micro-Hole Drilling | <i>Wang Yuqian Zhang Junzhan Liu Yongsheng et al.</i> 1003010 |
| Research of Lap Gap in Fiber Laser Lap Welding of Galvanized Steel | <i>Zhang Fan Li Fang Wang Shien et al.</i> 1003011 |

| | | |
|---|--|---------|
| Two Dimensional Laser Continuous Cutting in Moving Materials' Path Algorithm and Constraints | <i>Hu Peng Hu Chunyan Jiang Nianping</i> | 1003012 |
| Investigation of Technical and Strengthening Mechanism Research of TiAl Alloy by Laser Shock Peening | <i>Lu Ying Zhao Jibin Qiao Hongchao</i> | 1003013 |
| Study on High-Cycle Fatigue Behavior of Laser-Cladding Stellite6 on 17-4PH Stainless Steel | <i>Zhao Wenyu Lu Fenggui Li Zhuguo et al.</i> | 1003014 |
| • 040 LASER MEDICINE AND BIOLOGY • | | |
| Compact Optical-Resolution Photoacoustic Microscopy System Based on a Pulsed Laser Diode | <i>Zeng Lüming Liu Guodong Yang Diwu et al.</i> | 1004001 |
| • 050 FIBER OPTICS AND OPTICAL COMMUNICATIONS • | | |
| Research of All-Fiber Laser Coherent Combining System Based on Fiber-Loop | <i>Yang Baolai Wang Xiaolin Zhou Pu et al.</i> | 1005001 |
| Experimental Study on Suppression of Stimulated Brillouin Scattering in 2 μ m-Band Fiber Laser Based on Phase Modulation | <i>Wu Weijun Wang Xiong Xiao Hu et al.</i> | 1005002 |
| Investigation on Random Error Properties of Optic Gyroscope Based on Theoretical Variance #1 | <i>Cheng Xuwei Tang Xiaqing Huang Xiangyuan</i> | 1005003 |
| Low Loss Fusion Splicing for Seven-Core Photonic Crystal Fiber by Selected Air Hole Collapse Technique | <i>Zhang Chengdong Zhou Xuanfeng Chen Zilun et al.</i> | 1005004 |
| • 060 MATERIALS • | | |
| Research on Preparation of Quasi-Phase-Matched GaAs and Pulsed CO ₂ Laser Frequency Doubling | <i>Wang Hao Hui Yongling Jiang Menghua et al.</i> | 1006001 |
| Near-Infrared Spectroscopic Properties and Judd-Ofelt Theory Analysis of Er ³⁺ /Yb ³⁺ Co-Doped Fluoride Particles | <i>Liu Fangchao Liu Tiegen Guo Honglong et al.</i> | 1006002 |
| • 070 THIN FILMS • | | |
| Design of Phase-Shifted Rugate Thin Film Spatial Filter | <i>Zhang Ying Yi Kui Qi Hongji et al.</i> | 1007001 |
| Influence of Substrate Temperature on SiO ₂ Thin Films by Electron Beam Deposition | <i>Du Qianqian Wang Wenjun Li Shuhong et al.</i> | 1007002 |
| • 080 MEASUREMENT AND METROLOGY • | | |
| Differential Confocal Microscopy for Edge Contour Detection and Location | <i>Liu Dali Wang Yun Qiu Lirong et al.</i> | 1008001 |
| Accelerated Aging of InGaAs PIN Photoelectric Detectors | <i>Jin Lufan Zhang Yating Wang Haiyan et al.</i> | 1008002 |
| Measurement of a Single Coal Particle in an Acoustic Levitation Field by Digital Holography | <i>Zhao Huafeng Wu Xuecheng Zhou Binwu et al.</i> | 1008003 |
| • 090 HOLOGRAPHY AND INFORMATION PROCESSING • | | |
| Influence Study of Inhomogeneous Beam Intensity and Polarization to Holographic Interference Structure by Computer Simulation | <i>Lü Hao Wang Shouzhi Wang Xia</i> | 1009001 |
| • 010 TERAHERTZ TECHNOLOGY • | | |
| Passive Terahertz Image Restoration Based on Markov Constraint | <i>Sun Xiao Zhao Yuanmeng Deng Chao et al.</i> | 1011001 |
| • 130 ATMOSPHERIC AND OCEANIC OPTICS • | | |
| All Sky Turbid Atmospheric Polarization Pattern Modeling Based on Monte Carlo Method | <i>Wang Ziqian Zhang Xudong Jin Haihong et al.</i> | 1013001 |
| Influence of Non-Kolmogorov Turbulence on the Rayleigh Range and Turbulence Distance of Gaussian-Schell Beams | <i>Tang Mingyue Li Binzhong Wang Yufeng et al.</i> | 1013002 |
| • 140 REMOTE SENSING AND SENSORS • | | |
| An Empirical Mode Decomposition Algorithm Based on Cross Validation and Its Application to Lidar Return Signal De-Noising | <i>Wang Huanxue Liu Jianguo Zhang Tianshu et al.</i> | 1014001 |
| High Throughput Detection Based on Surface Defect Photonic Crystal with Absorbing Medium | <i>Chen Ying Lu Bo Fan Huiqing</i> | 1014002 |
| Temporal and Spatial Distribution Characteristics of Ozone Based on Differential Absorption Lidar in Beijing | <i>Fan Guangqiang Zhang Tianshu Fu Yibin et al.</i> | 1014003 |
| Application of Three-Dimensional Laser Radar to the Measurement of Deviation Angle of Guns | <i>Li Danni Hu Dan Wang Jinsong et al.</i> | 1014004 |
| • 150 SPECTROSCOPY • | | |
| Study on Time Evolution Process of Laser-Induced Aluminum Alloy Plasma | <i>Zheng Peichao Liu Hongdi Wang Jinmei et al.</i> | 1015001 |
| • 160 OPTICAL DESIGN AND FABRICATION • | | |
| Optical Design of Target Range UV Telescope System | <i>Li Bo</i> | 1016001 |
| Optical Design of "Cell Factory" Microscopic Monitoring Device | <i>Li Qi Xiang Yang Gu Junda et al.</i> | 1016002 |
| Compact Laser Direct Writing System | <i>Hu Yonglu Xu Wendong Wang Chuang et al.</i> | 1016003 |