

目 次

❖ 专家报告 ❖

- 基于深度学习复杂环境的偏振成像技术研究进展 (特邀) 胡浩丰, 黄一钊, 朱 震, 等 20240057
- 面向星地激光通信的大气湍流预报研究进展 (特邀) 郭盈池, 李 浪, 李 晨, 等 20230729
- 环形孔径折叠成像系统的光-数联合无热化设计 (封面文章·特邀) 马德超, 朴明旭, 谢亚峰, 等 20240013

❖ 红外技术及应用 ❖

- 40 K 双波段长波探测器冷箱封装技术研究 王小坤, 陈俊林, 罗少博, 等 20230654
- 基于啁啾极化晶体的中红外上转换成像研究 韩赵其智, 葛 正, 王小骅, 等 20230585
- 铋化物超晶格红外探测器研究进展与发展趋势 张 杰, 黄 敏, 党晓玲, 等 20230153
- 蜂窝夹层结构缺陷红外热成像检测及缺陷分类 唐庆菊, 谷卓妍, 卜红茹, 等 20230631

❖ 激光器与激光光学 ❖

- 飞秒激光烧蚀 YAG 晶体的阈值及孵化效应研究 商 涛, 邓国亮, 王 俊, 等 20230583
- 基于声光调制器的光学锁相环 He-Ne 激光稳频方法研究 刘宇森, 王建波, 殷 聪, 等 20240003
- 基于 PbS 量子点的可调谐高能锁模光纤激光器 陈广伟, 赵 悦, 胡国庆, 等 20230632
- 激光二极管端泵 Yb:YAG 晶体的温度场及应力场 李昕阳, 李 隆, 任嘉欣, 等 20230683
- 全天时便携式户外型红外探测气溶胶激光雷达系统设计及应用 庄 鹏, 谢晨波, 康宝荣, 等 20230636
- 激光二极管端泵方形 Tm:YAG 复合晶体的热效应 任嘉欣, 李 隆, 李昕阳, 等 20230717

❖ 光学设计 ❖

- 面向光束指向调控的双快速反射镜偏转角快速解算方法 黄泽帆, 李延伟, 谢虹波, 等 20230582
- 地基光电成像系统中单芯轴的设计与优化 祝汉旺, 薛向尧, 邵明振, 等 20230629

❖ 光通信与光传感 ❖

- 高阶轨道角动量传输光纤设计及传输特性研究 (内封底文章) 赵丽娟, 吴雨静, 徐志钮 20240007

❖ 集成光学 ❖

- 基于无透镜散斑图像编码的集成式光谱检测 周天彪, 黄思远, 文 龙, 等 20240010

❖ 光学器件 ❖

等离子体增强型 ZnO 基纳米线异质结阵列光电探测器 吴 茜, 彭嘉隆, 江金豹, 等 20240006

❖ 光电测量 ❖

基于损伤程度量化评估的光学薄膜元件激光损伤阈值测量方法 辛 磊, 杨忠明, 孟 君, 等 20230614

❖ 光学制造 ❖

光学元件磁流变加工不确定度误差工艺方法 高 博, 范 斌, 王 佳, 等 20230595

❖ 海洋光学 ❖

蓝绿光双波长船载海洋激光雷达系统设计与海上测试 纪鲁峰, 刘秉义, 朱培志, 等 20230597

❖ 空间光学 ❖

空间天文紫外偏振探测技术研究进展 单睿葵, 董联庆, 李 康, 等 20230547

❖ 图像处理 ❖

干涉式闭环光纤陀螺仪的 PSO-PID 控制优化方法 刘尚波, 丹泽升, 廉保旺, 等 20230626

基于并行多轴自注意力的图像去高光算法 李鹏越, 续欣莹, 唐延东, 等 20230538

漫反射与非漫反射表面间的辐射传递系数快速计算 厉夫兵, 游 啟, 冷俊敏, 等 20230611

❖ 简讯 ❖

632 nm FMCW 激光雷达在水汽环境中测速与测距的应用 张欣雨, 蒋莉莉, 宋 冉, 等 20240093

硝酸盐传感器在深海压力下的校准方法 张乃心, 朱星玥, 单保一, 等 20240095



编 辑: 付 宁 吴 迪
王红琨 刘燕荣
英文编辑: 许文颖 刘兴旺

媒体运营部: 刘兴旺 022-58168885
广告发行部: 刘燕荣 022-58168884

Contents

❖ Invited paper ❖

- Research progress on polarimetric imaging technology in complex environments based on deep learning (*invited*)
..... Hu Haofeng, Huang Yizhao, Zhu Zhen, et al. 20240057
- Atmospheric optical turbulence prediction method for satellite-ground laser communication (*invited*)
..... Guo Yingchi, Li Lang, Li Chen, et al. 20230729
- Athermalization design for annular aperture folding imaging system based on light-digital combination (*cover paper-invited*)
..... Ma Dechao, Piao Mingxu, Xie Yafeng, et al. 20240013

❖ Infrared technology and application ❖

- Research on packaging technology for 40 K dual-band long-wave detectors
..... Wang Xiaokun, Chen Junlin, Luo Shaobo, et al. 20230654
- Mid-infrared up-conversion imaging based on chirp polarization crystals
..... Han Zhaoqizhi, Ge Zheng, Wang Xiaohua, et al. 20230585
- Research progress and development trends of antimonide-based superlattice infrared photodetectors
..... Zhang Jie, Huang Min, Dang Xiaoling, et al. 20230153
- Infrared thermal imaging detection and defect classification of honeycomb sandwich structure defects
..... Tang Qingju, Gu Zhuoyan, Bu Hongru, et al. 20230631

❖ Lasers & Laser optics ❖

- Threshold and incubation effect of femtosecond laser ablation of YAG crystals
..... Shang Tao, Deng Guoliang, Wang Jun, et al. 20230583
- Frequency stabilization method of optical phase-locked loop He-Ne laser based on acousto-optic modulator
..... Liu Yusen, Wang Jianbo, Yin Cong, et al. 20240003
- Tunable high-energy mode-locking fiber laser based on PbS quantum dots
..... Chen Guangwei, Zhao Yue, Hu Guoqing, et al. 20230632
- Temperature field and stress field of LD end-pumped Yb:YAG crystal
..... Li Xinyang, Li Long, Ren Jiaxin, et al. 20230683
- Design and application of all-day portable outdoor infrared detection aerosol lidar system
..... Zhuang Peng, Xie Chenbo, Kang Baorong, et al. 20230636
- Thermal effect of laser diode end pump square Tm:YAG composite crystal Ren Jiaxin, Li Long, Li Xinyang, et al. 20230717

❖ Optical design ❖

- A fast calculation method for deflection angles of dual fast steering mirrors for beam pointing control
..... Huang Zefan, Li Yanwei, Xie Hongbo, et al. 20230582
- Design and optimization of a single-core axis in a ground-based photoelectric imaging system
..... Zhu Hanwang, Xue Xiangyao, Shao Mingzhen, et al. 20230629

❖ **Optical communication and sensing** ❖

Design and transmission characteristics of high-order orbital angular momentum transmission fiber (*inside back cover paper*) Zhao Lijuan, Wu Yujing, Xu Zhiniu 20240007

❖ **Integrated optics** ❖

Integrated spectral detection based on lensless speckle image coding Zhou Tianbiao, Huang Siyuan, Wen Long, et al. 20240010

❖ **Optical devices** ❖

Plasmon-enhanced ZnO-based nanowire heterojunction array photodetector Wu Hui, Peng Jialong, Jiang Jinbao, et al. 20240006

❖ **Photoelectric measurement** ❖

Method for measuring laser damage threshold of optical thin film elements based on quantitative damage evaluation Xin Lei, Yang Zhongming, Meng Jun, et al. 20230614

❖ **Optical fabrication** ❖

Uncertainty error technology for magnetorheological finishing of optical elements Gao Bo, Fan Bin, Wang Jia, et al. 20230595

❖ **Ocean optics** ❖

Design and test of a blue-green dual-wavelength oceanic lidar system Ji Lufeng, Liu Bingyi, Zhu Peizhi, et al. 20230597

❖ **Space optics** ❖

Advances in ultraviolet polarization detection for space astronomy Shan Ruiyan, Dong Lianqing, Li Kang, et al. 20230547

❖ **Image processing** ❖

Optimization method of PSO-PID control for interferometric closed-loop fiber optic gyroscope Liu Shangbo, Dan Zesheng, Lian Baowang, et al. 20230626

Image highlight removal method based on parallel multi-axis self-attention Li Pengyue, Xu Xinying, Tang Yandong, et al. 20230538

Fast calculation of radiative heat transfer coefficient between diffuse and non-diffuse surfaces Li Fubing, You Qi, Leng Junmin, et al. 20230611

❖ **Newsletter** ❖

Application of 632 nm FMCW lidar for simultaneous velocity and distance measurement in humid environment Zhang Xinyu, Jiang Lili, Song Ran, et al. 20240093

Correction of pressure effect in calibrating nitrate concentration of seawater Zhang Naixin, Zhu Xingyue, Shan Baoyi, et al. 20240095