### 目 次

#### ❖ 激光器与激光光学 ❖

2 μm 单纵模全固态脉冲激光技术研究进展 (封面文章·特邀) ···································	·· 颜秉政, 穆西魁, 安嘉硕, 等 20230730
无需公共点的高精度激光跟踪仪自标定方法	·· 齐志军, 朱东辉, 罗 涛, 等 20230607
连续光纤激光切割金属薄壁材料工艺研究	·· 翟兆阳, 李欣欣, 张延超, 等 20230569
激光技术在金刚石加工中的研究及应用进展	··叶 盛,赵上熳,邢忠福,等 <b>20230567</b>
<b>❖</b> 红外技术及应用 ❖	
分流喷管出口构型对红外抑制器性能影响的数值和实验研究	杜家栋, 单 勇, 张靖周 20230459
纳米金属粒子梯度掺杂的硅基近红外吸收增强结构	孙雨佳, 陈方舟, 李晓志 20230519
❖ 光电测量 ❖	
二维主动位姿引导的单目空间姿态测量方法	·· 刘 峰, 郭英华, 王 霖, 等 20211026
基于矢量衍射理论的光栅干涉仪位移测量误差研究	雷李华, 张玉杰, 傅云霞 20230536
基于双 PSD 的三维测角传感器精度分析	··· 赵文赫, 白杨杨, 王劲凯, 等 <b>20230543</b>
用于高精度准直测量的鱼眼相机标定方法	·· 熊 琨, 何旭然, 王春喜, 等 20230549
基于改进 U-Net 网络的相位解包裹技术研究 ······	··徐瑞书, 罗笑南, 沈瑶琼, 等 <b>20230564</b>
逐像元自适应增益成像系统的星上辐射定标方法	··李 则, 危 峻, 黄小仙, 等 20230561
❖ 海洋光学 ❖	
弱风条件下斜程海洋湍流中涡旋光束的传输特性	·· 吴鹏飞, 李成毓, 雷思琛, 等 20230441
❖ 材料与薄膜 ❖	

米花型银-氮化钛薄膜 SERS 基底的制备及罗丹明 6G 的检测研究 …… 邸志刚, 高建鑫, 贾春荣, 等 20230367

#### ❖ 光通信光传感 ❖

编 辑: 付 宁 吴 迪 媒体运营部: 刘兴旺 022-58168885

王红琨 刘燕荣 广告发行部: 刘燕荣 022-58168884

英文编辑: 许文颖 刘兴旺

### **Contents**

## Lasers & Laser optics \* ····· Yan Bingzheng, Mu Xikui, An Jiashuo, et al. 20230730 A high-precision self-calibration method for laser tracker without common points ..... Technics of continuous-wave fiber laser cutting of thin-wall metal materials ..... ❖ Infrared technology and application ❖ Numerical and experimental research on the effect of outlet structural parameters of diverter nozzle on infrared suppressor Silicon based near-infrared absorption enhancement structure with gradient doping of nano metal particles ..... Sun Yujia, Chen Fangzhou, Li Xiaozhi 20230519 **❖** Photoelectric measurement ❖ Monocular spatial attitude measurement method guided by two dimensional active pose ...... ..... Liu Feng, Guo Yinghua, Wang Lin, et al. 20211026 Displacement measurement error of grating interferometer based on vector diffraction theory ····· Lei Lihua, Zhang Yujie, Fu Yunxia 20230536 Accuracy analysis of a three-dimensional angle measurement sensor based on dual PSDs ..... ······ Xiong Kun, He Xuran, Wang Chunxi, et al. 20230549 Research on onboard radiation calibration scheme based on pixe-level adaptive gain imaging system .....

Li Ze, Wei Jun, Huang Xiaoxian, et al. 20230561

# **❖** Ocean optics ❖ Propagation properties of the vortex beam in the slant path of ocean turbulence under weak wind model ..... ❖ Materials & Thin films ❖ Study on SERS substrate preparation of rice flower type silver/titanium nitride thin films and detection of Rhodamine 6G ..... Di Zhigang, Gao Jianxin, Jia Chunrong, et al. 20230367 ❖ Optical communication and sensing ❖ Research and application of long-distance high-drop GIL multiparameter integrated monitoring ...... ❖ Optical design ❖ Design method of beam shaping system for double free-form surfaces based on Virtual Surface Iteration method ..... Tolerance desensitization method based on principal component analysis and nodal aberration theory ...... **❖** Optical devices ❖ Research on miniature three-axis vibration sensor based on FBG ....... Tang Xiang, Wu Jun, Li Qihui, et al. 20230518 ❖ Image processing ❖ Infrared image super-resolution based on spatially variant blur kernel calibration ...... Cao Junfeng, Ding Qinghai, Luo Haibo 20230252

Two-step random phase-shifting algorithm based on principal component analysis and VU decomposition method .....

Zhang Yu 20230596