

第44卷 第4期
Vol.44 No.4

ISSN 1002-2082
CN 61-1171/O4
CODEN YGUA E4

应用光学

Journal of Applied Optics

中文核心期刊 中国科技核心期刊

4

中国兵器工业第二〇五研究所 主办
中国兵工学会

2023年7月

目 次

光电系统与工程

- 光谱分频型 PV/T 系统中纳米颗粒优化分析 齐 耀, 刘子阳, 侯宇田, 于晓慧, 杨 宾 (699)
- 基于 SLM 的几何稳相法光束整形影响因素分析 翟中生, 段 浪, 郑雅雯 (711)
- 基于自准直原理的紧凑型激光位移传感器光学系统设计 张欣婷, 吴倩倩, 亢 磊 (720)
- 基于共掺杂调控 C_{32} 多极矩的二阶非线性光学响应
..... 田瑞瑞, 杨培玉, 胡博晋, 李一阳, 徐 灿 (726)
- 一款大靶面消热差鱼眼镜头设计 林志强, 吴羽婷, 王 敏 (736)
- 超高 Q 值 mm 级晶体回音壁微腔加工 刘军汉, 曲天良, 张 铨, 刘彦清, 熊长新 (742)
- 基于自由变形技术的多投影颜色校正 侯培国, 高艳菲, 宋 涛, 祁继辉 (748)
- 一种简易医用硬性内窥镜相对百分畸变检测系统
..... 刘 林, 向 阳, 刘立欣, 安卫东, 黄 雷 (756)
- 某型机载反射式光学成像系统失调空中校正方法
..... 刘莹奇, 陆红强, 李炜芃, 白 钊, 万菁昱, 徐红伟, 孟立庄, 王磊磊, 胡 博, 杨晓强 (763)

光电信息获取与处理

- 基于改进二阶段检测网络的长时跟踪重检测方法 赵年甫, 王 霖, 王向军, 陈文亮 (768)
- 基于二次引导滤波的红外图像增强算法及其 FPGA 实现 蒋 菡, 伍 俊 (777)
- 基于 DETR 的道路环境下双目测量系统
..... 康轶譞, 刘 宇, 王亚伟, 周立君, 郭 城, 王怡恬 (786)
- 改进 YOLOX 的桥梁病害检测识别 廖延娜, 姚 亮 (792)
- 基于 ACE 算法的高光谱隐蔽目标探测
..... 张旭辉, 卫 宏, 黄西莹, 宋 磊, 刘培桢, 李 涛, 王姣颖, 许开奎, 刘 轩, 王 洁 (801)

光学计量与测试

- 太赫兹飞行时间测厚法在大气环境中的应用 龚五林, 李占锋, 刘泉澄, 邓 琥, 武志翔 (809)
- 基于 SVM-D-HD 去噪的白光干涉解调算法 邢 伦, 桑 梅, 石珍曼, 王 双, 刘铁根 (816)
- 层次卷积滤波红外弱小目标检测方法 陈灿灿, 夏润秋, 刘 洋, 刘力双, 陈青山 (826)
- 基于特征定位的航空航天制孔多视测量拼接方法
..... 王嘉瑞, 崔海华, 史建猛, 高凯元, 国荣辉 (834)

双光路干涉测量的控制系统设计	贾旭, 韩森, 吴泉英 (842)
激光损伤阈值自动测量装置及实验	陈超, 杨斌, 于东钰, 阴万宏, 宫经珠, 李辉, 王楠茜, 杨科 (852)
面向核酸现场快速检测的多重实时荧光检测系统	杨佳羽, 曾俊添, 奚邦朝, 刘国镪, 黄绍磊, 张东旭 (859)
红外光学系统光谱透射比校准技术	李四维, 王学新, 谢毅, 郭羽, 闫晓宇, 杨毓鑫, 张旭 (868)

夜视技术

数字微光器件研究进展	韩剑, 焦岗成, 闫磊, 程宏昌, 杨晔, 雷石伟, 樊海波, 李桐桐 (874)
一种改进的微光夜视系统视距探测方程	莫涌超, 刘磊, 钱芸生, 胡朝龙, 拜晓锋, 石峰 (887)

激光技术

纳秒脉冲激光诱导 CCD 探测器铝层金属液-固相变时间特性研究	曹祥杰, 康华超, 于海龙, 张银福, 高勋 (898)
星载测风激光雷达 355 nm 光学鉴频器及闭环控制系统	高龙, 安超, 陶宇亮 (904)

光纤传感与光通信

单腔双光梳拍频信号包络提取方法	陈杰, 王晓宇, 郭雨清, 向挽峰 (914)
1 μm 全光纤 MOPA 结构激光器输出特性研究	侯欣宜, 吴玲, 李保群, 李子雄, 杜垒, 王天枢 (920)

广 告 《应用光学》征稿/广告简则(封二)“高能、高功率强激光应用及计量测试技术”专题征文通知(彩插 1~2)国防科技工业光学一级计量站(彩插 3~4)第 24 届中国国际光电博览会(封三)《应用光学》第十届编委会优秀编委/首届青年编委会优秀青年编委名单(封四)

本期责任编辑: 王丽

期刊基本参数: CN 61-1171/O4 * 1980 * b * A4 * 228 * zh * P * ¥50.00 * 1500 * 28 * 2023-07

Contents

OE SYSTEM AND ENGINEERING

- Optimization analysis of nanoparticles for spectral beam splitting hybrid PV/T system
..... QI Yao, LIU Ziyang, HOU Yutian, et al. (699)
- Analysis of factors affecting beam shaping quality of geometric steady-phase method based on SLM
..... ZHAI Zhongsheng, DUAN Lang, ZHENG Yawen (711)
- Optical system design of compact laser displacement sensor based on auto-collimation principle
..... ZHANG Xinting, WU Qianqian, KANG Lei (720)
- Second-order nonlinear optical response based on codoped C_{32} multipole moments modulation
..... TIAN Ruirui, YANG Peiyu, HU Bojin, et al. (726)
- Design of fish eye lens with large target surface and heat dissipation difference
..... LIN Zhiqiang, WU Yuting, WANG Min (736)
- Fabrication of ultra-high Q factor and millimeter-scale crystal echo wall microcavity
..... LIU Junhan, QU Tianliang, ZHANG Xuan, et al. (742)
- Multi-projection color correction based on free-form deformation technology
..... HOU Peiguo, GAO Yanfei, SONG Tao, et al. (748)
- Simple medical rigid endoscopic relative percent distortion detection system
..... LIU Lin, XIANG Yang, LIU Lixin, et al. (756)
- Misalignment correction method of an airborne reflective imaging system in the sky
..... LIU Yingqi, LU Hongqiang, LI Weipeng, et al. (763)

OE INFORMATION ACQUISITION AND PROCESSING

- Re-detection method for long-term tracking based on improved two-stage detection networks
..... ZHAO Nianfu, WANG Lin, WANG Xiangjun, et al. (768)
- Infrared image enhancement algorithm based on secondary guided filtering and its implementation on FPGA
..... JIANG Han, WU Jun (777)
- DETR-based binocular measurement system in road environment
..... KANG Yixuan, LIU Yu, WANG Yawei, et al. (786)
- Bridge disease detection and recognition based on improved YOLOX algorithm
..... LIAO Yanna, YAO Liang (792)
- Hyperspectral concealed target detection based on ACE algorithm
..... ZHANG Xuhui, WEI Hong, HUANG Xiyang, et al. (801)

OPTICAL METROLOGY AND MEASUREMENT

- Applications of thickness measurement method based on terahertz time-of-flight in atmospheric environment
..... GONG Wulin, LI Zhanfeng, LIU Quancheng, et al. (809)

White-light interference demodulation algorithm based on SVM-D-HD denoising	XING Lun, SANG Mei, SHI Zhenman, et al. (816)
Hierarchical convolution filtering method for infrared dim small target detection	CHEN Cancan, XIA Runqiu, LIU Yang, et al. (826)
Multi-view measurement registration method of aerospace hole making based on feature location	WANG Jiarui, CUI Haihua, SHI Jianmeng, et al. (834)
Design of control system for double optical path interferometry	JIA Xu, HAN Sen, WU Quanying (842)
Automatic measurement device of laser-induced damage threshold and its experiment	CHEN Chao, YANG Bin, YU Dongyu, et al. (852)
Multiple real-time fluorescence detection system for rapid on-site nucleic acid detection	YANG Jiayu, ZENG Juntian, XI Bangchao, et al. (859)
Spectral transmittance calibration technology of infrared optical system	LI Siwei, WANG Xuexin, XIE Yi, et al. (868)

NIGHT VISION TECHNOLOGY

Research progress of digital low-light-level devices	HAN Jian, JIAO Gangcheng, YAN Lei, et al. (874)
Improved apparent distance detection model of low-level-lightnight vision system	MO Yongchao, LIU Lei, QIAN Yunsheng, et al. (887)

LASER TECHNOLOGY

Liquid-solid phase transition time characteristics of CCD aluminum layer metal induced by nanosecond pulse laser	CAO Xiangjie, KANG Huachao, YU Hailong, et al. (898)
355 nm optical frequency discriminator and closed-loop control system for spaceborne wind lidar	GAO Long, AN Chao, TAO Yuliang (904)

FIBER SENSING AND OPTICAL COMMUNICATION

Beat frequency signal envelope extraction based on single-cavity dual-comb	CHEN Jie, WANG Xiaoyu, GUO Yuqing, et al. (914)
Output characteristics of 1 μm all-fiber MOPA structure laser	HOU Xinyi, WU Ling, LI Baoqun, et al. (920)