

目 次

❖ “自适应光学”专栏 ❖

- 流场测速中基于深度卷积神经网络的光学畸变校正技术·····高泽宇,李新阳,叶红卫 20200267
- 基于离焦光栅的单帧深度学习相位反演算法·····邱学晶,赵旺,杨超,等 20200273
- 自适应增益的SPGD算法·····方舟,徐项项,李鑫,等 20200274
- 自适应光学系统运行失稳检测方法·····贾启旺,李新阳,罗曦 20200299
- 光学相控阵技术发展概述·····马阎星,吴坚,粟荣涛,等 20201042
- 基于光场相机结构的自适应光学系统仿真研究·····孙全,李程,何宇龙,等 20201043
- 自适应光学相干层析在视网膜高分辨成像中的应用·····范文强,王志臣,陈宝刚,等 20200333

❖ 红外技术及应用 ❖

- 天基红外探测载荷自适应调节方法研究·····蔡萍,李潇雁,苏晓峰,等 20200076
- 低发射率材料涂敷区域对排气系统壁温和红外特性的影响·····曹飞飞,吉洪湖,于明飞,等 20190131
- 折衍混合红外双波段变焦光学系统设计·····杨洪涛,杨晓帆,梅超,等 20200036
- 用于红外气体检测的多通池温度、压强控制系统研制·····侯月,黄克谨 20190525

❖ 激光器与激光光学 ❖

- 高功率光纤激光器反向光放大和损伤特性数值分析·····盛泉,司汉英,安建民,等 20200009
- 高功率光纤激光器反向泵浦信号合束器信号光传输效率提升技术研究(英文)·····方泽远,尹路,闫明鉴,等 20200014
- 波长可切换可调谐耗散孤子锁模掺镜光纤激光器·····杨思敏,汪徐德,孙梦秋,等 20200026
- 1 064 nm 波长白天卫星激光测距试验·····邓华荣,龙明亮,张海峰,等 20200021
- 阵列探测技术在激光测距中的应用·····张海涛,李祝莲,汤儒峰,等 20200006
- 距离漂移误差抑制获取 Gm-APD 激光雷达高精度三维像(英文)·····徐璐,杨旭,吴龙,等 20200218

❖ 光电测量 ❖

- 基于二次修正提高宽动态红外辐射测量精度·····李周,李铭扬,余毅,等 20200142
- 涡轮部件及螺柱标准件同轴度测量系统的研制(英文)·····张波,张文建,雷李华 20200216
- 基于全光衍射深度神经网络的矿物拉曼光谱识别方法·····张旭,于明鑫,祝连庆,等 20200221
- 大型空间相机主承力板检测结构设计及误差分析·····高超,陈芳,孙海洋 20200046
- 单透镜系统中与色散融合的混合相位恢复方法(英文)·····程鸿,刘勇,胡佳杰,等 20200017

❖ 光通信与光传感 ❖

- 基于脉冲调制的 Φ -OTDR研究综述·····钟翔,赵世松,邓华夏,等 20200166

基于迭代学习控制的潜望式激光通信终端系统的动态跟踪设计……………张 敏,李 勃,滕云杰 20200056
软件定义卫星光网络蚁群优化波长路由技术…………… 石晓东,李勇军,赵尚弘,等 20200125
弹光调制器的频率漂移特性及其傅里叶变换光谱的稳定性研究…………… 张敏娟,刘文敬,王志斌,等 20200019

❖ 图像处理 ❖

高图像配准精度的非相干数字全息彩色成像…………… 任 宏,卜远壮,王 茜,等 20200022
位移矢量一致下的多飞行器三维轨迹跟踪识别…………… 霍 炬,何明轩,李云辉,等 20200141
L2 范式距离的星图识别方法 …………… 王泽文,王广君,刘小波,等 20200040



本刊电子版彩色效果详见《红外与激光工程》官网 www.irla.cn

Contents

❖ Adaptive optics ❖

Aberration correction for flow velocity measurements using deep convolutional neural networks	Gao Zeyu, Li Xinyang, Ye Hongwei 20200267
A single-frame deep learning phase retrieval algorithm based on defocus grating	Qiu Xuejing, Zhao Wang, Yang Chao, et al. 20200273
SPGD algorithm with adaptive gain	Fang Zhou, Xu Xiangxiang, Li Xin, et al. 20200274
Detection methods for instability of adaptive optics system	Jia Qiwan, Li Xinyang, Luo Xi 20200299
Review of optical phased array techniques.....	Ma Yanxing, Wu Jian, Su Rongtao, et al. 20201042
Simulation research on adaptive optics system based on light field camera	Sun Quan, Li Cheng, He Yulong, et al. 20201043
Application of adaptive optics coherence tomography in retinal high resolution imaging	Fan Wenqiang, Wang Zhichen, Chen Baogang, et al. 20200333

❖ Infrared technology and application ❖

Research on adaptive adjustment technology for space-based infrared detection load	Cai Ping, Li Xiaoyan, Su Xiaofeng, et al. 20200076
Effects of low emissivity material coating site on wall temperature and infrared characteristics of exhaust system	Cao Feifei, Ji Honghu, Yu Mingfei, et al. 20190131
Design of hybrid refractive-diffractive infrared dual-band zoom optical system	Yang Hongtao, Yang Xiaofan, Mei Chao, et al. 20200036
Development on temperature and pressure control system for multi-pass gas cell utilized in infrared gas detection	Hou Yue, Huang Kejin 20190525

❖ Laser & Laser optics ❖

Numerical analysis on backward light amplification and damage in high-power fiber laser	Sheng Quan, Si Hanying, An Jianmin, et al. 20200009
Study on signal light transmission efficiency enhancement of backward pump-signal combiners in high-power fiber lasers	Fang Zeyuan, Yin Lu, Yan Mingjian, et al. 20200014
Wavelength switchable and tunable dissipative soliton mode-locking Yb-doped fiber laser	Yang Simin, Wang Xude, Sun Mengqiu, et al. 20200026
Experiment of satellite laser ranging in daytime based on 1 064 nm wavelength	Deng Huarong, Long Mingliang, Zhang Haifeng, et al. 20200021
Application of array detection technology in laser ranging	Zhang Haitao, Li Zhulian, Tang Rufeng, et al. 20200006
Restrained range walk error of Gm-APD lidar to acquire high-precision 3D image	Xu Lu, Yang Xu, Wu Long, et al. 20200218

❖ **Photoelectric measurement** ❖

Improvement of wide dynamic infrared radiation measurement accuracy based on dual correction
..... Li Zhou, Li Mingyang, Yu Yi, et al. 20200142

Development of coaxiality measurement system of turbine components and stud standard parts.....
..... Zhang Bo, Zhang Wengjian, Lei Lihua 20200216

Raman mineral recognition method based on all-optical diffraction deep neural network
..... Zhang Xu, Yu Mingxin, Zhu Lianqing, et al. 20200221

Design and error analysis of measurement structure for large aperture space camera mainboard.....
..... Gao Chao, Chen Fang, Sun Haiyang 20200046

Hybrid phase retrieval with chromatic dispersion in single-lens system Cheng Hong, Liu Yong, Hu Jiajie, et al. 20200017

❖ **Optical communication and sensing** ❖

Review of research on Φ -OTDR system based on pulse modulation
..... Zhong Xiang, Zhao Shisong, Deng Huaxia, et al. 20200166

Design of dynamic tracking for periscopic laser communication terminal system based on iterative learning control
..... Zhang Min, Li Bo, Teng Yunjie 20200056

Ant colony optimization routing and wavelength technology for software-defined satellite optical networks
..... Shi Xiaodong, Li Yongjun, Zhao Shanghong, et al. 20200125

Study on frequency-drifting characteristics of photo-elastic modulator and stability of Fourier transform spectra
..... Zhang Minjuan, Liu Wenjing, Wang Zhibin, et al. 20200019

❖ **Image processing** ❖

Incoherent digital holographic color imaging with high accuracy image registration
..... Ren Hong, Bu Yuanzhuang, Wang Xi, et al 20200022

Three-dimensional trajectory tracking recognition of multiple vehicles under displacement vector consistency.....
..... Huo Ju, He Mingxuan, Li Yunhui, et al. 20200141

Star map recognition method of L2 normal distance Wang Zewen, Wang Guangjun, Liu Xiaobo, et al. 20200040