



中国光学工程学会会刊



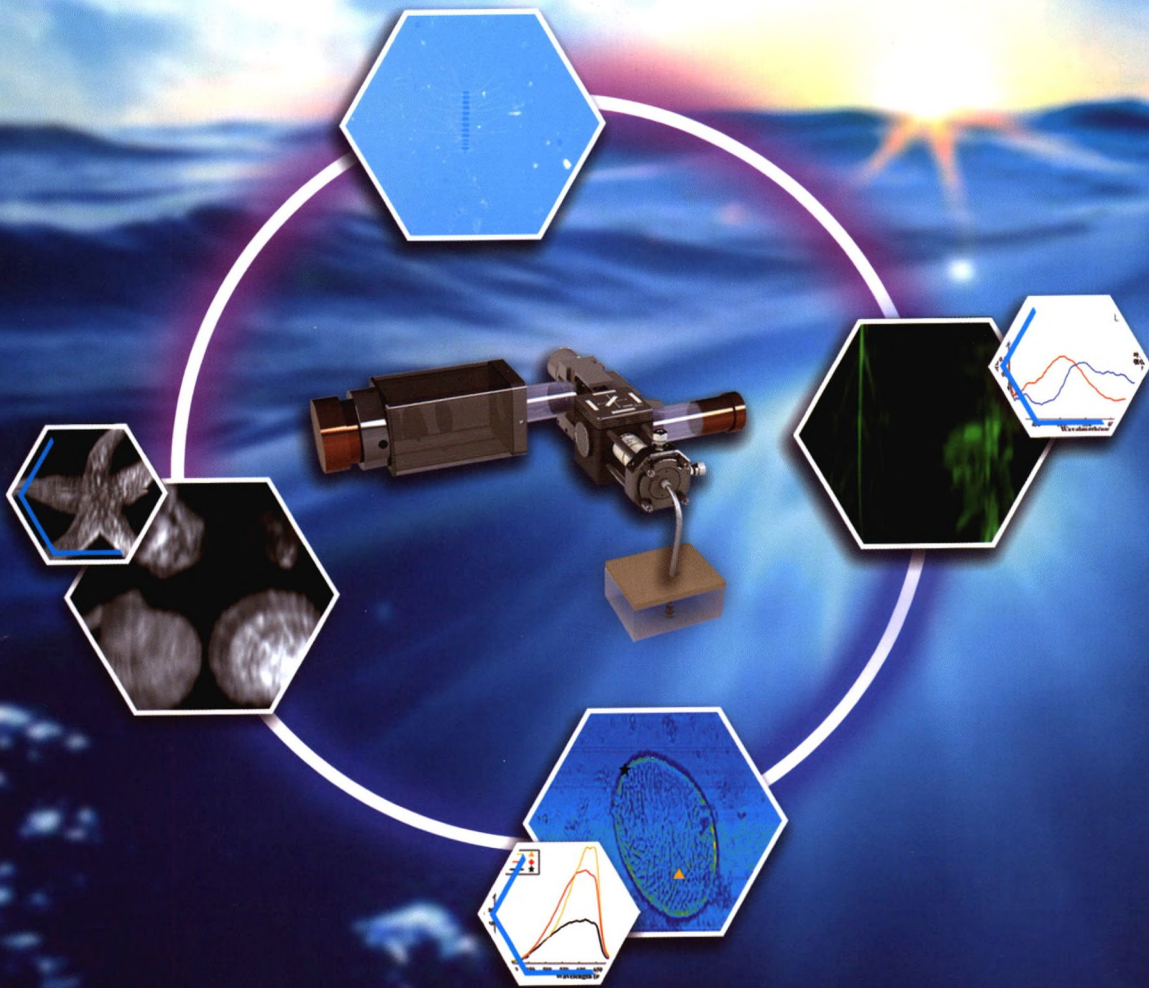
ISSN 1007-2276
CN 12-1261/TN

第49卷 | 第2期
Vol.49 | No.2

红外与激光工程

INFRARED AND LASER ENGINEERING

2020.2



封面图片：小型高光谱图谱仪与激光雷达及其海洋应用 / 何赛灵



天津津航技术物理研究所
《红外与激光工程》编辑部

目 次

◆ 特约专栏——海洋光学技术 ◆

- 小型高光谱图谱仪与激光雷达及其海洋应用 何赛灵,陈 祥,李 硕,等 0203001
- 水下二维及三维距离选通成像去噪技术研究 王新伟,孙 亮,王敏敏,等 0203002
- 海洋光学系统中的时空方法 张雨凡,徐 敬 0203003
- 基于脱靶量的水下目标激光扫描探测模型 钟 昆,苏 伟,彭 波,等 0203004
- 基于 LCTF 的水下光谱成像系统研制 宋 宏,万启新,吴超鹏,等 0203005
- 一种用于水深测量的 LiDAR 光机系统设计 周国清,周 祥,胡皓程,等 0203006
- 海洋激光雷达实验与仿真结果的对比 徐沛拓,陶雨婷,刘志鹏,等 0203007
- 对数正态分布衰落下的光 OFDM 水下可见光通信空间分集系统(英文) 蒋红艳,仇洪冰,何 宁,等 0203008
- 采用半解析蒙特卡洛技术模拟星载海洋激光雷达回波信号的软件 崔晓宇,陶雨婷,刘 群,等 0203009
- 海水吸光度特性高精度检测研究 薛庆生,卢继涛,孙 茜,等 0203010
- 水中颗粒物大角度范围体散射函数测量方法 郭乙陆,陶邦一,黄海清,等 0203011
- 改进暗通道方法的水下强散射介质目标探测 梁天全,张晓云,段 朋,等 0203012
- Gamma Gamma 强海洋湍流和瞄准误差下水下无线光通信系统的性能研究 傅玉青,段 琦,周 林 0203013

◆ 激光器与激光光学 ◆

- 基于负曲率空芯光纤的光泵太赫兹光纤激光器的理论研究 张 果,孙 帅,张 尧,等 0205001
- 基于量子线路逻辑运算的单光子量子态测量方案 王志远,张子静,赵 远 0205002
- 瑞利激光雷达超窄带滤光器参数设计及性能分析 韩 飞,刘恒嘉,孙东松,等 0205003
- 基于相位调制器的宽带窄线宽的线性调频激光器的产生 许蒙蒙,周 煜,孙建锋,等 0205004
- 超连续激光单色仪系统级光谱响应度定标比对验证 谢臣瑜,翟文超,李健军,等 0205005
- 基于匹配滤波的 Gm-APD 激光雷达三维重构算法研究 马 乐,陆 威,姜 鹏,等 0205006
- 激光偏振拉曼的 CVD 多晶石墨烯表征 孟 帅,姚齐峰,张乾坤,等 0205007
- 核磁共振陀螺反馈环路中滤波器的影响研究(英文) 赵洪常,展 翔,江奇渊,等 0205008
- 利用混合规则几何面的 MMS 激光扫描仪检校方法 陈天恩,王 冬,刘凤英 0205009
- 船载激光雷达测量水体光学参数的仿真模拟研究 孔晓娟,刘秉义,杨 倩,等 0205010

◆ 红外技术及应用 ◆

- 星载红外探测器组件环境适应性分析与性能优选 朱双双,吴 洋,邹 鹏,等 0204001
- 弹载大视场红外线扫图像几何畸变仿真研究 尚 超,陈宝国 0204002
- 点源红外诱饵干扰下环境复杂度量化建模 牛得清,伍友利,徐 洋,等 0204003
- 天基平台海云背景下飞机全链路成像特征建模及分析 袁 航,王晓蕊,袁 影,等 0204004

◆ 光电测量 ◆

- 基于多层膜光栅的 AFM 探针结构表征研究 吴子若,蔡燕妮,王星睿,等 0213001

基于混合优化算法的纳米薄膜参数表征(英文)	雷李华,张馨尹,吴俊杰,等	0213002
基于逐点扫描的探测器阵列靶标定系统	谭逢富,黄志刚,张巳龙,等	0213003
基于光谱干涉技术的玻璃厚度及折射率测量方法	赵媛媛,肖作江,梁旭	0213004

◆光学设计◆

基于模型预测控制的大口径快摆镜随动系统	孙浩添,杜福嘉,张志永	0214001
空间遥感相机大口径反射镜结构优化设计	张超杰,习兴华,王永宪,等	0214002
深低温 SiC 空间反射镜背部与侧面支撑结构对比	李晟,范斌,王伟刚,等	0214003
望远超分辨成像中的视场光阑影响及补偿机理	魏明,王超,李英超,等	0214004

◆图像处理◆

基于小波变换与压缩感知的脉冲星 TOA 估计	由四海,王宏力,冯磊,等	0226001
------------------------------	--------------	---------



本刊电子版彩色效果详见《红外与激光工程》官网 www.irla.cn

Contents

◆ Special issue—Ocean optics technology ◆

Small hyperspectral imagers and lidars and their marine applications	He Sailing, Chen Xiang, Li Shuo, et al. 0203001
Deblurring methods for underwater 2D and 3D range-gated imaging	Wang Xinwei, Sun Liang, Wang Minmin, et al. 0203002
Temporal and spatial methods in ocean optical systems	Zhang Yufan, Xu Jing 0203003
Model of underwater target laser scanning detection based on undershoot distance	Zhong Kun, Su Wei, Peng Bo, et al. 0203004
Development of an underwater spectral imaging system based on LCTF	Song Hong, Wan Qixin, Wu Chaopeng, et al. 0203005
Design of LiDAR optical-mechanical system for water depth measurement	Zhou Guoqing, Zhou Xiang, Hu Haocheng, et al. 0203006
Comparison of oceanic lidar experiments and simulation results	Xu Peituo, Tao Yuting, Liu Zhipeng, et al. 0203007
Optical OFDM spatial diversity system in lognormal fading UVLC channels	Jiang Hongyan, Qiu Hongbing, He Ning, et al. 0203008
Software to simulate spaceborne oceanic lidar returns using semianalytic Monte Carlo technique	Cui Xiaoyu, Tao Yuting, Liu Qun, et al. 0203009
Research on high precision detection of seawater absorbance	Xue Qingsheng, Lu Jitao, Sun Qian, et al. 0203010
Wide angle volume scattering function measurement methods for particles in water	Guo Yilu, Tao Bangyi, Huang Haiqing, et al. 0203011
Underwater target detection under strong scattering medium using improved dark channel method	Liang Tianquan, Zhang Xiaoyun, Duan Peng, et al. 0203012
Performance of underwater wireless optical communication system in Gamma Gamma strong oceanic turbulence with pointing error	Fu Yuqing, Duan Qi, Zhou Lin 0203013

◆ Lasers & Laser optics ◆

Theoretical investigation on optically pumped THz fiber laser based on negative curvature hollow-core fiber	Zhang Guo, Sun Shuai, Zhang Yao, et al. 0205001
Single photon quantum state measurement scheme for quantum circuit logic operation	Wang Zhiyuan, Zhang Zijing, Zhao Yuan 0205002
Design and analysis of ultra-narrow filter of Rayleigh lidar	Han Fei, Liu Hengjia, Sun Dongsong, et al. 0205003
Generation of linear frequency modulation laser source with broadband narrow linewidth using optical phase modulator	Xu Mengmeng, Zhou Yu, Sun Jianfeng, et al. 0205004
System-level spectral responsivity calibration comparison and validation of supercontinuum laser and monochromator	Xie Chenyu, Zhai Wenchao, Li Jianjun, et al. 0205005
Research on 3D range reconstruction algorithm of Gm-APD lidar based on matched filter	Ma Le, Lu Wei, Jiang Peng, et al. 0205006
Characterization of polycrystalline graphene based CVD by laser polarization Raman	Meng Shuai, Yao Qifeng, Zhang Qiankun, et al. 0205007

Influence of the filter in feedback loop on the operation of the nuclear magnetic resonance gyroscope Zhao Hongchang, Zhan Xiang, Jiang Qiyuan, et al. 0205008
 Calibration method of MMS laser scanner using hybrid regular geometric surfaces Chen Tian'en, Wang Dong, Liu Fengying 0205009
 Simulation of water optical property measurement with shipborne lidar Kong Xiaojuan, Liu Bingyi, Yang Qian, et al. 0205010

◆Infrared technology and application◆

Environmental adaptability analysis and performance optimization of space-borne infrared detector assembly Zhu Shuangshuang, Wu Yang, Zou Peng, et al. 0204001
 Simulation of image geometric distortion of missile-borne IR linear imager with large field of view Shang Chao, Chen Baoguo 0204002
 Quantification modeling for environmental complexity under point source infrared decoy interference Niu Deqing, Wu Youli, Xu Yang, et al. 0204003
 Modeling and analysis of aircraft full-chain imaging characteristics in the sea surface and clouds from a space-based platform Yuan Hang, Wang Xiaorui, Yuan Ying, et al. 0204004

◆Photoelectric measurement◆

Investigation of AFM tip characterization based on multilayer gratings Wu Ziruo, Cai Yanni, Wang Xingrui, et al. 0213001
 Characterization of nanofilm parameters based on hybrid optimization algorithm Lei Lihua, Zhang Xinyin, Wu Junjie, et al. 0213002
 Detector array target calibration system based on point-by-point scanning Tan Fengfu, Huang Zhigang, Zhang Silong, et al. 0213003
 Measurement method of glass thickness and refractive index based on spectral interference technology Zhao Yuanyuan, Xiao Zuojiang, Liang Xu 0213004

◆Optical design◆

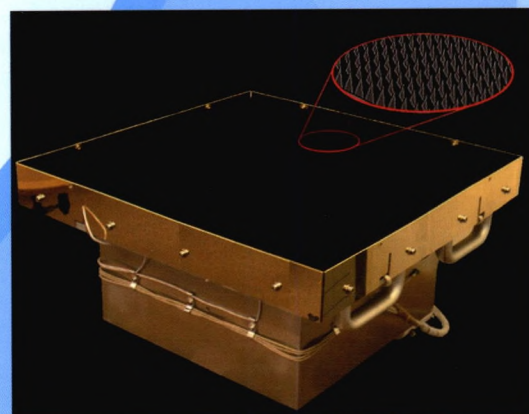
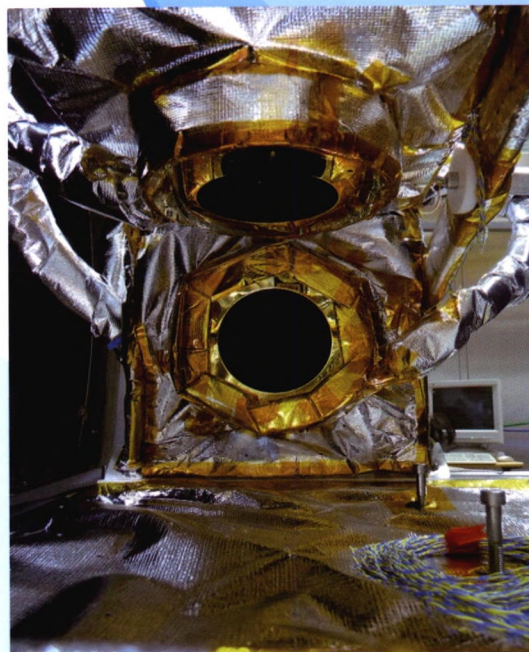
Large aperture fast steering mirror servo system based on model predictive control Sun Haotian, Du Fujia, Zhang Zhiyong 0214001
 Structural optimization design of large-aperture mirror for space remote sensing camera Zhang Chaojie, Xi Xinghua, Wang Yongxian, et al. 0214002
 Comparison of back supporting structure and side supporting structure of space mirror manufactured by silicon carbide in cryogenic environment Li Sheng, Fan Bin, Wang Weigang, et al. 0214003
 Effect and compensation mechanism of field stop in telescopic super-resolution imaging Wei Ming, Wang Chao, Li Yingchao, et al. 0214004

◆Image processing◆

Pulsar TOA estimation based on wavelet transform and compressed sensing You Sihai, Wang Hongli, Feng Lei, et al. 0226001

Vacuum Blackbody 真空黑体

- ◆ 绝对温度范围从+100K到+420K
- ◇ 表面和设定温度的实时显示
- ◆ 净化间内一体化装配
- ◇ 使用真空环境下适用的涂层和材料
- ◆ 高热均匀性和发射率
- ◇ 快速响应以及高稳定性
- ◆ 触摸式控制面板
- ◇ 采用以太网接口远程控制
- ◆ 在3-5 μm 或8-14 μm 波段进行辐射法校准



HGH Systèmes Infrarouges

10 Rue Maryse Bastié
91430 IGNY - FRANCE
Tel: +33 1 69 35 47 70
Fax: +33 1 69 35 47 80

法国HGH红外系统股份公司北京代表处
北京东城区东直门南大街14号
北京保利大厦办公楼974室 (100027)
电话: 010-6551 5319
传真: 010-6551 5318

ISSN 1007-2276



刊号 ISSN 1007-2276
CN 12-1261/TN

邮发代号 国内 6-133
国外 BM1766

国内定价 120.00元