

中国激光

Chinese Journal of Lasers

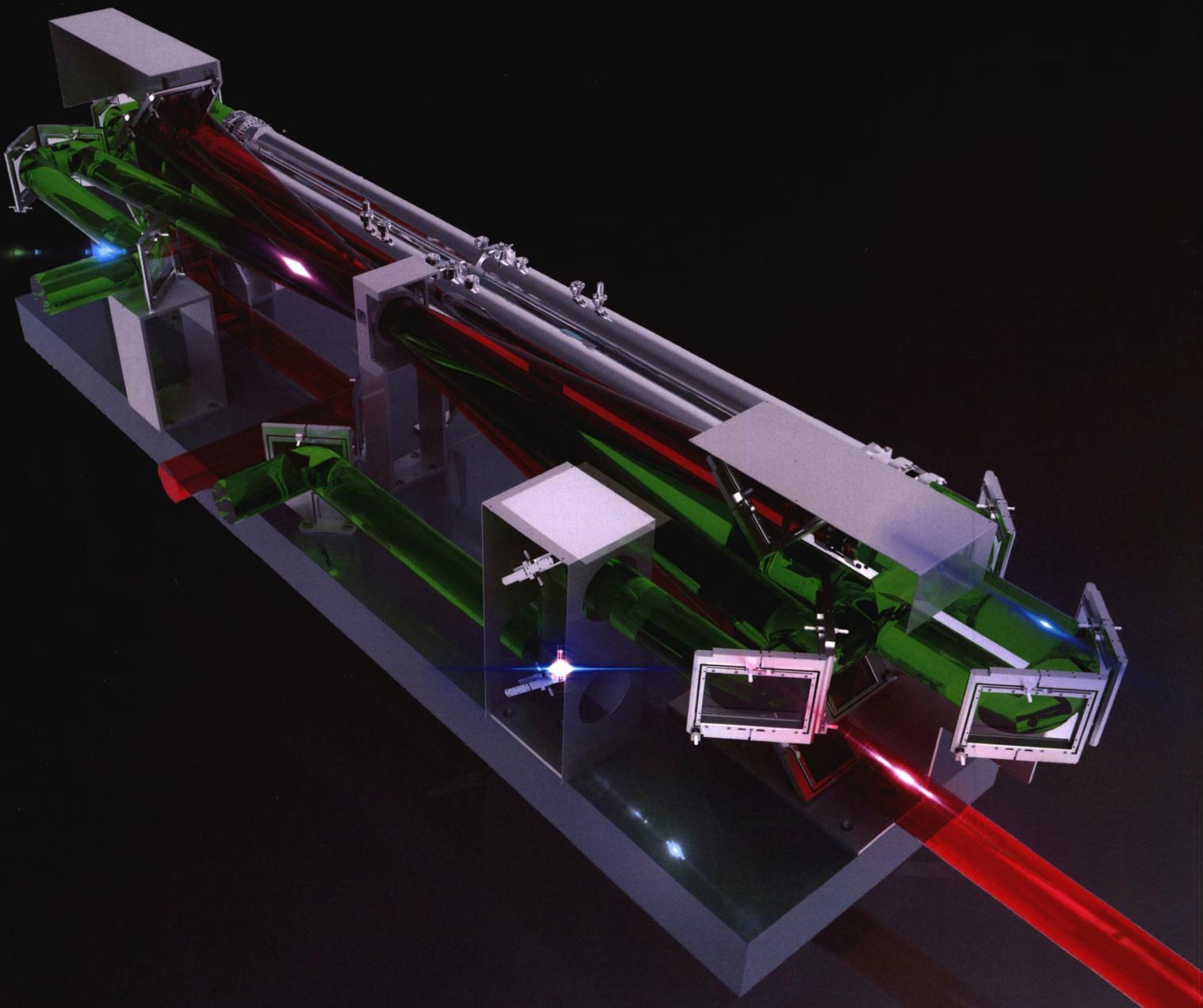
[总第512期]



第46卷 | 第8期

Vol. 46 | No. 8

2019.8



ISSN 0258-7025



9 770258 702193

万方数据

中国科学院上海光学精密机械研究所
中国光学学会 主办

中国激光

第 46 卷 第 8 期 2019 年 8 月

(总第 512 期)

目 次

· 激光器件与激光物理 ·

- 百瓦级环形非稳腔板条激光器腔内校正 王勋, 赖柏衡, 董理治, 等 0801001
相位型光寻址空间光调制器稳定性分析 裴丽丽, 黄大杰, 范薇 0801002
基于腔内级联变频的 0.63 μm 波段多波长激光器 陈海伟, 黄海涛, 王石强, 等 0801003
重复频率 100 MHz 脉冲宽度 39 fs 的掺铒光纤激光器 马挺 0801004
200 W 重复频率中红外氟化氢化学激光器 黄超, 黄珂, 易爱平, 等 0801005
10 PW 级激光系统波前演变及分析 (封面文章) 王建业, 郭震, 於亮红, 等 0801006
纳秒/皮秒双束激光联合驱动双层靶的 γ 辐射特性 刘钊, 熊俊, 安红海, 等 0801007
半主动激光制导武器的伪随机编码 邱雄, 刘志国, 王仕成 0801008
基于共轭微腔和磁微腔耦合共振的多偏振态激光输出 吴义恒, 李小雪, 方云团 0801009
基于频率补偿的高稳定抽运激光器驱动电路 吴涛, 庞涛, 汤玉泉, 等 0801010

· 激光制造 ·

- 激光诱导液相基质等离子体的空间演化特性 余建立, 李乘, 姚关心, 等 0802001
基于 Ni 中间层的铝合金与高强钢激光诱导 TIG 复合焊接 马雨晴, 王红阳, 刘黎明 0802002
扫描方向对变厚度熔覆成形件组织与力学性能的影响 周显新, 辛博, 巩亚东, 等 0802003
激光熔注射备 ZrO_{2p}热障涂层过程中 ZrO₂ 颗粒的组织演变 林守钢, 郭溪溪, 陈浩, 等 0802004
高效激光-MAG 复合焊接船用高强钢的性能 井志成, 张国瑜, 王子健, 等 0802005
激光熔覆温度场和 CeO₂、TiO₂ 对材料相变的影响 任仲贺, 武美萍, 崔宸, 等 0802006
等离子喷涂-激光熔覆 CoCrTaAlY/YSZ 热障涂层的抗高温氧化机理及热震性能 顾振杰, 雷剑波, 宋俊雅, 等 0802007

· 材料与薄膜 ·

- 多脉冲激光诱导熔石英体损伤的时间分辨研究 曹珍, 贺洪波, 胡国行, 等 0803001

· 测量与计量 ·

- 基于叠层扫描成像技术的成像透镜透射波前测量方法 纵榜铭, 栾嘉蕴, 蒋志龙, 等 0804001
基于深度学习的道路标线自动提取与分类方法 黄刚, 刘先林 0804002

一种基于步进电机的光开关	于明圆, 徐斌, 欧阳鑫川, 等	0804003
基于短相干技术的光学平板折射率测量方法	高波, 李强, 刘昂, 等	0804004
基于光强传输方程的双相机动态相位成像的视场校正	张璐, 汤其剑, 邓定南, 等	0804005
· 光束传输与控制 ·		
艾里-高斯光束在光折变介质中的孤子脱落	白小琴, 王宇浩, 张静, 等	0805001
耦合内嵌银条圆盘腔的金属-介质-金属弯曲波导滤波特性	陈颖, 谢进朝, 曹景刚, 等	0805005
· 光纤光学与光通信 ·		
保偏微纳光纤双折射的温度特性	蒋晓勇, 肖悦媛	0806001
基于 QoS 决策的异构 VLC/WiFi 网络联合收发端需求的接入点选择	刘焕淋, 吴兰, 陈勇, 等	0806002
基于内调制啁啾脉冲的高信噪比低成本直接探测型 φ -OTDR 系统	李鲁川, 卢斌, 王校, 等	0806003
腔内滤波带宽对正色散束缚态孤子形成的影响	王凯杰, 王航, 杜团结, 等	0806004
基于张量模式噪声补偿的室内可见光通信系统的信道估计	王青竹, 于永浩, 朱艺海	0806005
基于光热效应的单光纤捕获方法与仿真分析	杨敏君, 湛位, 宋五洲	0806006
· 生物医学光子学与激光医学 ·		
基于各向异性光吸收的线偏振光声成像	石玉娇, 张振辉	0807001
· 非线性光学 ·		
基于双缺陷一维光子晶体的非线性激光限幅方法	申家岭, 路元刚, 马海霞, 等	0808001
基于反射式 MoS ₂ 可饱和吸收体调 Q 锁模 Tm:LuAG 激光器	令维军, 孙锐, 陈晨, 等	0808002
基于相位共轭及交叉相位共轭反馈的耦合激光器混沌增频	颜森林	0808003
· 遥感与传感器 ·		
LEO-LEO 红外激光掩星 CO ₂ 浓度测量技术研究	李文冬, 刘继桥, 朱亚丹, 等	0810001
接收数值孔径和粗糙目标尺寸对稀疏限制的鬼成像影响研究	王成龙, 龚文林, 邵学辉, 等	0810002
基于区域对比度约束的暗通道图像去雾	王振东, 靳旭, 孙国栋, 等	0810003
基于高速脉冲调制和回波采样的激光测距系统	马建平, 尚建华, 孙嘉瞳, 等	0810004
· 光谱学 ·		
螯合树脂富集辅助激光诱导击穿光谱检测水体中的 Cu 元素和 Mn 元素	郑培超, 李倩雨, 王金梅, 等	0811001
CdSe 量子点敏化对 GaAs 发光特性的影响	刘展, 林逢源, 高美, 等	0811002
~~~~~		

本刊电子版彩色效果请详见中国光学期刊网 [www.opticsjournal.net](http://www.opticsjournal.net)

# Chinese Journal of Lasers

Vol.46, No.8 (Series No.512) August 2019

## CONTENTS

### • Laser Devices and Laser Physics •

- Intra-Cavity Aberration Compensation in 100 W-Order Unstable Ring Slab Lasers ... Wang Xun, Lai Boheng, Dong Lizhi, et al. 0801001  
Stability Analysis for Optically-Addressed Phase-Only Spatial Light Modulator ..... Pei Lili, Huang Dajie, Fan Wei, et al. 0801002  
Multi-Wavelength Laser at Waveband of 0.63  $\mu\text{m}$  Based on Cascaded Intracavity Frequency Conversion  
..... Chen Haiwei, Huang Haitao, Wang Shiqiang, et al. 0801003  
Erbium-Doped Fiber Laser with 100-MHz Repetition Rate and 39-fs Pulse Width ..... Ma Ting 0801004  
200 W Mid-Infrared HF Chemical Laser with Repetition Rate ..... Huang Chao, Huang Ke, Yi Aiping, et al. 0801005  
Wavefront Evolution and Analysis of 10-Petawatt Laser System (Cover Paper) ..... Wang Jianye, Guo Zhen, Yu Lianghong, et al. 0801006  
Gamma Radiation Characteristics of Double-Layer Targets Driven by Nanosecond/Picosecond Two-Beam Lasers  
..... Liu Zhao, Xiong Jun, An Honghai, et al. 0801007  
Pseudo-Random Coding of Semi-Active Laser-Guided Weapon ..... Qiu Xiong, Liu Zhiguo, Wang Shicheng 0801008  
Multiple-Polarization Laser Based on Coupling of Conjugated and Magnetic Microcavities  
..... Wu Yiheng, Li Xiaoxue, Fang Yuntuan 0801009  
Frequency Compensation Based Pump Laser Drive Circuit with High Stability ..... Wu Tao, Pang Tao, Tang Yuquan, et al. 0801010

### • Laser Manufacturing •

- Spatial Evolution Characteristics of Laser-Induced Plasma in Liquid Matrix ..... Yu Jianli, Li Cheng, Yao Guanxin, et al. 0802001  
Aluminum Alloy and High-Strength Steel Joint via Laser-Induced Tungsten Inert Gas Hybrid Welding Based on Ni Interlayer  
..... Ma Yuqing, Wang Hongyang, Liu Liming 0802002  
Effect of Scanning Direction on Microstructure and Mechanical Properties of Part Formed via Variable Thickness Layer Cladding Deposition  
..... Zhou Xianxin, Xin Bo, Gong Yadong, et al. 0802003  
Microstructure Evolution of  $\text{ZrO}_2$  Particle During Manufacture of  $\text{ZrO}_{2p}$  Thermal Barrier Coating by Laser Melt Injection  
..... Lin Shougang, Guo Xixi, Chen Hao, et al. 0802004  
Properties of Marine High-Strength Steel by High-Efficiency Laser-MAG Hybrid Welding  
..... Jing Zhicheng, Zhang Guoyu, Wang Zijian, et al. 0802005  
Effects of Temperature Field and  $\text{CeO}_2/\text{TiO}_2$  on Material Phase Transition in Laser Cladding  
..... Ren Zhonghe, Wu Meiping, Cui Chen, et al. 0802006  
High-Temperature Oxidation Resistance Mechanism and Thermal Shock Performance of  $\text{CoCrTaAlY}/\text{YSZ}$  Thermal Barrier Coatings Fabricated Using Plasma Spraying and Laser Cladding ..... Gu Zhenjie, Lei Jianbo, Dou Junya, et al. 0802007

### • Materials and Thin Films •

- Time-Resolved Investigation of Multiple-Pulse Laser-Induced Bulk Damage in Fused Silica  
..... Cao Zhen, He Hongbo, Hu Guohang, et al. 0803001  
• Measurement and Metrology •  
Method to Measure Transmitting Wave-Front of Imaging Lens Based on Extended Ptychographical Iterative Engine  
..... Zong Bangming, Luan Jiayun, Jiang Zhilong, et al. 0804001

Automatic Extraction and Classification of Road Markings Based on Deep Learning .....	Huang Gang, Liu Xianlin 0804002
Optical Switch Based on Stepper Motor .....	Yu Mingyuan, Xu Bin, Ouyang Xinchuan, et al. 0804003
Measuring Refractive Index of Transparent Plate by Low-Coherent Interference .....	Gao Bo, Li Qiang, Liu Ang, et al. 0804004
Field-of-View Correction for Dual-Camera Dynamic Phase Imaging Based on Transport of Intensity Equation .....	Zhang Lu, Tang Qijian, Deng Dingnan, et al. 0804005
<b>• Beam Transmission and Control •</b>	
Soliton Shedding from Airy-Gaussian Beams in Photorefractive Media .....	Bai Xiaoqin, Wang Yuhao, Zhang Jing, et al. 0805001
Filtering Characteristics of Metal-Insulator-Metal Curved Waveguide Coupled with Embedded-Silver-Bar Disk Cavity .....	Chen Ying, Xie Jinchao, Cao Jinggang, et al. 0805005
<b>• Fiber Optics and Optical Communications •</b>	
Temperature Characteristics of Birefringence of Polarization-Maintaining Micro/nanofiber .....	Jiang Xiaoyong, Xiao Yueyu 0806001
QoS-Based Decision-Making Access-Point Selection Under Joint Demands of Transmitting and Receiving in Heterogeneous VLC/WiFi Networks .....	Liu Huanlin, Wu Lan, Chen Yong, et al. 0806002
Internally Modulated Chirped Pulse Based Direct Detection Type $\varphi$ -OTDR System with High Signal-to-Noise Ratio and Low Cost .....	Li Luchuan, Lu Bin, Wang Xiao, et al. 0806003
Effect of Intracavity Filtering Bandwidth on Bound-State Soliton Generation in Normal Dispersion Regime .....	Wang Kaijie, Wang Hang, Du Tuanjie, et al. 0806004
Channel Estimation of Indoor Visible Light Communication System with Tensor Mode Noise Compensation .....	Wang Qingzhu, Yu Yonghao, Zhu Yihai 0806005
Photothermal Effect Based Single Fiber Trapping Method and Simulation Analysis .....	Yang Minjun, Zhan Wei, Song Wuzhou 0806006
<b>• Biomedical Photonics and Laser Medicine •</b>	
Linearly Polarized Photoacoustic Imaging Based on Anisotropic Optical Absorption .....	Shi Yujiao, Zhang Zhenhui 0807001
<b>• Nonlinear Optics •</b>	
Nonlinear Laser-Limiting Method Based on One-Dimensional Photonic Crystals with Double Defects .....	Shen Jialing, Lu Yuangang, Ma Haixia, et al. 0808001
Passively Q-Switched Mode-Locked Tm:LuAG Laser with Reflective MoS ₂ Saturable Absorber .....	Ling Weijun, Sun Rui, Chen Chen, et al. 0808002
Enhancing Chaotic Frequency of Coupled Lasers Based on Phase Conjugation and Cross-Phase Conjugation Feedback .....	Yan Senlin 0808003
<b>• Remote Sensing and Sensor •</b>	
LEO-LEO Infrared Laser Occultation Technique to Measure Atmospheric Carbon Dioxide Concentration .....	Li Wendong, Li Jiacao, Zhu Yadon, et al. 0810001
Influence of Receiving Numerical Aperture and Rough Target Size on Ghost Imaging via Sparsity Constraint .....	Wang Chenglong, Gong Wenlin, Shao Xuehui, et al. 0810002
Image Dehazing of Dark Channels Based on Area Contrast Constraint .....	Wang Zhendong, Jing Xu, Sun Guodong, et al. 0810003
Laser Ranging System Based on High-Speed Pulse Modulation and Echo Sampling .....	Ma Jianping, Shang Jianhua, Sun Jiatong, et al. 0810004
<b>• Spectroscopy •</b>	
Detection of Copper and Manganese in Water by Laser-Induced Breakdown Spectroscopy Based on Chelate Resin .....	Zheng Peichao, Li Qianyu, Wang Jinmei, et al. 0811001
Effect of CdSe Quantum Dot Sensitization on GaAs Luminescence Characteristics .....	Liu Zhan, Lin Fengyuan, Gao Mei, et al. 0811002



# 第十六届“中国光谷”国际光电子博览会 暨论坛 (OVC EXPO 2019)

PHOTOELECTRONICS  
**FUTURE**  
AND  
TODAY

激光器与光智能制造

光学与精密光学

5G

光通信与5G通信

芯片与光电显示

2019年11月13-15日  
武汉·中国光谷科技会展中心  
[www.ovcexpo.com.cn](http://www.ovcexpo.com.cn)