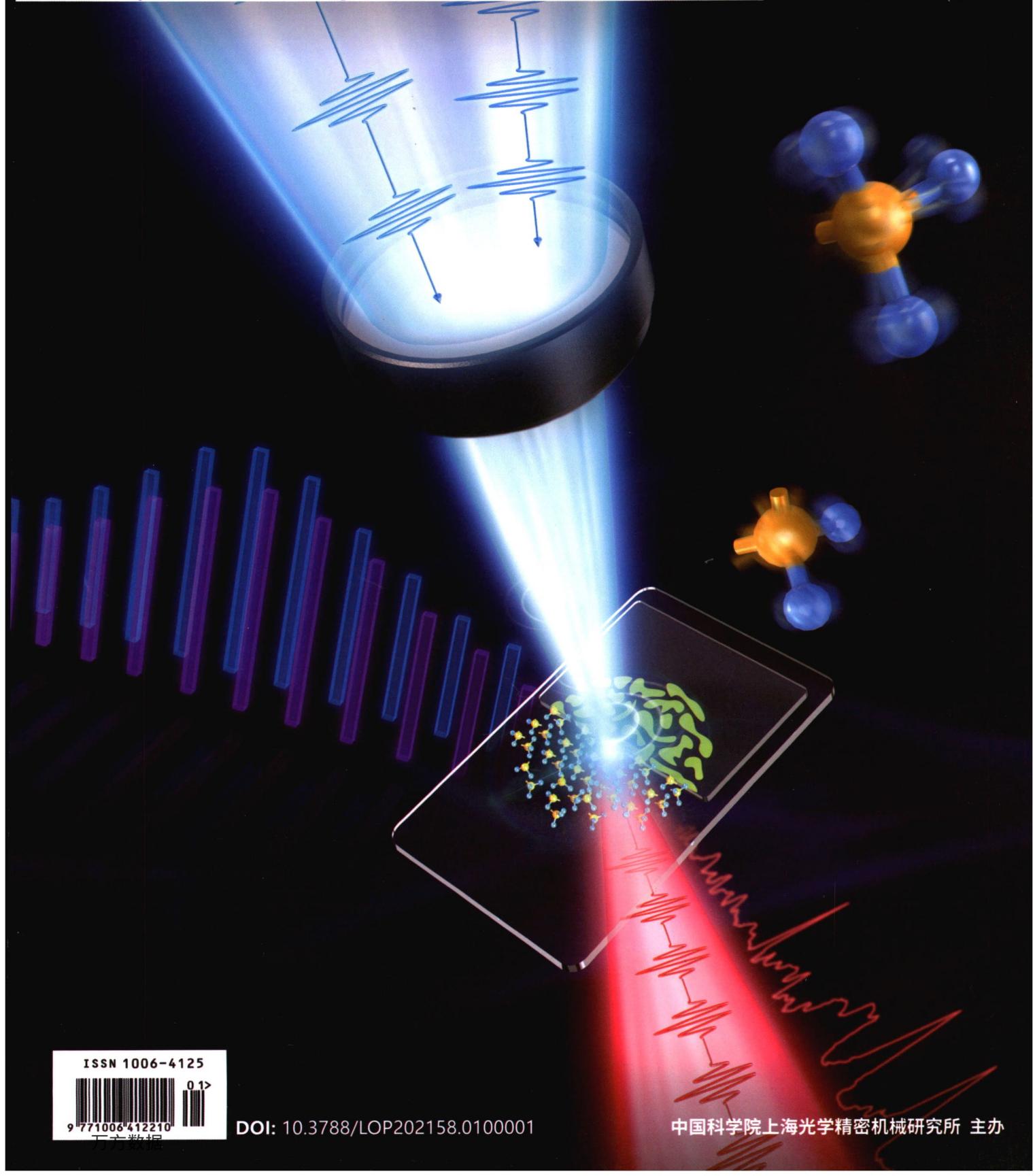


第 58 卷  
第 1 期

2021.1 (上)

Laser & Optoelectronics Progress

[总第684期]



# 激光与光电子学进展

第 58 卷 第 1 期 2021 年 1 月

(总第 684 期)

## 目 次

### · 综述 ·

- 双光梳非线性光谱(封面文章) ..... 卢敏健, 武韬, 李岩, 等 0100001  
安防激光雷达研究进展 ..... 宋召奇, 朱精果, 解天鹏, 等 0100002  
激光诱导石墨烯技术研究进展 ..... 王宗源, 胡滨, 吴旭东 0100003  
脉冲激光沉积微粒控制技术的研究进展 ..... 代守军, 余锦, 鲍泽强, 等 0100004  
太赫兹光谱检测技术对农产品品质检测的研究进展 ..... 刘燕德, 徐振, 胡军, 等 0100005  
基于光学滤波器的扫频光纤激光器研究进展 ..... 游关红, 彭万敬, 邹辉 0100006  
金属材料的激光增材制造微观组织结构特征及其影响因素 ..... 李时春, 莫彬, 肖罡, 等 0100007

### · 大气光学与海洋光学 ·

- 点阵列声源激发大气湍流特性对光波传输闪烁指数特性的影响研究 ..... 王文静, 王明军 0101001  
基于 Málaga 湍流信道和 Nakagami 衰弱信道的选择合并混合 FSO/RF 系统的性能分析 ..... 吴琰, 戴聪明, 赵凤美, 等 0101002

### · 衍射与光栅 ·

- 基于达曼光栅耦合的光纤阵列能量传输系统 ..... 余日银, 李德洪, 陈东文, 等 0105001

### · 光纤光学与光通信 ·

- 基于光纤布拉格光栅的准分布式高温监测系统 ..... 司晓龙, 吴林坊, 庄岩, 等 0106001  
基于小发散角 LED 的光源优化布局 ..... 赵太飞, 马壮, 李星善 0106002  
基于双边带干涉的预泵浦布里渊光时域分析系统 ..... 秦莉, 王澜澜, 梁浩, 等 0106003

### · 几何光学 ·

- 一种产生涡旋光束的勾型阵列超表面结构设计 ..... 罗蒙 0108001  
大相对孔径长焦距同轴折反射式望远物镜设计 ..... 沈志娟, 曹一青 0108002

### · 仪器, 测量与计量 ·

- 高反镜表面疵病尺寸对激光散射场分布的影响 ..... 江坤, 高爱华, 闫丽荣 0112001  
基于太赫兹时域谱分析的常见包裹物屏蔽下食品药品检测方法 ..... 曹恩达, 于勇, 宋长波, 等 0112002  
基于环形透镜的菲索干涉仪环形光源设计 ..... 陈秋白, 张齐元, 王艳, 等 0112003  
基于线激光在机测量的一面两孔特征寻位方法 ..... 周晏锋, 陈蔚芳, 曹新航, 等 0112004  
线结构光条纹中心提取方法 ..... 胡杨, 方素平 0112005

· 激光器与激光光学 ·

- TC4表面原位合成 TiC 增强钛基复合激光熔覆层的组织及摩擦学性能 ..... 张宏伟, 张顶立, 张天刚, 等 0114001  
不同粒径粉末搭配对激光选区熔化 IN738 合金成形件表面粗糙度及内部缺陷的影响 ..... 胡勇, 杨小康, 康文江, 等 0114003  
578.5 nm 端面泵浦被动调 Q 拉曼黄光激光器 ..... 赵辉, 王浩宇, 朱思祁, 等 0114004  
用于消除激光雷达点云图像弯曲的算法研究 ..... 许本有, 章旭, 杨盈莹 0114005  
选区激光熔化 316L 不锈钢成形工艺与性能研究 ..... 姚燕生, 唐建平, 汪俊, 等 0114006  
用于飞秒激光绝对距离测量的法布里-珀罗标准具的设计与实现 ..... 许艳 0114007  
万瓦级光纤连接器参数设计及热效应数值模拟 ..... 章曦, 李平雪, 董雪岩, 等 0114009

• 医用光学与生物技术 •

- 光学相干断层扫描视网膜图像的迁移学习分类 ..... 连超铭, 钟舜聪, 张添福, 等 0117002

• 光学设计与制造 •

- 迈克耳孙干涉仪中的动镜倾斜分析和仿真 ..... 冯明春, 徐亮, 王玉杰 0122001

· 光学器件 ·

- 低成本二维激光扫描投影技术 ..... 程进, 周顺, 徐乃涛, 等 0123001  
任意偏振光保偏的声光衍射效率增强系统的研究 ..... 毕然, 陈力荣, 李晋鹏, 等 0123002

• 物理光学 •

- 基于永磁体离心量对磁悬浮热解石墨片光驱转动现象的研究 童鑫, 唐锋, 李建郎 0126001

• 量子光学 •

- 量子控制非门核磁共振实现最优脉冲序列 ..... 彭永刚 0127002

· 光谱学 ·

- 基于 PLS-DA 拉曼光谱特征提取的中性笔油墨 MLP 模式识别 ..... 王晓宾, 马枭, 杨蕾, 等 0130002

• 视觉,颜色与视觉光学 •

- 基于非RAW数据的数码反射显微镜色度特征化..... 徐鹏, 张克奇, 章海军, 等 0133001

## • 其他光学领域 •

- 一种星敏感器导航星筛选算法 ..... 王海涌, 徐皓 0135001

Digitized by srujanika@gmail.com

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)

# Laser & Optoelectronics Progress

Vol. 58, No. 1 (Series No. 684) January 2021

## CONTENTS

### Reviews

- Dual-Comb Nonlinear Spectroscopy (**Cover Paper**) ..... *Lu Minjian, Wu Tao, Li Yan, et al.* 0100001  
Research Progress on Security LiDAR ..... *Song Zhaoqi, Zhu Jingguo, Xie Tianpeng, et al.* 0100002  
Research Progress of Laser-Induced Graphene Technology ..... *Wang Zongyuan, Hu Bin, Wu Xudong* 0100003  
Particulate Control Technology Based on Pulsed Laser Deposition ..... *Dai Shoujun, Yu Jin, Mo Zeqiang, et al.* 0100004  
Research on Quality of Agricultural Products by Terahertz Spectroscopy ..... *Liu Yande, Xu Zhen, Hu Jun, et al.* 0100005  
Research Progress of Frequency-Swept Fiber Lasers Based on Optical Filter ..... *You Guanhong, Peng Wanjing, Zou Hui* 0100006  
Microstructure Characteristics and Their Influence Factors During Laser Additive Manufacturing of Metal Materials ..... *Li Shichun, Mo Bin, Xiao Gang, et al.* 0100007

### Atmospheric Optics and Oceanic Optics

- Effect of Point-Array Coherent Sound Source on Scintillation Index of Light Wave in Atmospheric Turbulence Transmission ..... *Wang Wenjing, Wang Mingjun* 0101001  
Performance Analysis of Selection Combining Hybrid FSO/RF System over Málaga Turbulence Channel and Nakagami Fading Channel ..... *Wu Yan, Dai Congming, Zhao Fengmei, et al.* 0101002

### Diffraction and Gratings

- Fiber Array Energy Transmission System Based on Dammann Grating Coupling ..... *She Riyin, Li Dehong, Chen Dongwen, et al.* 0105001

### Fiber Optics and Optical Communications

- Quasi-Distributed High-Temperature Monitoring System Based on Fiber Bragg Grating ..... *Si Xiaolong, Wu Linfang, Zhuang Yan, et al.* 0106001  
Optimal Layout of Light Source Based on LED with Small Divergence Angle ..... *Zhao Taifei, Ma Zhuang, Li Xingshan* 0106002  
Pre-Pump Brillouin Optical Time Domain Analysis System Based on Double-Sideband Interference ..... *Qin Li, Wang Lanlan, Liang Hao, et al.* 0106003

### Geometric Optics

- Design of Hook-Typed Metasurface for Vortex Beams Generation ..... *Luo Meng* 0108001  
Design of a Coaxial Catadioptric Telescope Objective with a Large Relative Aperture and Long Focal Length ..... *Shen Zhijuan, Cao Yiqing* 0108002

### Instrumentation, Measurement and Metrology

- Influence of Surface Defect Size of High-Reflection Mirror on Laser Scattering Field Distribution ..... *Jiang Kun, Gao Aihua, Yan Lirong* 0112001  
Method of Food and Drug Detection Under Shielding of Common Wrappings Based on Terahertz Time Domain Spectroscopy ..... *Cao Enda, Yu Yong, Song Changbo, et al.* 0112002  
Design of Ring Source for Fizeau Interferometer Based on Annular Lens ..... *Chen Qiubai, Zhang Qiyuan, Wang Yan, et al.* 0112003  
One-Plane Two-Hole Feature Positioning Method Based on Line Laser On-Machine Measurement ..... *Zhou Yanfeng, Chen Weifang, Cao Xinhang, et al.* 0112004  
Extraction Method of Light Stripe Center of Linear Structure ..... *Hu Yang, Fang Suping* 0112005

### Lasers and Laser Optics

- Microstructure and Tribological Properties of *In Situ* TiC-Reinforced Ti-Based Composite Coating by Laser Cladding on TC4 Surface ..... *Zhang Hongwei, Zhang Dingli, Zhang Tiangang, et al.* 0114001

Effects of Combination of Powders with Different Particle Sizes on Surface Roughness and Internal Defects of IN738 Alloy Formed by Selective Laser Melting	<i>Hu Yong, Yang Xiaokang, Kang Wenjiang, et al.</i>	0114003
578.5 nm End-Pumped Passively Q-switched Raman Yellow Laser	<i>Zhao Hui, Wang Haoyu, Zhu Siqi, et al.</i>	0114004
Research on Algorithm for Eliminating Bending of Lidar Point Cloud Image	<i>Xu Benyou, Zhang Xu, Yang Yingying</i>	0114005
Forming Technology and Properties of 316L Stainless Steel by Selective Laser Melting	<i>Yao Yansheng, Tang Jianping, Wang Jun, et al.</i>	0114006
Design and Realization of Fabry-Perot Etalon for Absolute Distance Measurement of Femtosecond Pulse Laser	<i>Xu Yan</i>	0114007
Parameter Design and Thermal Effect Numerical Simulation of 10 kW Fiber Connector	<i>Zhang Xi, Li Pingxue, Dong Xueyan, et al.</i>	0114009
<b>Medical Optics and Biotechnology</b>		
Study on Synovial Arthritis Based on Surface-Enhanced Raman Scattering Spectroscopy	<i>Dong Xianhu, Tang Shuzhen, Chen Sunyu, et al.</i>	0117001
Transfer Learning-Based Classification of Optical Coherence Tomography Retinal Images	<i>Lian Chaoming, Zhong Shuncong, Zhang Tianfu, et al.</i>	0117002
<b>Optical Design and Fabrication</b>		
Analysis and Simulation of Moving Mirror Tilt in Michelson Interferometer	<i>Feng Mingchun, Xu Liang, Wang Yujie</i>	0122001
<b>Optical Devices</b>		
Low-Cost Two-Dimensional Laser Scanning Projection Technology	<i>Cheng Jin, Zhou Shun, Xu Naitao, et al.</i>	0123001
Acousto-Optic Diffraction Efficiency Enhancement System for Polarization Maintaining of Arbitrarily Polarized Light	<i>Bi Ran, Chen Lirong, Li Jinpeng, et al.</i>	0123002
<b>Physical Optics</b>		
Optical Drive Rotation of Magnetically Levitating Pyrolytic Graphite Disk Based on Eccentricity of Permanent Magnets	<i>Tong Xin, Tang Feng, Li Jianlang</i>	0126001
<b>Quantum Optics</b>		
Effect of Dzyaloshinskii-Moriya Interaction on Thermal Entanglement of Heisenberg XYZ Chains Under External Magnetic Field	<i>Luo Dandan, Mu Qixiong, Huang Yanxia</i>	0127001
Optimal Pulse Sequence of Quantum Controlled Not-Gates via Nuclear Magnetic Resonance Realization	<i>Peng Yonggang</i>	0127002
<b>Spectroscopy</b>		
Recognition of Small-Sample Terahertz Spectrum	<i>Cui Xiangwei, Shen Tao, Liu Yingli, et al.</i>	0130001
Multi-Layer Perceptron Pattern Recognition of Handwriting Ink Based on PLS-DA Raman Spectral Feature Extraction	<i>Wang Xiaobin, Ma Xiao, Yang Lei, et al.</i>	0130002
<b>Vision, Color, and Visual Optics</b>		
Colorimetric Characterization of Digital Reflection Microscope Based on Non-RAW Data	<i>Xu Peng, Zhang Keqi, Zhang Haijun, et al.</i>	0133001
<b>Other Areas of Optics</b>		
Algorithm for Screening Navigation Stars on Star Sensors	<i>Wang Haiyong, Xu Hao</i>	0135001

# 激光与光电子学进展

Laser & Optoelectronics Progress

封面文章

2020年



万方数据

中国科学院上海光学精密机械研究所 主办