

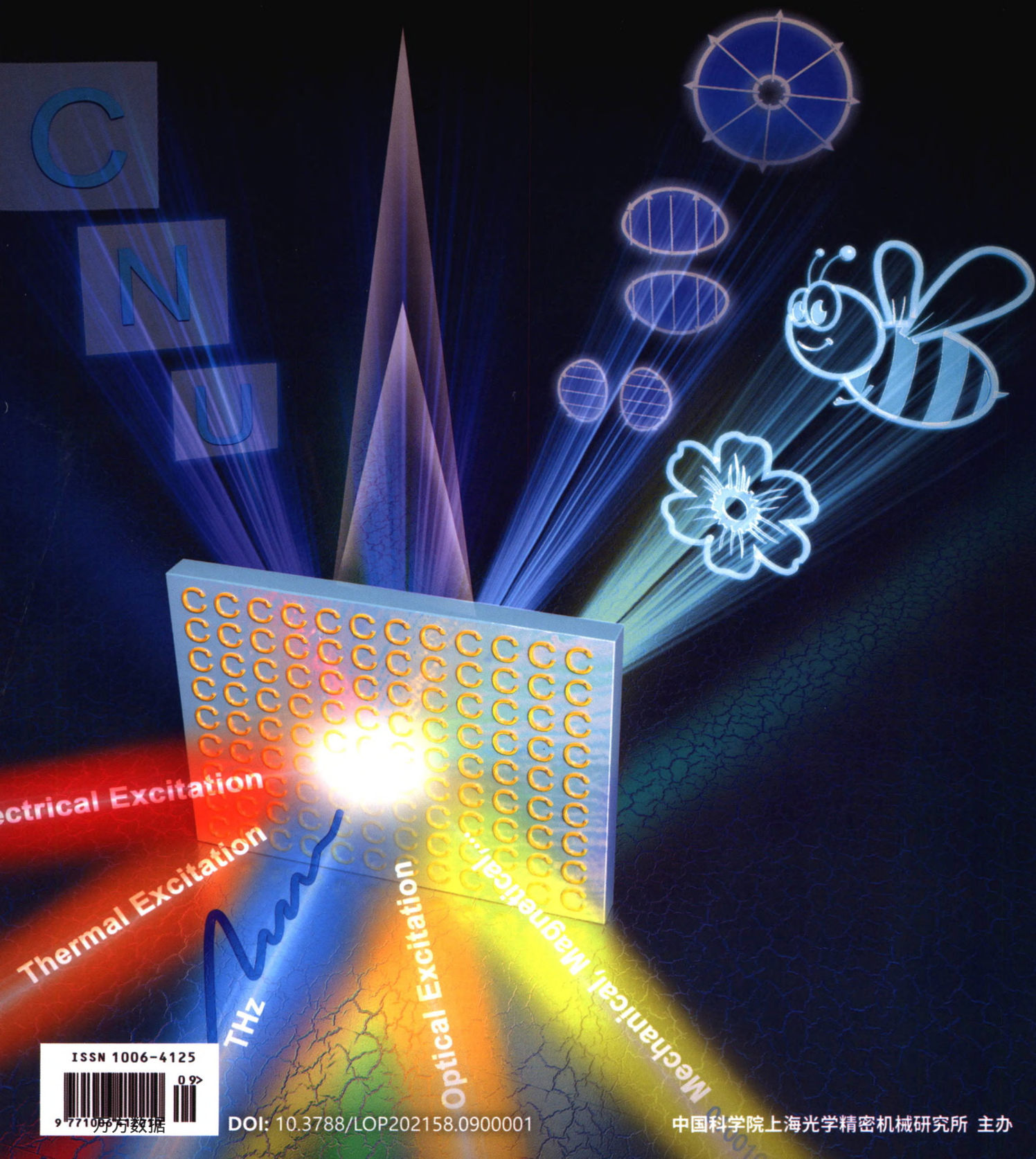
激光与光电子学进展

第 58 卷
第 9 期

Laser & Optoelectronics Progress

[总第692期]

2021.5_(上)



ISSN 1006-4125



9 771006 4125

DOI: 10.3788/LOP202158.0900001

中国科学院上海光学精密机械研究所 主办

激光与光电子学进展

第 58 卷 第 9 期 2021 年 5 月 10 日

(总第 692 期)

目 次

· 综述 ·

动态超构表面设计及功能器件(封面文章,特邀综述)	汪国崔,胡滨,张岩 0900001
凸面光栅同心结构成像光谱仪的研究进展	沈宇航,倪争技,黄元申,等 0900002
激光功率计发展及应用	陈舒凡,房丰洲 0900003
基于双色镜的光纤激光光谱合成研究进展	何旭宝,奚小明,张汉伟,等 0900004
激光线宽测量方法的研究综述	崔明斌,黄俊刚,杨修伦 0900005
基于空天地内一体化的滑坡监测技术研究	徐靓,程刚,朱鸿鹤 0900006
脉冲激光制备纳米材料研究进展	王莉萍,王彬,李光石,等 0900007

· 大气光学与海洋光学 ·

部分相干椭圆涡旋光在湍流下的相干特性演化	郑国 0901001
重污染过程的差分吸收激光雷达监测	贾鹏程,曹念文,范广强,等 0901002

· 衍射与光栅 ·

基于矩形金属块阵列结构的等离子体颜色滤波器	肖功利,杨寓婷,杨宏艳,等 0905002
-----------------------------	-----------------------

· 光纤光学与光通信 ·

基于双对称受激布里渊散射效应的瞬时微波频率测量分析	蔡威斌,张家洪,赵振刚 0906001
FBG 三维拉力传感器变电站高压套管测试	谢凯,谭滔,司学振,等 0906002
轨道角动量模间干涉的少模光纤温度传感研究	肖悦媛,汤莹,朱朝晖 0906003
自然环境多因子背景下的量子卫星通信纠缠波分接入策略	聂敏,刘媛,张帆,等 0906004
基于光纤布拉格光栅和增材制造技术的测斜传感器	王南苏,洪成雨,苏栋,等 0906005
基于静电纺丝纳米纤维膜的光纤温湿度传感器	邓理,张建奇,孙浩,等 0906006
空间激光通信组网反射镜跟踪性能	赵佰秋,于笑楠,董岩,等 0906007
基于概率整形的 16QAM/OFDM-RoF 系统研究	李汐,张春蕾,王欢 0906008

· 傅里叶光学与信号处理 ·

基于 Fourier 频谱分析的白光干涉信号解算方法	杜海龙,段照斌,孙晓东 0907001
----------------------------------	---------------------

· 几何光学 ·

变系数椭球聚光镜的设计	孙焕杰,张国玉,孙高飞,等 0908001
-------------------	-----------------------

· 仪器,测量与计量 ·

基于幅度调制激光干涉技术的水下声信号测量研究	陆天泽,李宁,黄孝龙,等 0912006
------------------------------	----------------------

· 集成光学 ·

基于单个强度调制器产生宽光学频率梳系统的研究	高军萍,赵盟盟,卢嘉,等 0913001
------------------------------	----------------------

· 激光器与激光光学 ·

面齿轮材料 18Cr2Ni4WA 的飞秒激光精微烧蚀特性研究	明瑞,申警卫,赖名涛,等	0914001
Ni-Co-Si ₃ N ₄ 复合镀层表面激光加工微织构的形貌演化规律	纪玲玲,黎宁慧,康敏	0914002
光刻用准分子激光器光谱控制中温度分布对输出光谱影响特性分析	王倩,赵江山,郭馨,等	0914003
706 MHz高重复频率掺铽光纤飞秒激光器	杜迎生,袁帅,王勇,等	0914004
天然鳞片石墨选择性激光烧结成形工艺研究	吴海华,贺俊超,李亚峰,等	0914005
飞机铝合金蒙皮激光清洗残余漆层附着力试验研究	高昆,曾全胜,张志研,等	0914006
45钢表面激光熔覆 Fe35A 合金的工艺参数优化	王胜,郑舜,刘文军,等	0914007

· 材料 ·

基于平面环偶极子超材料的 Fano 共振	向天宇,雷涛,沈钊阳,等	0916001
氮/铝共掺杂碳点的制备及在 H ₂ O ₂ 检测中的应用	潘鹏涛,邹凡雨,取丽娟,等	0916002

· 医用光学与生物技术 ·

808 nm激光介导的光生物调节对高糖环境下成纤维细胞活性氧稳态的影响	韩广,高静静,屠梦茹,等	0917001
---	--------------	---------

· 光学设计与制造 ·

旋转对称非球面表述及其特点分析	刘锦琳,余飞鸿	0922001
-----------------------	---------	---------

· 光学器件 ·

石墨烯和金属包裹的纳米线亚波长传输特性	王云成,滕达,胡聚源,等	0923001
用于FBG解调的阵列波导光栅设计与性能分析	张咸休,王存义,袁配,等	0923002

· 表面光学 ·

复合结构的等离激元模式耦合关系及光学特性研究	向松,张新宇,邓罗根	0924001
------------------------------	------------	---------

· 量子光学 ·

基于EPR态的罗兰C台识别码保密传输	赵露涵,杨春燕,陈超,等	0927002
-kHz量级平衡零拍探测器的研究	靳晓丽	0927003

· 遥感与传感器 ·

雷达辐射源信号特征性能综合评价方法	普运伟,吴海潇,刘涛涛,等	0928001
高精度调频连续波光纤压力传感器温度特性分析及补偿方法	白浪,郑刚,郭媛,等	0928002

· 光谱学 ·

“达碧兹”海蓝宝石的谱学特征及结构研究	黄惠臻,罗洁,徐亚兰,等	0930001
---------------------------	--------------	---------



封面解 读

超构表面,一种对电磁波进行全方位操控的新型人工材料。基于超构表面可实现各种电磁波功能器件,包括透镜,偏振器件,以及字符或图像显示的全息器件等。在此基础上,动态超构表面结合可调新型材料及相应的外激励手段,实现对器件功能的主动调控。半导体材料、相变材料、二维材料、磁性材料、可形变材料以及一些化学材料都是可调的新型材料,将其集成到传统超构表面中,并加以电、热、光、磁、机械拉伸或者化学掺杂的外激励方式,即可实现对器件功能的动态调控。例如,对透镜聚焦范围的调控,对电磁波偏振态的改变及不同字符或者图案成像之间的动态切换。

Laser & Optoelectronics Progress

Vol. 58, No. 9 (Series No. 692) May 10, 2021

CONTENTS

Reviews

- Dynamic Metasurface Design and Functional Devices(**Cover Paper, Invited**)
.....Wang Guocui, Hu Bin, Zhang Yan 0900001
- Research Progress of Concentric Imaging Spectrometer with Convex Grating
.....Shen Yuhang, Ni Zhengji, Huang Yuanshen, et al. 0900002
- Development and Applications of Laser Power MeterChen Shufan, Fang Fengzhou 0900003
- Research Progress of Fiber Laser Spectral Combining Based on Dichromatic Mirror
.....He Xubao, Xi Xiaoming, Zhang Hanwei, et al. 0900004
- Review on Methods for Laser Linewidth MeasurementCui Mingbin, Huang Jungang, Yang Xiulun 0900005
- Research Review of Landslide Monitoring Methods Based on Integration of Space-Air-Ground-Interior
.....Xu Liang, Cheng Gang, Zhu Honghu 0900006
- Nanomaterials Prepared via Pulsed Laser ProcessesWang Liping, Wang Bin, Li Guangshi, et al. 0900007

Atmospheric Optics and Oceanic Optics

- Coherent Property Evolution of Partially Coherent Elliptical Vortex Beam Propagation Through Turbulence
.....Zheng Guo 0901001
- Differential Absorption Lidar Monitoring of Heavy Pollution Process
.....Jia Pengcheng, Cao Nianwen, Fan Guangqiang, et al. 0901002

Diffraction and Gratings

- Plasmonic Color Filter Based on Rectangular Metal Block Array Structure
.....Xiao Gongli, Yang Yuting, Yang Hongyan, et al. 0905002

Fiber Optics and Optical Communications

- Measurement and Analysis of Instantaneous Microwave Frequency Based on Bisymmetric Stimulated Brillouin Scattering EffectCai Qibin, Zhang Jiahong, Zhao Zhengang 0906001
- High-Voltage Bushing Test of FBG Three-Dimensional Tension Sensor in Substation
.....Xie Kai, Tan Tao, Si Xuezheng, et al. 0906002
- Few-Mode Fiber Temperature Sensors Based on Modal Interference Between Orbital Angular Momentum Modes
.....Xiao Yueyu, Tang Ying, Zhu Zhaohui 0906003
- Entanglement Wavelength Access Strategy of Quantum Satellite Communication Under the Background of Multiple Factors in Natural EnvironmentNie Min, Liu Yuan, Zhang Fan, et al. 0906004
- Inclinometer Sensors Based on Fiber Bragg Grating and Additive Manufacturing Technology
.....Wang Nansu, Hong Chengyu, Su Dong, et al. 0906005
- Optical Fiber Temperature and Humidity Sensor Based on Film Prepared by Electrospinning Nanofibers
.....Deng Li, Zhang Jianqi, Sun Hao, et al. 0906006
- Tracking Performance of Mirrors in Space Laser Communication Networking
.....Zhao Baiqiu, Yu Xiaonan, Dong Yan, et al. 0906007
- 16QAM/OFDM-RoF System Based on Probabilistic ShapingLi Xi, Zhang Chunlei, Wang Huan 0906008

Fourier Optics and Signal Processing

- White Light Interference Signal Processing Method Based on Fourier Frequency Spectrum Analysis
.....Du Hailong, Duan Zhaobin, Sun Xiaodong 0907001

Geometric Optics

- Design of Variable Coefficient Ellipsoid Condenser.....Sun Huanjie, Zhang Guoyu, Sun Gaofei, et al. 0908001

Instrumentation, Measurement and Metrology

- Underwater Acoustic Signal Measurement Based on Amplitude-Modulated Laser Interference Technology
.....Lu Tianze, Li Ning, Huang Xiaolong, et al. 0912006

Integrated Optics

- Wide Optical Frequency Comb System Based on Single Intensity Modulator
.....Gao Junping, Zhao Mengmeng, Lu Jia, et al. 0913001

Lasers and Laser Optics

- Characteristics of Femtosecond Laser Microprecision Ablation of 18Cr2Ni4WA Steel Used in Face Gears
.....*Ming Rui, Shen Jingwei, Lai Mingtao, et al.* 0914001
- Evolution Law of Laser-Textured Microstructure on Ni-Co-Si₃N₄ Composite Coating Surface
.....*Ji Lingling, Li Ninghui, Kang Min* 0914002
- Analysis of Influence of Temperature Distribution in Spectral Control of Excimer Lasers for Lithography on Output Spectra*Wang Qian, Zhao Jiangshan, Guo Xin, et al.* 0914003
- 706 MHz High Repetition Rate Femtosecond Yb-Doped Fiber Laser
.....*Du Yingsheng, Yuan Shuai, Wang Yong, et al.* 0914004
- Selective Laser Sintering of Natural Flake Graphite Prototype Forming Process Research
.....*Wu Haihua, He Junchao, Li Yafeng, et al.* 0914005
- Adhesion of Residual Primer Paint After Laser Cleaning Aircraft Aluminum Alloy Skin
.....*Gao Kun, Zeng Quansheng, Zhang Zhiyan, et al.* 0914006
- Optimization of Process Parameters for Laser Cladding Fe35A Alloy on 45 Steel Surface
.....*Wang Sheng, Zheng Shun, Liu Wenjun, et al.* 0914007

Materials

- Fano Resonances in Planar Toroidal Metamaterials*Xiang Tianyu, Lei Tao, Shen Zhaoyang, et al.* 0916001
- Synthesis of Fluorescent N/Al Co-Doped Carbon Dots and Its Application in Detection of Hydrogen Peroxide
.....*Pan Pengtao, Zou Fanyu, Zhi Lijuan, et al.* 0916002

Medical Optics and Biotechnology

- Effect of Photobiomodulation Mediated by 808 nm Laser on Active Oxygen Steady-State in CCC-ESFs under High Glucose Environment*Han Guang, Gao Jingjing, Tu Mengru, et al.* 0917001

Optical Design and Fabrication

- Descriptions of Rotationally Symmetric Aspheres and Analysis of Their Characteristics
.....*Liu Jinlin, Yu feihong* 0922001

Optical Devices

- Subwavelength Transmission Properties of Graphene- and Metal-Coated Nanowires
.....*Wang Yuncheng, Teng Da, Hu Juyuan, et al.* 0923001
- Array Waveguide Gratings for FBG Demodulation Design and Performance Analysis
.....*Zhang Xianxiu, Wang Cunyi, Yuan Pei, et al.* 0923002

Optics at Surfaces

- Plasmon Mode Coupling Relationship and Optical Properties of Composite Structure
.....*Xiang Song, Zhang Xinyu, Deng Luogen* 0924001

Quantum Optics

- Secure Transmission of Identification Code in Loran C Station Based on EPR States
.....*Zhao Luhan, Yang Chunyan, Chen Chao, et al.* 0927002
- Study on kHz Balanced Homodyne Detector*Jin Xiaoli* 0927003

Remote Sensing and Sensors

- Comprehensive Evaluation Method of Radar Emitter Signal Features Performance
.....*Pu Yunwei, Wu Haixiao, Liu Taotao, et al.* 0928001
- Analysis and Compensation Method of Temperature Characteristics of High-Precision Frequency-Modulated Continuous Wave Fiber Optic Pressure Sensor.....*Bai Lang, Zheng Gang, Guo Yuan, et al.* 0928002

Spectroscopy

- Spectral Characteristics and Structure of Trapiche Aquamarine*Huang Huizhen, Luo Jie, Xu Yalan, et al.* 0930001

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