

中国激光杂志社
CHINESE LASER PRESS



光学学报

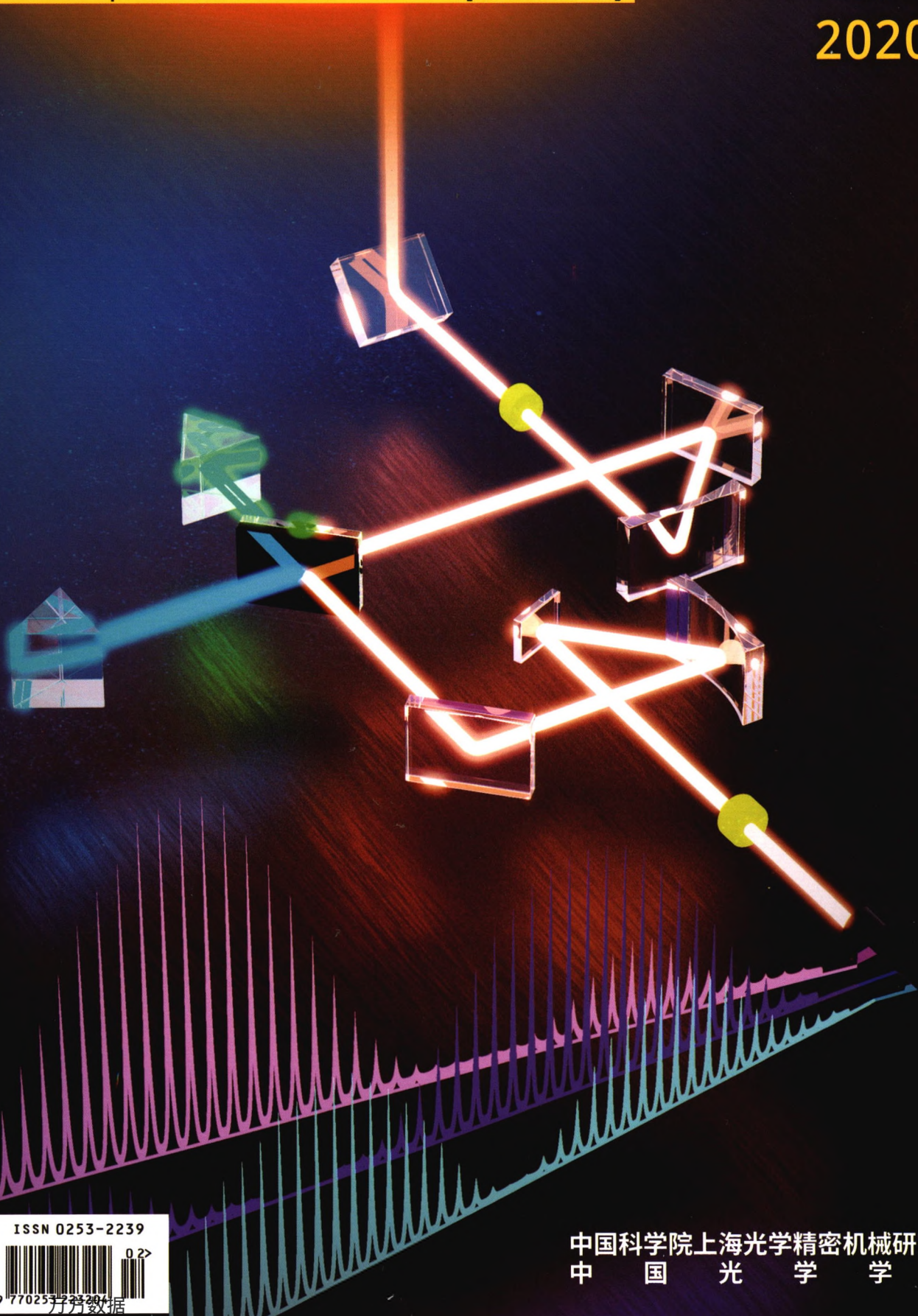
Acta Optica Sinica

[总第455期]

第40卷 | 第2期

Vol. 40 | No. 2

2020.1 (下)



ISSN 0253-2239



中国科学院上海光学精密机械研究所 主办
中国光学学会

光 学 学 报

第 40 卷 第 2 期 2020 年 1 月

(总第 455 期)

目 次

· 大气光学与海洋光学 ·

- 基于太阳宽谱直接辐射测量获取激光大气透过率 李建玉, 黄尧, 黄宏华, 等 0201001
大气中超高斯和高斯涡旋光束传输特性比较 闫家伟, 雍康乐, 唐善发, 等 0201002
基于地基高分辨率太阳吸收光谱观测大气中硝酸的时空分布(封面文章) 章惠芳, 王薇, 刘诚, 等 0201003

· 光纤光学与光通信 ·

- 无人机匹配地形飞行的无线紫外光引导方法 赵太飞, 刘萍, 马倩文 0206001
基于游标效应的高灵敏度光纤耦合器折射率传感器 郝晋青, 韩丙辰 0206002

· 图像处理 ·

- 基于 Tikhonov 正则化和细节重建的红外与可见光图像融合方法 卢鑫, 杨林, 李敏, 等 0210001
基于超像素仿射传播聚类的视网膜血管分割 许言兵, 周阳, 李灿标, 等 0210002
基于双域分解的多尺度深度学习单幅图像去雾 陈永, 郭红光, 艾亚鹏 0210003

· 仪器, 测量与计量 ·

- 单交变光场的微控移相精密直线位移测量方法 朱革, 蒲治伟, 付敏, 等 0212001
相关色温测量不确定度分析 吴志峰, 代彩红, 李玲, 等 0212002
基于二元光学透镜光谱聚焦特性的微间距测量 王思沫, 李凡星, 彭伏平, 等 0212003
基于径向基函数网络的光学测量系统误差修正算法 薛萍, 何海, 王宏民 0212004

· 激光器与激光光学 ·

- 基于空芯光子晶体光纤的单程高效氘气转动拉曼激光光源 崔宇龙, 黄威, 周智越, 等 0214001

· 机器视觉 ·

- 融合多尺度局部特征与深度特征的双目立体匹配 王旭初, 刘辉煌, 牛彦敏 0215001
一种基于深层次多尺度特征融合 CNN 的 SAR 图像舰船目标检测算法 杨龙, 苏娟, 黄华, 等 0215002

· 材料 ·

- 熔融石英光学元件亚表面缺陷三维重构技术 张健浦, 孙煥宇, 王狮凌, 等 0216001

· 非线性光学 ·

- 超材料中高阶效应影响下飞秒准亮孤子解及其特性 白娟, 杨荣草, 田晋平 0219001

· 光学设计与制造 ·

- 高变倍比小型化的中波红外光学系统设计 陈虹达, 薛常喜 0222001
利用双参数六角棱镜干涉法设计渐变光子晶体透镜阵列 孙晓红, 武凡, 王帅蒙, 等 0222002

· 量子光学 ·

- 不同天气条件对自由空间量子通信系统性能的影响 刘涛, 朱聪, 孙春阳, 等 0227001

· 遥感与传感器 ·

- 面向高光谱影像分类的空间正则化流形鉴别分析方法 黄鸿, 王丽华, 石光耀 0228001
距离千米级双望远镜的空间碎片激光测距 龙明亮, 张海峰, 邓华荣, 等 0228002

· 光谱学 ·

- 微小型快照式傅里叶变换成像光谱仪的建模与分析 吕金光, 梁静秋, 王维彪, 等 0230001

· 超快光学 ·

- 高功率超短脉冲系统等离子体镜的焦斑退化分析 张栋俊, 朱坪, 谢兴龙, 等 0232001

本文电子版彩色效果请详见中国光学期刊网 www.opticsjournal.net

Acta Optica Sinica

Vol.40, No.2 (Series No.455) January 2020

CONTENTS

Atmospheric Optics and Oceanic Optics

Laser Atmospheric Transmittance Extraction Using Broadband Direct Solar Radiation Measurement

..... Li Jianyu, Huang Yao, Huang Honghua, et al. 0201001

Comparison of Propagation Characteristics Between Super Gaussian and Gaussian Vortex Beams in Air

..... Yan Jiawei, Yong Kangle, Tang Shanfa, et al. 0201002

Detection of Temporal and Spatial Distributions of Atmospheric Nitric Acid Based on Ground-Based High-Resolution Solar

Absorption Spectra (Cover Paper) Zhang Huifang, Wang Wei, Liu Cheng, et al. 0201003

Fiber Optics and Optical Communications

Wireless Ultraviolet Guided Method of Unmanned Aerial Vehicle Matching Terrain Flight ... Zhao Taifei, Liu Ping, Ma Qianwen 0206001

Ultrasensitive Refractive Index Sensor Based on Optical Fiber Couplers Assisted with Vernier Effect

..... Hao Jinqing, Han Bingchen 0206002

Image Processing

Infrared and Visible Image Fusion Method Based on Tikhonov Regularization and Detail Reconstruction

..... Lu Xin, Yang Lin, Li Min, et al. 0210001

Retinal Vessel Segmentation Based on Super-Pixel Affinity Propagation Clustering ... Xu Yanbing, Zhou Yang, Li Canbiao, et al. 0210002

Single Image Dehazing of Multiscale Deep-Learning Based on Dual-Domain Decomposition

..... Chen Yong, Guo Hongguang, Ai Yapeng 0210003

Instrumentation, Measurement and Metrology

Measurement Method for Micro-Controlled Phase-Shifting Precise Linear Displacement of Single-Alternating Light Field

..... Zhu Ge, Pu Zhiwei, Fu Min, et al. 0212001

Evaluation of Correlated Color Temperature Uncertainty Wu Zhifeng, Dai Caihong, Li Ling, et al. 0212002

Microspacing Measurement Based on Spectral Focusing Characteristics of Binary Optical Lens

..... Wang Simo, Li Fanxing, Peng Fuping, et al. 0212003

Error Correction Algorithm for Optical Measurement System Based on Radial Basis Function Network

..... Xue Ping, He Hai, Wang Hongmin 0212004

Lasers and Laser Optics

Single-Pass High-Efficiency Rotational Raman Laser Source Based on Deuterium-Filled Hollow-Core Photonic Crystal Fiber

..... Cui Yulong, Huang Wei, Zhou Zhiyue, et al. 0214001

Machine Vision

Binocular Stereo Matching by Combining Multiscale Local and Deep Features Wang Xuchu, Liu Huihuang, Niu Yanmin 0215001

SAR Ship Detection Based on Convolutional Neural Network with Deep Multiscale Feature Fusion

..... Yang Long, Su Juan, Huang Hua, et al. 0215002

Materials

Three-Dimensional Reconstruction Technology of Subsurface Defects in Fused Silica Optical Components

..... Zhang Jianpu, Sun Huanpu, Wang Shiling, et al. 0216001

Nonlinear Optics

Femtosecond Quasi-Bright Soliton Solution and Its Properties Under Influence of Higher-Order Effects in Metamaterials

..... Bai Juan, Yang Rongcao, Tian Jinping 0219001

Optical Design and Fabrication

Design of Mid-Wave Infrared Optical System with High Variable Ratio Miniaturization Chen Hongda, Xue Changxi 0222001

Design of Gradient Photonic Crystal Lens Array Using Two-Parameter Hexagonal Prism Interferometer

..... Sun Xiaohong, Wu Fan, Wang Shuaimeng, et al. 0222002

Quantum Optics

Influences of Different Weather Conditions on Performance of Free-Space Quantum Communication System

..... Liu Tao, Zhu Cong, Sun Chunyang, et al. 0227001

Remote Sensing and Sensors

Spatially-Regularized Manifold Discriminant Analysis Algorithm for Hyperspectral Image Classification

..... Huang Hong, Wang Lihua, Shi Guangyao 0228001

Laser Ranging for Space Debris Using Double Telescopes with Kilometer-Level Distance

..... Long Mingliang, Zhang Haifeng, Deng Huarong, et al. 0228002

Spectroscopy

Modeling and Analysis of Miniature Snapshot Fourier-Transform Imaging Spectrometer

..... Lü Jinguang, Liang Jingqiu, Wang Weibiao, et al. 0230001

Ultrafast Optics

Focal Spot Deterioration Analysis of Plasma Mirrors in High-Power Ultrashort Laser Systems

..... Zhang Dongjun, Zhu Ping, Xie Xinglong, et al. 0232001



HPLSE 2020

Call for Papers

The 4th International Symposium on **HIGH POWER LASER SCIENCE AND ENGINEERING**

13-18 April, 2020 Suzhou, China

Co-Chairs



Xian-Tu He

China Academy of
Engineering Physics, China



Dianyuan Fan

Shanghai Institute of Optics
and Fine Mechanics, CAS /
Shenzhen University, China



Colin Danson

AWE/CIFS, Physics
Department, Imperial College
London, UK

Plenary Speakers

Michael Campbell

University of Rochester, USA

Colin Danson

AWE/CIFS, Physics Department, Imperial College London, UK

Constantin Haefner

Lawrence Livermore National Laboratory, USA

Peter Norreys

University of Oxford, UK

Hideaki Takabe

Helmholtz Zentrum Dresden Rossendorf, Germany

Justin Wark

University of Oxford, UK

Jie Zhang

Institute of Physics, CAS, China

More will join us!

The 4th International Symposium on High Power Laser Science and Engineering (HPLSE2020) is organized by Shanghai Institute of Optics and Fine Mechanics (SIOM), Chinese Academy of Sciences (CAS), and will be held on 13-18 April, 2020 in Suzhou, China.

HPLSE is held every two years, and aims at bringing together worldwide scientists and engineers working on the topics of high energy density physics, high power laser systems, laser components for high power laser, and advanced laser technologies and applications.

We warmly welcome you to come and join us to share your great progress and experience!

Topics

1. High energy density physics
2. High power laser systems
3. Laser components for high power laser
4. Advanced laser technologies and applications

Important Dates

22 Jan., 2020 Abstract Submission Deadline

31 Jan., 2020 Abstract Acceptance Notification

31 Mar., 2020 Early-Bird Registration Deadline



IFSA Collaborative
Innovation Center



中国科学院
CHINESE ACADEMY OF SCIENCES

CAEP

Website: <http://www.hplse.net> Email: hplse@siom.ac.cn Tel: +86-21-69918613