

光学学报

ACTA OPTICA SINICA

[总第435期]



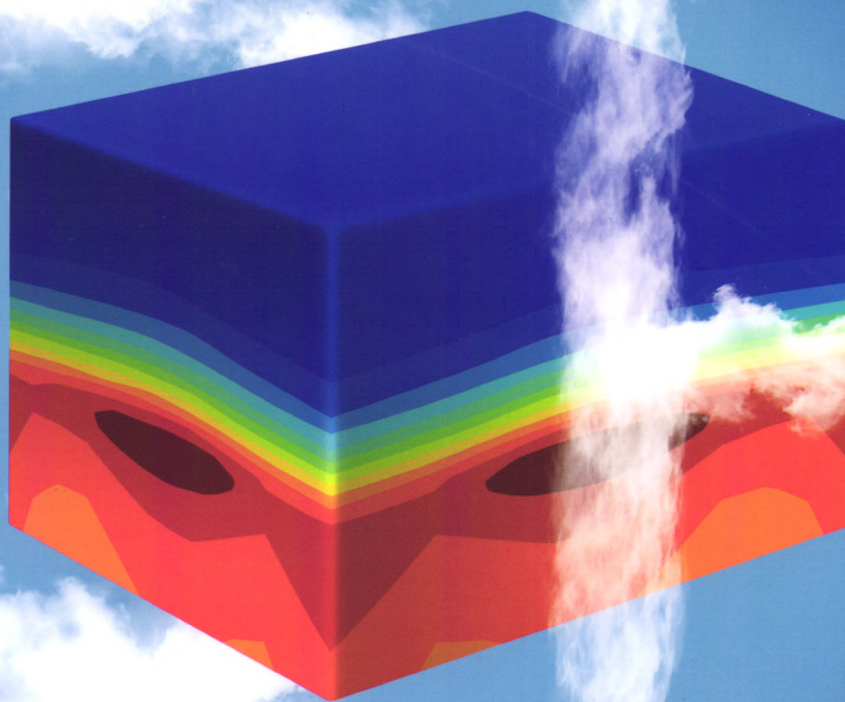
QK1831937



第38卷 | 第6期

Vol. 38 | No. 6

2018.6



光 学 学 报

第 38 卷 第 6 期 2018 年 6 月

(总第 435 期)

目 次

· 大气与海洋光学 ·

- 基于空间外差光谱技术的紫外高分辨率太阳直射光谱测量 方雪静, 罗海燕, 施海亮 等 0601001
- 高能固态激光非 Kolmogorov 湍流大气传输光斑扩展的数值分析 李玉杰, 钱仙妹, 朱文超 等 0601002
- 单目多光谱氧气吸收被动测距系统光谱通带带宽分析 闫宗群, 杨建昌, 张瑜 等 0601003
- 相位屏法模拟高斯阵列光束海洋湍流传输特性 牛超君, 卢芳, 韩香娥 0601004

· 原子与分子物理 ·

- 中红外波段超快强激光场驱动的原子单电离 林志阳, 林宝卿, 陈志心 0602001

· 衍射与光栅 ·

- 基于远场干涉的扫描干涉场曝光光学系统设计与分析 鲁森, 杨开明, 朱煜 等 0605001

· 光纤光学与光通信 ·

- 拉锥 $\text{Ge}_{15}\text{Sb}_{20}\text{Se}_{65}$ 硫系玻璃光纤对乙醇溶液检测的光谱分析研究 王晓美, 杨晨凤, 戴世勋 等 0606001
- 基于人工蜂群算法的多抽运拉曼光纤放大器优化设计 陈静, 周清旭, 林雅婷 等 0606002
- 基于微机电系统技术的光纤加速度传感器 张颖, 吴俊, 魏江南 等 0606003
- 水下轨道角动量态传输特性的实验研究 潘孙翔, 赵生妹, 王乐 等 0606004
- 基于飞艇平台激光通信系统的捕获性能研究 滕云杰, 宋延嵩, 佟首峰 等 0606005
- 基于金属-介质-金属多层膜结构的空芯光纤折射率传感器 林华, 张炯, 朱晓松 等 0606006
- U 型缠绕式光纤弯曲损耗位移传感器设计 李明昊, 程琳, 李亚明 等 0606007
- 基于光子灯笼的正交频分/模分复用 IM-DD 多模光纤传输系统 陈健, 黄青青, 张倩武 等 0606008

· 几何光学 ·

- 同轴五反大视场多目标三维成像光学系统设计 刘莹奇, 骆媛, 鲁华 等 0608001
- 迈克耳孙扫描线聚焦光学相干层析系统的光学设计 常颖, 崔庆丰, 朴明旭 0608002

· 图像处理 ·

- 海面目标的红外景象增强技术研究 丁畅, 董丽丽, 许文海 0610001
- 基于从运动中恢复结构的三维点云孔洞修补算法研究 曾露露, 盖绍彦, 达飞鹏 等 0610002
- 基于卷积神经网络的立体图像舒适度客观评价 李素梅, 常永莉, 段志成 0610003

· 成像系统 ·

- 一种聚焦式光场成像去混叠方法 刘润兴, 任明俊, 肖高博 0611001
- 基于前景移除的合成孔径成像算法 刘严羊, 刘宾, 潘晋孝 0611002
- 基于非偏振光照明的水下偏振成像目标增强技术 杨力铭, 梁健, 张文飞 等 0611003

· 仪器, 测量与计量 ·

- 结构光饱和区域分区投射优化补偿方法 刘飞, 何泰桥, 申爱民 等 0612001
- 红外光谱偏振仪测量硫系玻璃 As_2Se_3 折射率的准确性 李阳, 刘永兴, 戴世勋 等 0612002
- 基于平行光管的空间目标姿态模拟研究 王涛, 田留德, 赵建科 等 0612003

基于多特征的复杂场景运动目标检测 朱文杰, 王广龙, 田杰 等 0612004

基于多波束相位恢复的射电望远镜主反射面动态形变的快速测量 董健, 许志强, 孙云霞 等 0612005

基于遗传算法的数字图像相关法在微位移测量中的应用 葛朋祥, 叶沛, 李桂华 0612006

红外超光谱干涉光谱仪探测器高阶非线性响应研究 叶松, 孙永丰, 李志伟 等 0612007

· 激光器与激光光学 ·

基于双壁碳纳米管低阈值 1895 nm 锁模激光器 令维军, 夏涛, 董忠 等 0614001

· 机器视觉 ·

弱纹理环境下视觉里程计优化算法研究 张易, 项志宇, 陈舒雅 等 0615001

结合有序光流图和双流卷积网络的行为识别 李庆辉, 李艾华, 王涛 等 0615002

结合局部二进制表示和超像素分割求精的立体匹配 刘艳, 李庆武, 霍冠英 等 0615003

基于改进 Faster R-CNN 的空中目标检测 冯小雨, 梅卫, 胡大帅 0615004

· 材料 ·

形貌可控 Eu^{3+} 掺杂氧化钨锌水合物的发光性能 马青兰, 马树清, 邵海宝 等 0616001

· 医用光学与生物技术 ·

基于卷积神经网络与显微光谱的胃癌组织分类方法研究 杜剑, 胡炳樾, 张周锋 0617001

· 光计算 ·

基于离散余弦变换和深度网络的地貌图像分类 刘芳, 路丽霞, 黄光伟 等 0620001

一种自学习不确定度的神经网络架构 孙汉卿, 鹿彦伟 0620002

· 光学设计与制造 ·

基于自由曲面阵列的激光投影显示照明系统设计 赵伟, 刘旭, 李海峰 0622001

· 表面光学 ·

基于倏逝波界面散射的单个纳米颗粒无标记成像 江丽雯, 孙旭晴, 刘虹遥 等 0624001

· 物理光学 ·

一种 V 型 Ince-Gaussian 光束空间模式分布特性研究 张浩, 马海祥, 李新忠 等 0626001

· 遥感与传感器 ·

离焦型 Shack-Hartmann 传感器的光斑矩波前重建 丰帆, 李常伟, 张思炯 0628001

基于多特征融合和软投票的遥感图像河流检测 张庆春, 佟国峰, 李勇 等 0628002

基于目标约束与谱空迭代的高光谱图像分类方法 于纯妍, 赵猛, 宋梅萍 等 0628003

· 散射 ·

单粒子散射对拉盖尔-高斯光束轨道角动量的影响 赵青松, 郝士琦, 张岱 等 0629001

不同近远场外推方案对 MRTD 散射模型穆勒矩阵计算精度的影响分析 胡帅, 高太长, 刘磊 等 0629002

· 光谱学 ·

基于太赫兹光谱的固体片剂孔隙率研究 赖慧彬, 何明霞, 田甜 等 0630001

硫酸铵水溶液的超额拉曼光谱研究 庄欣明, 李中予, 李非 等 0630002

中高层大气 OH 自由基超分辨空间外差光谱仪(封面文章) 罗海燕, 方雪静, 胡广晓 等 0630003

基于荧光动力学参数的浮游植物有效光合反应中心浓度分析 陈双, 殷高方, 赵南京 等 0630004

~~~~~

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

# ACTA OPTICA SINICA

Vol.38, No.6 (Series No.435) June 2018

## CONTENTS

### Atmospheric and Ocean Optics

- High Resolution Ultraviolet Direct Solar Spectrum Measurement Based on Spatial Heterodyne Spectroscopy ..... Fang Xuejing, Luo Haiyan, Shi Hailiang et al. 0601001
- Numerical Analysis of Beam Spreading of High-Power Solid Laser Propagation Through Non-Kolmogorov Turbulent Atmosphere ..... Li Yujie, Qian Xianmei, Zhu Wenyue et al. 0601002
- Analysis of Spectral Channel Bandwidth of Monocular Multispectral Passive Ranging System Based on Oxygen Absorption ..... Yan Zongqun, Yang Jianchang, Zhang Yu et al. 0601003
- Propagation Properties of Gaussian Array Beams Transmitted in Oceanic Turbulence Simulated by Phase Screen Method ..... Niu Chaojun, Lu Fang, Han Xiang'e 0601004

### Atomic and Molecular Physics

- Single Ionization of Atoms Driven by Ultrafast Intense Mid-Infrared Laser Fields ..... Lin Zhiyang, Lin Baoqing, Chen Zhixin 0602001

### Diffraction and Gratings

- Design and Analysis of Scanning Beam Interference Lithography Optical System Based on Far-Field Interference ..... Lu Sen, Yang Kaiming, Zhu Yu et al. 0605001

### Fiber Optics and Optical Communications

- Spectroscopic Analysis of Ethanol Solution Detection with  $\text{Ge}_{15}\text{Sb}_{20}\text{Se}_{65}$  Chalcogenide Glass Tapered Fiber ..... Wang Xiaomei, Yang Chenfeng, Dai Shixun et al. 0606001
- Optimization Design of Multi-Pump Raman Fiber Amplifiers Based on Artificial Bee Colony Algorithm ..... Chen Jing, Zhou Qingxu, Lin Yating et al. 0606002
- Fiber-Optic Acceleration Sensors Based on Micro-Electromechanical Systems Technology ..... Zhang Ying, Wu Jun, Wei Jiangnan et al. 0606003
- Experimental Investigation of Underwater Propagation Characteristics of Orbital Angular Momentum ..... Pan Sunxiang, Zhao Shengmei, Wang Le et al. 0606004
- Acquisition Performance of Laser Communication System Based on Airship Platform ..... Teng Yunjie, Song Yansong, Tong Shoufeng et al. 0606005
- Refractive Index Sensor Based on Hollow Optical Fiber with Metal-Dielectric-Metal Multilayered Films Structure ..... Lin Hua, Zhang Xian, Zhu Xiaosong et al. 0606006
- Design of Displacement Sensor Based on the Bending Loss of U-Type Wingding Fiber ... Li Minghao, Cheng Lin, Li Yaming et al. 0606007
- Orthogonal Frequency Division/Mode Division Multiplexing IM-DD Multimode Fiber Transmission System Based on Photonic Lanterns ..... Chen Jian, Huang Qingqing, Zhang Qianwu et al. 0606008

### Geometrical Optics

- Design of Wide Field-of-View and Multi-Targets 3D Imaging Optical System with Coaxial Five Mirrors ..... Liu Yingqi, Luo Yuan, Lu Hua et al. 0608001
- Optical Design of Michelson Interferometer Based Line-Field Swept Source Optical Coherence Tomography System ..... Chang Ying, Cui Qingfeng, Piao Mingxu 0608002

### Image Processing

- Enhancement Technique for Infrared Scene with Maritime Target ..... Ding Chang, Dong Lili, Xu Wenhai 0610001
- Hole Filling Algorithm of Three-Dimensional Point Cloud Based on Structure from Motion ..... Zeng Lulu, Gai Shaoyan, Da Feipeng et al. 0610002
- Objective Assessment of Stereoscopic Image Comfort Based on Convolutional Neural Network ..... Li Sumei, Chang Yongli, Duan Zhicheng 0610003

### Imaging Systems

- A Method of Eliminating Artifacts in Focused Light Field Imaging ..... Liu Runxing, Ren Mingjun, Xiao Gaobo 0611001
- Synthetic Aperture Imaging Algorithm Via Foreground Removing ..... Liu Yangangshuo, Liu Bin, Pan Jinxiao 0611002
- Underwater Polarimetric Imaging Target Enhancement Technology Based on Unpolarized Illumination ..... Yang Liming, Liang Jian, Zhang Wenfei et al. 0611003

### Instrumentation, Measurement and Metrology

- Optimized Compensation Method of Divisional Projection for Saturated Region of Structured Light ..... Liu Fei, He Chunqiao, Shen Aimin et al. 0612001

|                                                                                                                                       |                                                       |
|---------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|
| Accuracy in Refractive Index Measurement of As <sub>2</sub> Se <sub>3</sub> Chalcogenide Glass by IR Spectroscopic Ellipsometer ..... | Li Yang, Liu Yongqing, Dai Shirun et al. 0612002      |
| Research on Space Target Attitude Simulation Based on Collimator .....                                                                | Wang Tao, Tian Liude, Zhao Jianke et al. 0612003      |
| Detection of Moving Objects in Complex Scenes Based on Multiple Features .....                                                        | Zhu Wenjie, Wang Guanglong, Tian Jie et al. 0612004   |
| Fast Measurement of Primary Reflector Dynamic Deformation of Radio Telescope Based on Multibeam and Phase Retrieval .....             | Dong Jian, Xu Zhiqiang, Sun Yunxia et al. 0612005     |
| Application of Digital Image Correlation Method Based on Genetic Algorithm in Micro-Displacement Measurement .....                    | Ge Pengzhang, Ye Pei, Li Guihua 0612006               |
| High Order Nonlinearity Responses of Detector of Infrared Hyperspectral Interferometric Spectrometer .....                            | Ye Song, Sun Yongfeng, Li Zhiwei et al. 0612007       |
| <b>Lasers and Laser Optics</b>                                                                                                        |                                                       |
| Low Threshold 1895 nm Mode-Locked Laser Based on Double Wall Carbon Nanotubes ...                                                     | Ling Weijun, Xia Tao, Dong Zhong et al. 0614001       |
| <b>Machine Vision</b>                                                                                                                 |                                                       |
| Optimization on Visual Odometry under Weak Texture Environment .....                                                                  | Zhang Yi, Xiang Zhiyu, Chen Shuya et al. 0615001      |
| Double-Stream Convolutional Networks with Sequential Optical Flow Image for Action Recognition .....                                  | Li Qinghui, Li Aihua, Wang Tao et al. 0615002         |
| Local Binary Description Combined with Superpixel Segmentation Refinement for Stereo Matching .....                                   | Liu Yan, Li Qingwu, Huo Guanying et al. 0615003       |
| Aerial Target Detection Based on Improved Faster R-CNN .....                                                                          | Feng Xiaoyu, Mei Wei, Hu Dashua 0615004               |
| <b>Materials</b>                                                                                                                      |                                                       |
| Photoluminescence Performance of Morphology-Tunable Eu <sup>3+</sup> -doped Zinc Molybdenum Oxide Hydrate .....                       | Ma Qinglan, Ma Shuqing, Shao Haibao et al. 0616001    |
| <b>Medical Optics and Biotechnology</b>                                                                                               |                                                       |
| Gastric Carcinoma Classification Based on Convolutional Neural Network and Micro-Hyperspectral Imaging .....                          | Du Jian, Hu Bingliang, Zhang Zhongfeng 0617001        |
| <b>Optical Computing</b>                                                                                                              |                                                       |
| Landform Image Classification Based on Discrete Cosine Transformation and Deep Network .....                                          | Liu Fang, Lu Lixia, Huang Guangwei et al. 0620001     |
| An Neural Network Framework of Self-Learning Uncertainty .....                                                                        | Sun Hanguang, Pang Yanwei 0620002                     |
| <b>Optical Design and Fabrication</b>                                                                                                 |                                                       |
| Design of Laser Projection Display Illumination System Based on Freeform Surface Array .....                                          | Zhao Wei, Liu Xu, Li Haifeng 0622001                  |
| <b>Optics at Surfaces</b>                                                                                                             |                                                       |
| Single Nanoparticle Label-Free Imaging Based on Evanescent Wave In-Plane Scattering .....                                             | Jiang Liwen, Sun Xuqing, Liu Hongyao et al. 0624001   |
| <b>Physical Optics</b>                                                                                                                |                                                       |
| Spatial Mode Distribution of a V-Shaped Ince-Gaussian Beam .....                                                                      | Zhang Hao, Ma Hairiang, Li Xinzhong et al. 0626001    |
| <b>Remote Sensing and Sensors</b>                                                                                                     |                                                       |
| Wavefront Reconstruction by a Defocused Shack-Hartmann Sensor Based on Moment of Spot .....                                           | Feng Fan, Li Changwei, Zhang Sijiong 0628001          |
| River Detection in Remote Sensing Images Based on Multi-Feature Fusion and Soft Voting .....                                          | Zhang Qingchun, Tong Guofeng, Li Yong et al. 0628002  |
| Hyperspectral Image Classification Method Based on Targets Constraint and Spectral-Spatial Iteration .....                            | Yu Chunyan, Zhao Meng, Song Meiping et al. 0628003    |
| <b>Scattering</b>                                                                                                                     |                                                       |
| Effect of Single-Particle Scattering on Orbital Angular Momentum of Laguerre-Gaussian Beams .....                                     | Zhao Qingsong, Hao Shiqi, Zhang Dai et al. 0629001    |
| Influence Analysis of Near-to-Far Field Transformation Schemes on Mueller Matrix Calculation Accuracy of MRTD Scattering Model .....  | Hu Shuai, Gao Taichang, Liu Lei et al. 0629002        |
| <b>Spectroscopy</b>                                                                                                                   |                                                       |
| Porosity of Tablets Based on Terahertz Spectroscopy .....                                                                             | Lai Huibin, He Mingxia, Tian Tian et al. 0630001      |
| Excess Raman Spectroscopy of Ammonium Sulfate Aqueous Solution .....                                                                  | Zhuang Xinming, Li Shenyu, Li Fei et al. 0630002      |
| Hyper-Resolution Spatial Heterodyne Spectrometer for Hydroxyl Radical OH (Cover Paper) .....                                          | Luo Haiyan, Fang Xuejing, Hu Guangxiao et al. 0630003 |
| Analysis of Phytoplankton Concentration of Functional Reaction Centers Based on Fluorescence Dynamics Parameters .....                | Chen Shuang, Yin Gaofang, Zhao Nanjing et al. 0630004 |



**OPTICS**  
FRONTIER



7/8-7/11



Beijing, China

# CIOP 2018

The 10th International Conference on  
Information Optics and Photonics

## Plenary Talks



**Dieter Bimberg**

TU Berlin, Germany



**Xiang Zhang**

University of California, Berkeley, USA  
The University of Hong Kong, China



**Min Gu**

RMIT University, Australia



**Xiaoyi Bao**

University of Ottawa, Canada

## Hosts



## Technical Cosponsor

**SPIE.** DIGITAL  
LIBRARY

## Committee

### Conference Chairs:

Bingkun Zhou, Tsinghua University, China  
Dieter Bimberg, TU Berlin, Germany

### Technical Program Chairs:

Xiaoyi Bao, University of Ottawa, Canada  
Cunzheng Ning, Arizona State University, USA & Tsinghua University, China  
Wolfgang Osten, University of Stuttgart, Germany

### Local Chair:

Yidong Huang, Tsinghua University, China

## Sessions & Topics

1. Photonic Integration and Optical Interconnect
2. Advanced Fiber Optics & Sensing Technology
3. Biomedical Photonics
4. Optical Design and Optical Precision Measurement
5. Optical Communications and Networks
6. Optical Imaging and Holography
7. Plasmonics and Metamaterials
8. Lasers and Nonlinear Optics
9. Quantum Optics and Quantum Information Technology
10. Laser Micro-Nano Processing and Fabrication
11. Microwave Photonics
12. Nano Photonics and 2D Optoelectronics
13. Cavity Optomechanics



Scan to view the website

Manuscript Submissions Deadline: **July 12, 2018**

<http://www.opticsjournal.net/Columns/CIOP2018.htm>

万方数据

Contact Us Email: ciop@siom.ac.cn Tel: 86-21-69918426