

光 学 学 报

第 37 卷 第 6 期 2017 年 6 月

(总第 423 期)

目 次

· 大气与海洋光学 ·

- 基于时域多分辨率的非球形气溶胶散射并行计算模型设计及验证 胡 帅, 高太长, 李 浩 等 0601001
- 基于混合智能算法的激光雷达数据拼接技术 段绿林, 刘 东, 张与鹏 等 0601002
- 全天时紫外高光谱瑞利测温激光雷达系统 邵江锋, 华灯鑫, 汪 丽 等 0601003
- 基于格点化大气参数廓线模式的低仰角大气折射修正方法 武鹏飞, 李玉剑, 邵士勇 等 0601004
- 拓扑荷数对拉盖尔-高斯涡旋光浑浊水下传输的影响 彭 波, 钟 昆, 李中云 0601005

· 原子与分子物理 ·

- 在芯片表面囚禁冷极性分子的多功能静电阱 李胜强 0602001

· 光纤光学与光通信 ·

- 光强检测型空芯光纤表面等离子体共振传感器 张 琦, 朱晓松, 石艺尉 0606001

· 图像处理 ·

- 基于运动模糊复原技术的红外弱小目标检测方法 李思俭, 樊 祥, 朱 斌 等 0610001

· 成像系统 ·

- 角膜地形图仪中实时图像检测 隋成华, 韩勇浩, 徐丹阳 等 0611001
- 无衍射光束成像系统携带信息的研究 何艳林, 徐浩博, 吴逢铁 0611002
- 基于贝叶斯学习的下视三维合成孔径雷达成像方法 康 乐, 张 群, 李涛泳 等 0611003
- 基于太赫兹量子级联激光器的反射式快速扫描成像 李孟奇, 谭智勇, 邱付成 等 0611004

· 仪器, 测量与计量 ·

- 空间外差干涉光谱仪信噪比研究 罗海燕, 熊 伟, 施海亮 等 0612001
- Gershun 管光谱辐射计设计与性能检测 王晓旭, 李志刚 0612002
- 基于振镜扫描方式的光学元件表面损伤检测 郭亚晶, 唐顺兴, 姜秀青 等 0612003

· 激光器与激光光学 ·

- Nd:YAG/Nd:YVO₄ 组合晶体激光器温度稳定性研究 屈鹏飞, 王石语, 邵新征 等 0614001
- 基于亚皮秒紫外激光器的诊断设备标定平台 袁 铮, 邓克立, 李 晋 等 0614002
- 表面杂质诱导薄膜元件的热应力损伤 徐 娇, 陈丽霞, 游兴海 等 0614003
- 直边衍射驻波场中铬原子三维沉积特性分析 伊路福, 熊显名, 张文涛 等 0614004
- Inconel X-750 镍基金属激光喷丸抗热腐蚀性能及机理 杨颖秋, 周建忠, 盛 杰 等 0614005

· 材料 ·

- 二维平板光子晶体的等效负折射率测量 蒋 强, 陈家璧, 梁斌明 等 0616001
- Li⁺ 掺杂对 SrLu₂O₄:Ho³⁺/Yb³⁺ 荧光粉上转换发光性能的影响 刘松彬, 陈梦瑶, 刘水富 等 0616002

· 医用光学与生物技术 ·

基于非凸 L_{1-2} 正则子的锥束 X 射线发光断层成像 张海波, 耿国华, 赵映程 等 0617001

· 非线性光学 ·

色散渐减光纤链中孤子的周期集总放大和恢复 王 丽, 杨荣草, 贾鹤萍 等 0619001

· 光学设计与制造 ·

基于 Q-type 非球面的电子内窥镜物镜光学系统设计 李 闯, 薛常喜, 杨红芳 等 0622001

圆形吸收体复合抛物聚光器面形模型研究及仿真验证 段鹏飞, 桂特特, 陈 飞 等 0622002

· 光学器件 ·

三波段超材料宽带带通滤波器的设计及实验研究 王昊深, 韩 奎, 孙 威 等 0623001

基于单光频梳的卫星通信多频段变频方法 林 涛, 赵尚弘, 朱子行 等 0623002

大面积投影式太阳模拟器的光学设计 杜志强, 张黎明, 司孝龙 等 0623003

表面微腔光子晶体 LED 的光提取特性 胡永禄, 刘道柳, 王 博 等 0623004

· 物理光学 ·

艾里光束的光强闪烁研究 王加安, 王馨兰, 郭林炆 等 0626001

相位差因子调控的 Ince-Gaussian 光束空间模式分布 马海祥, 李新忠, 李贺贺 等 0626002

高维非厄米系统奇异点的多样性研究 程时航, 祝可嘉, 丁亚琼 0626003

空间弯曲光束的折射特性 徐永征, 李 辉, 王 莉 等 0626004

基于黄金分割法改进反馈波前整形技术实现散射光的聚焦 胡显声, 蒲继雄, 冀旋旋 等 0626005

· 量子光学 ·

基于奇相干光源非对称信道的量子密钥分配协议 康丹娜, 何业锋 0627001

· 遥感与传感器 ·

顾及极化特征的 SAR 与光学影像融合与分类 万剑华, 臧金霞, 刘善伟 0628001

· 散射 ·

一维平板内介质和表面的辐射特性参数同时反演方法 周奕帆, 程 强 0629001

· 光谱学 ·

基于 EMD 和数学形态学的多环芳烃光谱去噪 苑媛媛, 王书涛, 王玉田 等 0630001

像面干涉中非线性干涉光谱数据重构算法 张智南, 李立波, 胡炳樑 等 0630002

基于分组三维离散余弦变换字典的植物高光谱数据去噪方法 徐 平, 肖 冲, 张竞成 等 0630003

基于特征区间联合-偏最小二乘的 Zn(II)、Co(II)同时测量方法 朱红求, 邹胜男, 阳春华 等 0630004

· 薄膜 ·

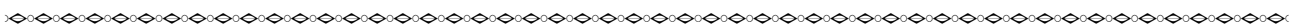
基于量子进化算法的宽角度极紫外多层膜设计 张 超, 张杰瑞, 王一名 等 0631001

· 视觉与色彩 ·

旋转双柱面镜矫正人眼散光 应 锐, 赵军磊, 肖 飞 等 0633001

· X 射线光学 ·

冲击加载下 LiF 晶格形变的闪光 X 射线衍射测量 唐 波, 黑东炜, 马 戈 等 0634001



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.37, No.6 (Series No.423) June 2017

CONTENTS

Atmospheric and Ocean Optics

Design and Validation of Parallelized Computational Model for Nonspherical Aerosol Scattering Based on Multi-Resolution

Time-Domain *Hu Shuai, Gao Taichang, Li Hao et al.* 0601001

Lidar Data Gluing Technology Based on Hybrid Intelligent Algorithm *Duan Lulin, Liu Dong, Zhang Yupeng et al.* 0601002

Full-Time Lidar System for Ultraviolet High Spectral Rayleigh Temperature Measurement

..... *Shao Jiangfeng, Hua Dengxin, Wang Li et al.* 0601003

Low Elevation Atmospheric Refraction Correction Method Based on Gridding Atmospheric Parameter Profile Mode

..... *Wu Pengfei, Li Yujian, Shao Shiyong et al.* 0601004

Influence of Topological Charge on Turbid Underwater Propagation of Laguerre-Gaussian Vortex Beams

..... *Peng Bo, Zhong Kun, Li Zhongyun* 0601005

Atomic and Molecular Physics

Versatile Electrostatic Well for Trapping Cold Polar Molecules on Chip Surface *Li Shengqiang* 0602001

Fiber Optics and Optical Communications

Hollow Optical Fiber Surface Plasmon Resonance Sensor Based on Light Intensity Detection *Zhang Yu, Zhu Xiaosong, Shi Yiwei* 0606001

Image Processing

A Method for Small Infrared Targets Detection Based on the Technology of Motion Blur Recovery ... *Li Sijian, Fan Xiang, Zhu Bin et al.* 0610001

Imaging Systems

Real-time Image Detection in Corneal Topography *Sui Chenghua, Han Yonghao, Xu Danyang et al.* 0611001

Study on the Image Information Carried by the Non-Diffraction Beam Imaging System *He Yanlin, Xu Haobo, Wu Fengtie* 0611002

Imaging Method of Downward-Looking Three-Dimensional Synthetic Aperture Radar Based on Bayesian Learning

..... *Kang Le, Zhang Qun, Li Taoyong et al.* 0611003

Fast Reflective Scanning Imaging Based on Terahertz Quantum-Cascade Laser *Li Mengqi, Tan Zhiyong, Qiu Fucheng et al.* 0611004

Instrumentation, Measurement and Metrology

Study for Signal-to-Noise Ratio of Spatial Heterodyne Spectrometer *Luo Haiyan, Xiong Wei, Shi Hailiang et al.* 0612001

Design and Performance Test of Gershun Tube Spectral Radiometer *Wang Xiaoxu, Li Zhigang* 0612002

Damage Inspection of Optical Surface Based on Galvanometer Scanning *Guo Yajing, Tang Shunxing, Jiang Xiuqing et al.* 0612003

Lasers and Laser Optics

Temperature Stability of Nd:YAG/Nd:YVO₄ Combination Crystals Laser *Qu Pengfei, Wang Shiyu, Shao Xinzhen et al.* 0614001

Diagnostic Equipment Calibration Platform Based on Sub-Picosecond Ultraviolet Laser *Yuan Zheng, Deng Keli, Li Jin et al.* 0614002

Thermal Stress Damage of Thin-Film Components Induced by Surface Impurities *Xu Jiao, Chen Lixia, You Xinghai et al.* 0614003

Analysis of Three-Dimensional Deposition Characteristics of Chromium atoms in the Straight Edge Diffraction Standing Wave Field

..... *Yi Lufu, Xiong Xianming, Zhang Wentao et al.* 0614004

Hot-Corrosion-Resistance Property and Mechanism of Inconel X-750 Nickel-Based Alloy Processed by Laser Peening

..... *Yang Yingqiu, Zhou Jianzhong, Sheng Jie et al.* 0614005

Materials

Measurement of Effective Negative Refractive Index of Two-Dimensional Photonic Crystal Slabs

..... *Jiang Qiang, Chen Jiabi, Liang Binming et al.* 0616001

Effect of Li⁺ Doping on Upconversion Luminescence Property of SrLu₂O₄:Ho³⁺/Yb³⁺ Phosphors

..... *Liu Songbin, Chen Mengyao, Liu Shuifu et al.* 0616002

Medical Optics and Biotechnology

Nonconvex L_{1-2} Regularization for Fast Cone-Beam X-Ray Luminescence Computed Tomography
..... Zhang Haibo, Geng Guohua, Zhao Yingcheng et al. 0617001

Nonlinear Optics

Periodically Lumped Amplification and Recovery of Soliton in Dispersion-Decreasing Optic Fiber Link
..... Wang li, Yang Rongcao, Jia Heping et al. 0619001

Optical Design and Fabrication

Optical System Design of Electronic Endoscope Objective with Q-type Aspheres Li Chuang, Xue Changxi, Yang Hongfang et al. 0622001
Surface Shape Model Research for Compound Parabolic Concentrators with Circular Absorber and Its Simulation Verification
..... Duan Pengfei, Gui Tete, Chen Fei et al. 0622002

Optical Devices

Design and Experimental Investigation of Triple-Band Metamaterial Broadband Bandpass Filter
..... Wang Haoshen, Han Kui, Sun Wei et al. 0623001
Multi-Band Frequency Conversion Scheme Based on Single Optical Frequency Comb for Satellite Communication
..... Lin Tao, Zhao Shanghong, Zhu Zihang et al. 0623002
Optical Design of Large-Area Projection Solar Simulator Du Zhiqiang, Zhang Liming, Si Xiaolong et al. 0623003
Characteristics of Light Extraction for Surface-Microcavity Photonic Crystal LED Hu Yonglu, Liu Daolin, Wang Bo et al. 0623004

Physical Optics

Light Intensity Scintillation of Airy Beam Wang Jiaan, Wang Xinlan, Guo Linyang et al. 0626001
Spatial Mode Distributions of Ince-Gaussian Beams Modulated by Phase Difference Factor Ma Haixiang, Li Xinzhong, Li Hehe et al. 0626002
Diversity Research on Exceptional Points in High Dimensional Non-Hermitian System Cheng Shihang, Zhu Kejia, Ding Yaqiong 0626003
Refraction Characteristics of Spatial Bending Beams Xu Yongzheng, Li Hui, Wang Li et al. 0626004
Focusing of Scattering Light by Improved Feedback Wavefront Shaping Technique Based on Golden Section Method
..... Hu Xiansheng, Pu Jiaiong, Ji Xuanxuan et al. 0626005

Quantum Optics

Quantum Key Distribution Protocols Based on Asymmetric Channels of Odd Coherent Sources Kang Danna, He Yefeng 0627001

Remote Sensing and Sensors

Fusion and Classification of SAR and Optical Image with Consideration of Polarization Characteristics
..... Wan Jianhua, Zang Jinxia, Liu Shanwei 0628001

Scattering

Simultaneous Inversion Method of Radiative Characteristic Parameters of Internal Medium and Surface for One-Dimensional Slab
..... Zhou Yifan, Cheng Qiang 0629001

Spectroscopy

Denosing of Polycyclic Aromatic Hydrocarbons Spectra Based on EMD and Mathematical Morphology
..... Yuan Yuanxuan, Wang Shutao, Wang Yutian et al. 0630001
Nonlinear Interference Spectrum Data Reconstruction Algorithm for Image Plane Interference
..... Zhang Zhinan, Li Libo, Hu Bingliang et al. 0630002
Denosing Method for Plant Hyperspectral Data Based on Grouped 3D Discrete Cosine Transform Dictionary
..... Xu Ping, Xiao Chong, Zhang Jingcheng et al. 0630003
Simultaneously Measuring Method for Zn(II)、Co(II) Based on Feature Interval Association-Partial Least Squares
..... Zhu Hongqiu, Zou Shengnan, Yang Chunhua et al. 0630004

Thin Films

Design of Broad-Angle Extreme Ultraviolet Multilayer Coatings Based on Quantum Evolutionary Algorithm
..... Zhang Chao, Zhang Jierui, Wang Yiming et al. 0631001

Vision and Color

Correct Astigmatism Aberration with Rotating Cylinders Ying Rui, Zhao Junlei, Xiao Fei et al. 0633001

X-ray Optics

Flash X-ray Diffraction Measuremen of LiF Crysta Deformation Under Shock Loading Tang Bo, Hei Dongwei, Ma Ge et al. 0634001