

光 学 学 报

GUANGXUE XUEBAO

(半月刊, 1981年1月创刊)

第40卷 第14期 (总第467期) 2020年7月25日

主管单位 中国科学技术协会

主办单位 中国科学院上海光学精密机械研究所

中国光学学会

主 编 龚 旗 煌

编辑出版 《中国激光》杂志社有限公司

地 址 上海市嘉定区清河路390号, 邮编201800

电 话 021-69916837

电子邮箱 aos@siom.ac.cn

网 址 <http://aos.opticsjournal.net>

印 刷 上海贝叶图书有限公司

发行范围 公开

国内发行 中国邮政集团公司上海市分公司

国内订阅 中国邮政集团公司

国外发行 中国国际图书贸易集团有限公司

国内邮发代号 4-293

Acta Optica Sinica

(Semimonthly, First Published in 1981)

Vol. 40, No. 14 (Series No. 467) July 25, 2020

Managed by China Association for Science and Technology

Sponsored by Shanghai Institute of Optics and Fine Mechanics,

Chinese Academy of Sciences

Chinese Optical Society

Editor-in-Chief Gong Qihuang

Edited and Published by

Chinese Laser Press

Address No. 390, Qinghe Rd., Jiading, Shanghai 201800

Tel. 021-69916837

E-mail aos@siom.ac.cn

Website <http://aos.opticsjournal.net>

Printed by Shanghai Pattra Publishing Company

Distributed by Shanghai Branch of China Post Group

Domestic China Post Group

Foreign China International Book Trading Corporation



EI核心期刊

SCOPUS, CA, INSPEC, AJ, CSCD等收录

“中国科技期刊卓越行动计划”入选期刊

中国百强报刊

百种中国杰出学术期刊

中国精品科技期刊

中国国际影响力优秀学术期刊

华东地区优秀期刊

中文核心期刊

中国科技核心期刊



《中国激光》杂志社

官方微信



《光学学报》

官方网站



责任编辑: 何卓铭(021-69916837)

广 告: 朱俊刚(021-80198330)

发 行: 陈 青(021-69918691)

中国标准连续出版物号: ISSN 0253 - 2239
CN 31 - 1252/O4

定价: 120 元/册

《光学学报》第七届编委会

(2019-2021)

主 编

龚旗煌

执行主编

赵建林

副 主 编

刘文清 邵建达

编 委 (按姓氏拼音排序)

陈 烽	陈树琪	陈险峰	崔铁军
房建成	韩申生	胡伟达	靳 伟
李宝军	李天初	李学龙	李朝晖
刘 辉	刘铁根	刘 旭	刘雪明
刘运全	宁永强	牛智川	裴 丽
屈军乐	饶瑞中	沈德元	孙洪波
谭久彬	陶绪堂	王雪华	王涌天
王占山	魏志义	忻向军	徐红星
徐立军	严 卫	杨中民	曾和平
张广军	张天才	张卫平	张旭革
张志刚	赵振堂	周 磊	朱日宏
朱亦鸣			

Acta Optica Sinica

Vol. 40, No. 14 (Series No. 467) July 2020

CONTENTS

Atmospheric Optics and Oceanic Optics

Simulation and Analysis of Sky Background Radiance in Slant Visibility Calculation
..... *Lu Chuan, Liu Wenqing, Wang Yufeng, et al.* 1401001

Diffraction and Gratings

Polarization-Independent Multilayer Slanted Grating with High Efficiency and Broad Spectral and Angular Bandwidths
Under Normal Incidence *Lu Yunkai, Yu Junjie, Yin Zhengkun, et al.* 1405001
Ultra-Compact Vertical Optical Coupler Based on Subwavelength Grating *Zhao Ran, Sun Chonglei, Xu Xiao, et al.* 1405002
Point Spread Function Model of Grating Imaging System Based on Boltzmann Function Edge Fitting
..... *Lu Quan, Zhang Zehao, Zhang Weiping, et al.* 1405003

Fiber Optics and Optical Communications

Optimization of Incident Light Polarization State in Pressure Sensing Based on Fiber Polarization Properties
..... *Su Yang, Zhang Chao, Wang Yimin, et al.* 1406001
Transverse-Mode Switchable Few-Mode Ring Fiber Lasers *Li Xiaofeng, Li Zhe, Wu Wenmao, et al.* 1406002
A Real-Time Polarization Compensation System Based on Wavelength-Division Multiplexing for Optical Fiber Communication Systems
..... *Huang Yuan, Zhao Jiayu, Wang Jindong, et al.* 1406003
A Highly Accurate Curvature Sensor Based on a Rough Side-Polished Single-Mode Fiber
..... *Yang Yang, Zhu Xiaotong, Yan Liangjun, et al.* 1406004

Image Processing

Center Extraction Method of Multiple and Overlapping Faculae Based on Ellipse Fitting (Cover Paper)
..... *Pan Deng, Li Yanli, Gao Dong, et al.* 1410001

Imaging Systems

An Acceleration Algorithm for Dual-Spectral Computed Tomography Reconstruction *Luo Ting, Zhao Yunsong* 1411001
High-Quality Ghost Imaging Based on Joint Bilateral Filter *Yang Xu, Xu Lu, Yang Chenghua, et al.* 1411002
Research on Liquid Crystal Lens Hill Climbing Autofocus Algorithm *Lan Tiancheng, Lan Ronghua, Chen Xiaoxi, et al.* 1411003
Ranging Method Based on Binocular Zoom Super-Resolution Imaging *Liu Shiting, Jin Weiqi, Li Li, et al.* 1411004
Faint-Object Imaging of Diffractive Telescopes Based on Image Restoration
..... *Yang Jingjing, Wang Shuai, Wen Lianghua, et al.* 1411005

Instrumentation, Measurement and Metrology

High-Precision Coherent Laser Ranging Method Based on Kalman Filtering *Zhao Xiao, Yang Haima, Qiang Jia, et al.* 1412001
Metal Fatigue Damage Assessment Based on Polarized Thermography *Wang Fangbin, Sun Fan, Zhu Darong, et al.* 1412002
Research on Stress of Large Aperture Mirror Supporting Structures by Search Algorithm
..... *Li Zhengda, Liu Heyu, Wei Jinhong, et al.* 1412003

Machine Vision

A Stereo-Matching Neural Network Based on Attention Mechanism *Cheng Mingyang, Gai Shaoyan, Da Feipeng* 1415001
Checkerboard Corner Detection Algorithm for Calibration of Focused Plenoptic Camera
..... *Liu Qingsong, Xie Xiaofang, Zhang Xuanzhe, et al.* 1415002

Optical Design and Fabrication

Design of Natural Optical Fiber Illumination System Based on Lightguide Plate Concentrator
..... *Lü Jiaqi, Xu Xiping, Zhang Ning, et al.* 1422001
Optical-Digital Joint Design of a Dual-Waveband Infrared Refractive-Diffractive System *Hu Yang, Cui Qingfeng, Sun Lin, et al.* 1422002

Optical Devices

Design of Asymmetric Rectangular Ring Resonance Cavity Electrically Adjustable Filter Based on Surface Plasmon Polaritons
..... *Wu Meng, Liang Xiyin, Sun Duixiong, et al.* 1423001

Optics at Surfaces

Absorption and Refractive Index Sensitivity of the I-Shaped Elliptical Nanostructures
..... *Kuang Yiqin, Li Gang, Yan Zhuqing, et al.* 1424001

Thin Films

Design and Optimization of Multilayered Metal/Dielectric Film Structure for Solar Photothermal Conversion
..... *Wu Ying, Hu Ertao, Wang Jing, et al.* 1431001
Study on Stress in Si-Doped Al Thin Films Prepared by Magnetron Co-Sputtering *Zhu Jingtao, Zhou Tao, Zhu Jie, et al.* 1431002