



QK2028632

# 激光与光电子学进展

第 57 卷

第 11 期

Laser & Optoelectronics Progress

[总第670期]

2020.6(上)

## “超快激光加工”专题



ISSN 1006-4125



9 771006 412203

万方数据

DOI: 10.3788/LOP57.111401

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 57 卷 第 11 期 2020 年 6 月

(总第 670 期)

## 目 次

### · 超快激光加工 · 专题

专题前言 ..... 陈岐岱, 季凌飞, 邱建荣 111400

### · 穷理探幽——基础篇 ·

等高激元纳米材料超快激光光热形变原理及应用(特邀,封面文章) ..... 张明德, 姜美玲, 冯紫微, 等 111401

飞秒激光微纳加工光纤功能器件研究进展(特邀) ..... 李金健, 刘一, 曲士良 111402

飞秒脉冲激光的时空变换影响纳米光栅直写过程的研究进展(特邀) ..... 李跃东, 尹唯一, 戴晔 111403

表面亚波长周期结构的飞秒激光调控制备(特邀) ..... 赵波, 郑昕, 邹婷婷, 等 111404

短/超短脉冲激光诱导等离子体微加工研究进展(特邀) ..... 王兴盛, 黄宇珂, 沈博, 等 111405

飞秒激光制备可控微纳米结构表面及应用研究(特邀) ..... 边玉成, 王宇龙, 肖轶, 等 111406

玻璃基类介质光存储研究发展综述(特邀) ..... 孙轲, 孙盛芝, 邱建荣 111407

超快激光加工过程主要数值模型研究进展(特邀) ..... 崔智铨, 管迎春 111408

医用锆基块体非晶合金飞秒激光加工表面特性研究 ..... 姚燕生, 葛张森, 陈庆波, 等 111409

皮秒激光制备超疏水聚合物微纳结构(特邀) ..... 董世运, 季凌飞, 刚肖 111411

纳秒激光加工(超)疏水/(超)亲水铝膜的润湿性和雾水收集实验研究 ..... 丁雅玉, 苏亚辉, 陈亮 111412

### · 雕微琢纳——技术篇 ·

飞秒激光仿生制备超滑表面及其应用(特邀,内封面文章) ..... 方瑶, 雍佳乐, 霍静岚, 等 111413

飞秒激光加工石墨烯材料及其应用(特邀) .....	原永玖, 李欣	111414
飞秒激光直写激光晶体光波导的研究进展(特邀) .....	张彬, 李子琦, 王磊, 等	111415
飞秒激光空间光束整形加工技术研究进展(特邀) .....	孔德键, 孙小燕, 董卓林, 等	111416
飞秒激光非金属微孔加工研究进展(特邀) .....	杜坤, 李晓炜, 杨炳东, 等	111417
飞秒激光微纳制造水下气体浸润性表面(特邀) .....	吴志鹏, 银恺, 吴俊瑞, 等	111418
飞秒激光辐照结合湿法腐蚀在晶体材料微结构制备中的应用(特邀) .....	沈天伦, 司金海, 陈涛, 等	111419
基于飞秒激光刻写光纤光栅的研究进展 .....	李宏业, 饶斌裕, 赵晓帆, 等	111420
飞秒激光快速制备大面积二维微纳结构(特邀) .....	高文, 郑美玲, 金峰, 等	111421
超短脉冲激光焊接非金属材料研究进展(特邀) .....	孙轲, 孙盛芝, 邱建荣	111422
激光诱导自由曲面周期性纳米结构图案与着色(特邀) .....	冯朝鹏, 程可, 曹凯强, 等	111423
飞秒激光微加工制备大尺寸无衬底太赫兹线栅偏振器 .....	陈盈, 王杰, 高焱, 等	111424
飞秒激光在单模光纤中精密加工微孔及其传感应用 .....	王解, 赵宗晨, 江超, 等	111425
 <b>· 致用兴业——应用篇 ·</b> 		
飞秒激光制备光纤 Bragg 光栅在光纤激光器中的应用(特邀, 封底文章) .....	吕瑞东, 陈涛, 范春松, 等	111426
飞秒激光加工凹陷包层波导及其应用(特邀) .....	李萌, 张茜, 杨栋, 等	111427
激光还原氧化石墨烯制备薄膜柔性电子器件(特邀) .....	陈招弟, 李纪超, 萧善霖, 等	111428
陶瓷齿轮皮秒激光高精加工研究(特邀) .....	季凌飞, 燕天阳, 姜锐, 等	111429
飞秒激光过饱和掺杂硅基光电探测器研究进展(特邀) .....	进晓荣, 吴强, 黄松, 等	111430
基于空间光调制器的超快激光加工原理及应用(特邀) .....	刘思垣, 张静宇	111431
激光加工纤维增强复合材料研究进展(特邀) .....	张学聪, 钱静, 刘军, 等	111432

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

# Laser & Optoelectronics Progress

Vol.57, No.11 (Series No.670) June 2020

## CONTENTS

### • Feature Issue on Ultrafast Laser Processing •

Introduction for Feature Issue ..... *Chen Qidai, Ji lingfei, Qiu Jianrong* 111400

### • Foundation •

Fundamentals and Applications of Ultrafast Laser Induced Photothermal Reshaping of Plasmonic Nanomaterials(**Invited, Cover Paper**) ..... *Zhang Mingsi, Jiang Meiling, Feng Ziwei, et al.* 111401

Research Progress on Optical Fiber Functional Devices Fabricated by Femtosecond Laser Micro-Nano Processing(**Invited**) ..... *Li Jinjian, Liu Yi, Qu Shiliang* 111402

Research Progress on Spatio-Temporal Coupling of Femtosecond Pulse Laser for Direct-Writing Nanograting(**Invited**) ..... *Li Yuedong, Yin Weiyi, Dai Ye* 111403

Control of Subwavelength Periodic Surface Structure Formation with Femtosecond Laser Pulses(**Invited**) ..... *Zhao Bo, Zheng Xin, Zou Tingting, et al.* 111404

Advances of Short and Ultrashort Pulse Laser Induced Plasma Micromachining(**Invited**) ..... *Wang Xingsheng, Huang Yuke, Shen Bo, et al.* 111405

Controllable Micro/Nano Structure Surface Fabricated by Femtosecond Laser and Its Applications(**Invited**) ..... *Bian Yucheng, Wang Yulong, Xiao Yi, et al.* 111406

Review on Research Progress of Glasses Used for Optical Storage(**Invited**) ..... *Sun Ke, Sun Shengzhi, Qiu Jianrong* 111407

Review of Numerical Models of Ultrafast Laser Processing(**Invited**) ..... *Cui Zhiquan, Guan Yingchun* 111408

Surface Characteristics of Medical Zr-Based Bulk Metallic Glass Processed by Femtosecond Laser ..... *Yao Yansheng, Ge Zhangsen, Chen Qingbo, et al.* 111409

Picosecond Laser Etched Super-Hydrophobic Micro/Nano-Structures on Polymer Surfaces(**Invited**) ..... *Dong Shiyun, Ji Lingfei, Gang Xiao* 111411

Experimentally Investigating Wettability and Fog Collection Characteristics of (Super) Hydrophobic/(Super) Hydrophilic Aluminum Membranes Processed by Nanosecond Laser ..... *Ding Yayu, Su Yahui, Chen Liang* 111412

### • Technology •

Bioinspired Slippery Surface Fabricated by Femtosecond Laser and its Applications(**Invited, Inner Cover Paper**) ..... *Fang Yao, Yong Jiale, Huo Jinglan, et al.* 111413

Femtosecond Laser Processing of Graphene and Its Application(**Invited**) ..... *Yuan Yongjiu, Li Xin* 111414

Research Advances in Laser Crystal Optical Waveguides Fabricated by Femtosecond Laser Direct Writing(**Invited**) ..... *Zhang Bin, Li Ziqi, Wang Lei, et al.* 111415

Progress in Femtosecond Laser Processing Technology Based on Space Beam Shaping(**Invited**) ..... *Kong Dejian, Sun Xiaoyan, Dong Zhuolin, et al.* 111416

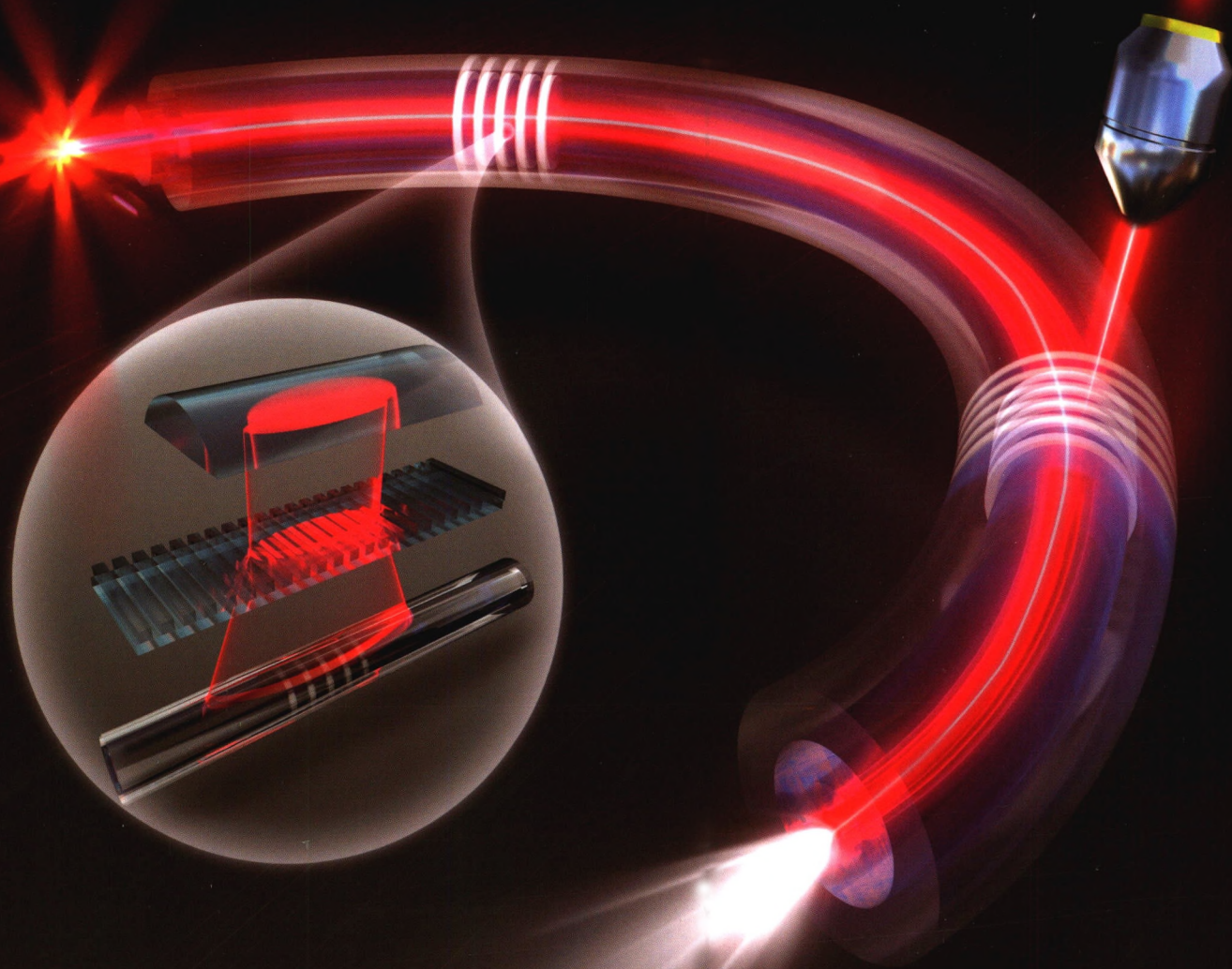
Research Progress of Femtosecond Laser Microhole Drilling on Non-Metallic Materials(**Invited**) ..... *Du Kun, Li Xiaowei, Yang Bingdong, et al.* 111417

Femtosecond Laser Micro-Nano Fabrication of Underwater Gas Wettable Surface(Invited)	.....	Wu Zhipeng, Yin Kai, Wu Junrui, et al.	111418
Application of Femtosecond Laser Irradiation and Wet Etching in Fabrication of Microstructures in Crystal Materials(Invited)	.....	Shen Tianlun, Si Jinhai, Chen Tao, et al.	111419
Development of Fiber Gratings Inscribed by Femtosecond Laser	.....	Li Hongye, Rao Binyu, Zhao Xiaofan, et al.	111420
Fast Fabrication of Large-Area Two-Dimensional Micro/Nanostructure by Femtosecond Laser(Invited)	.....	Gao Wen, Zheng Meiling, Jin Feng, et al.	111421
Research Progress on Ultrashort Pulsed Laser Welding of Non-Metallic Materials(Invited)	.....	Sun Ke, Sun Shengzhi, Qiu Jianrong	111422
Laser Induced Periodic Nanostructure Pattern and Coloring on Free-Form Surface(Invited)	.....	Feng Chaopeng, Cheng Ke, Cao Kaiqiang, et al.	111423
Fabrication of Large-Scale Free-Standing Terahertz Wire Grid Polarizer by Femtosecond Laser Micro-Machining	.....	Chen Ying, Wang Jie, Gao Tao, et al.	111424
Femtosecond Laser Precision Machining of Micropores in Single-Mode Fiber and Sensing Application	.....	Wang Jie, Zhao Zongchen, Jiang Chao, et al.	111425
<b>• Application •</b>			
Application of Fiber Lasers Based on Femtosecond Laser Inscribed Fiber Bragg Gratings(Invited, Back Cover Paper)	.....	Lü Ruidong, Chen Tao, Pham Xuantung, et al.	111426
Femtosecond Laser Writing of Depressed Cladding Waveguide and Its Applications(Invited)	.....	Li Meng, Zhang Qian, Yang Dong, et al.	111427
Laser Reduced Graphene Oxide for Thin Film Flexible Electronic Devices(Invited)	.....	Chen Zhaodi, Li Jichao, Xiao Shanlin, et al.	111428
Picosecond Laser Precision Processing of Ceramic Gear(Invited)	.....	Ji Lingfei, Yan Tianyang, Jiang Rui, et al.	111429
Research Progress on Hyperdoped Silicon Photodetectors Fabricated by Femtosecond Laser(Invited)	.....	Jin Xiaorong, Wu Qiang, Huang Song, et al.	111430
Principles and Applications of Ultrafast Laser Processing Based on Spatial Light Modulators(Invited)	.....	Liu Siyuan, Zhang Jingyu	111431
Recent Process in Laser Processing of Fiber-Reinforced Composites(Invited)	.....	Zhang Xuecong, Qian Jing, Liu Jun, et al.	111432

# 激光与光电子学进展

Laser & Optoelectronics Progress

2020年 | 第57卷 | 第11期



DOI: 10.3788/LOP57.111426

万方数据

中国激光杂志社  
CHINESE LASER PRESS

2009  
2019