



中国激光杂志社
CHINESE LASER PRESS



Q K 1 9 4 4 3 6 0

中文核心期刊
中国科技核心期刊

LOP | Laser& Optoelectronics Progress

激光与光电子学进展

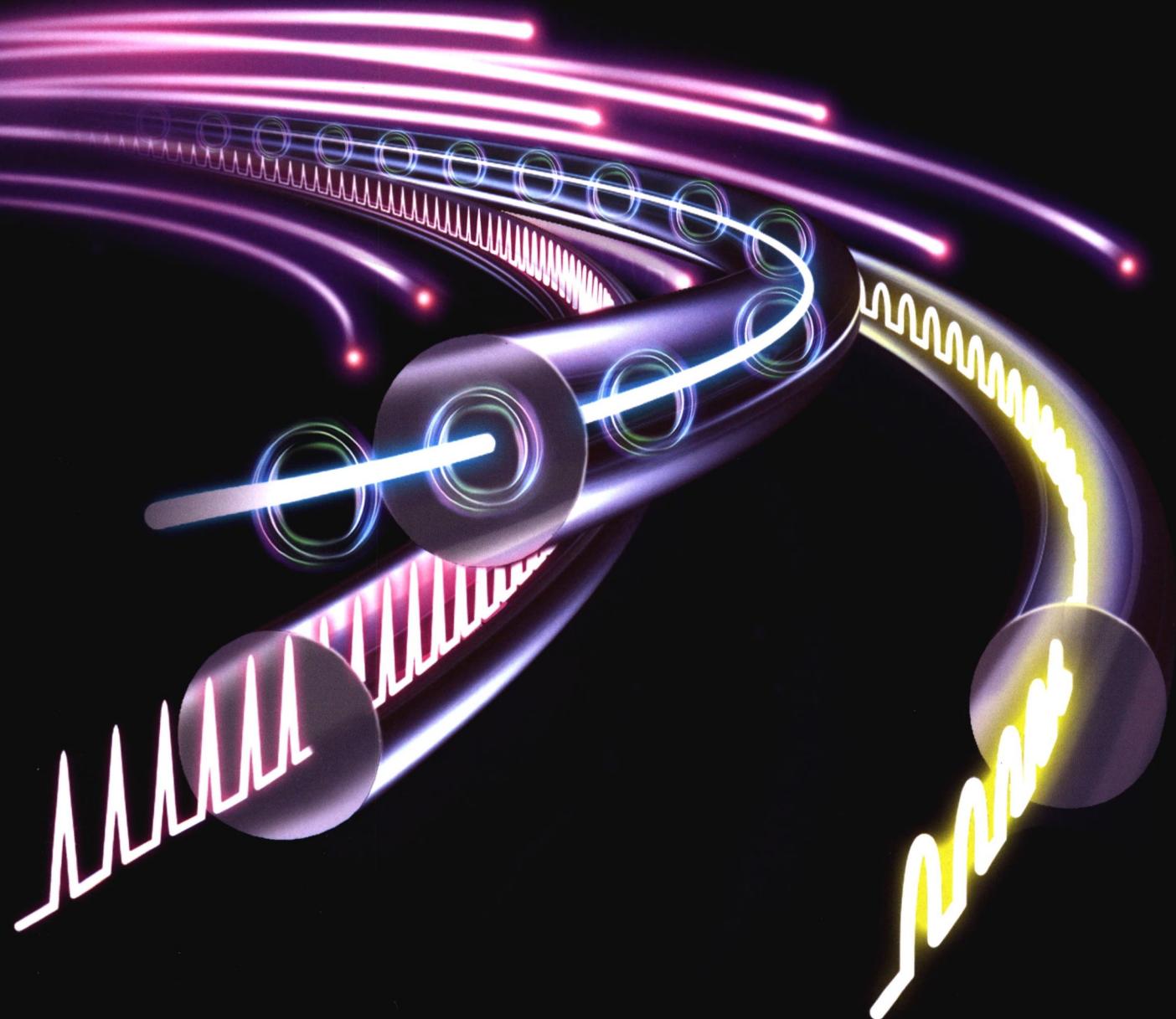
“功能光纤”专题

总第652期

第56卷 | 第17期

Vol. 56 | No. 17

2019.9(上)



ISSN 1006-4125



9 771006412197

17>

万方数据

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 56 卷 第 17 期 2019 年 9 月

(总第 652 期)

目 次

· 功能光纤 · 专题

专题前沿	邱建荣, 周时凤, 陶光明	170600
基于 Melt-in-Tube 法制备的特种光纤及其应用(特邀,封面文章)	张晔明, 邱建荣	170601
掺镱大模场光子晶体光纤的研究进展(特邀)	于春雷, 王孟, 冯素雅, 等	170602
微结构光纤的研究进展及展望(特邀)	夏长明, 周桂耀	170603
新型中红外玻璃光纤及相应激光器研究进展(特邀)	贾志旭, 姚传飞, 贾世杰, 等	170604
3 μm 中红外稀土掺杂光纤激光器研究进展(特邀)	李维炜, 张小金, 王航, 等	170605
低损耗硫系红外光纤制备及其应用研究进展(特邀)	郭海涛, 崔健, 许彦涛, 等	170606
高功率铒镱共掺光纤激光器研究进展	程永师, 陈瑰, 李进延	170607
面向 2~3 μm 光纤激光应用的稀土掺杂氟磷酸盐玻璃光纤的研究进展(特邀)	田颖, 徐时清, 黄飞飞, 等	170608
微晶玻璃光纤的研究进展(特邀)	方再金, 郑书培, 关柏鸥, 等	170609
金属纳米晶复合光纤的制造和应用(特邀)	马志军, 江博凡, 许琦, 等	170610
单晶光纤制备及单晶光纤激光器研究进展(特邀)	王涛, 张健, 张娜, 等	170611
多芯光纤特性及其传感应用	苑立波	170612
基于石墨烯的光纤功能化传感器件和激光器件(特邀)	谭腾, 袁中野, 陈远富, 等	170613
光流控微纳光纤传感器(特邀)	许悦, 张磊, 童利民	170614
微结构和集成式功能光纤的制备和潜在应用(特邀)	廉正刚, 陈翔, 王鑫, 等	170615

- 基于玻璃材料的微球激光器的研究进展(特邀) 李昂震, 王鹏飞 170616
- 基于拉曼放大的长距离快速布里渊光时域反射仪 马祥杰, 周黎明, 程凌浩, 等 170617
- 环保砷-硒硫系光纤的挤压制备及其超连续谱产生 钟明辉, 王弦歌, 焦凯, 等 170618
- 基于飞秒激光微孔加工的温度补偿型光纤微流传感器 刘子溪, 李元鹏, 李杰, 等 170619
- 具有特征波长的少模光纤特性及传感应用 陆晨旭, 董小鹏, 苏娟, 等 170620
- 液晶填充光纤 U 型腔的偏振光谱及温度特性 马宽明, 刘梓轩, 刘培元, 等 170621
- 基于拍频解调的光纤光栅位移传感器 徐雨露, 倪屹, 余涛, 等 170622
- 基于大空气孔保偏微结构光纤偏振回旋滤波器的光微流折射率传感器 邱鸿, 武创, 李杰, 等 170623
- 激光频率稳定性对布里渊分布式传感系统的影响 朱金顶, 程凌浩, 周黎明, 等 170624
- 一种高精细度 MEMS 光纤 F-P 压力传感器 张韬杰, 江毅, 马维一 170625
- 基于微纳光纤的布里渊折射率传感技术 黄晨辉, 秦莉, 梁浩, 等 170626
- 光纤频移干涉腔衰荡折射率传感方法研究 张浩然, 周次明, 范典, 等 170627
- 基于多模干涉的在线型光纤迈克耳孙干涉仪的传感特性 韩亮, 邵敏, 孙浩男, 等 170628
- 基于包层腐蚀优化折射率敏感的光子晶体光纤马赫-曾德尔干涉仪 黄国家, 马诗章, 王恋, 等 170629
- 非扫描相关解调光纤法布里-珀罗微腔应变传感器 寇琬莹, 王伟, 陈海滨, 等 170630
- 分布式光纤温度传感系统的布里渊频移提取方法 王婷, 田凤, 汤文青, 等 170631
- 基于四波混频的光纤激光器传感器增敏研究 刘哲, 邹喜华, 刘琪宇 170632
- 飞秒激光制作的光纤高温和折射率传感器 董航宇, 刘昌宁, 孙四梅, 等 170633

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

Laser & Optoelectronics Progress

Vol.56, No.17 (Series No.652) September 2019

CONTENTS

• Feature Issue on Functional Optical Fiber •

Introduction for Feature Issue	Qiu Jianrong, Zhou Shifeng, Tao Guangming 170600
Fabrication and Application of Special Optical Fibers Using Melt-in-Tube Method (Invited, Cover Paper)	Zhang Yeming, Qiu Jianrong 170601
Research Progress on Ytterbium-Doped Large Mode Area Photonic Crystal Fibers (Invited)	Yu Chunlei, Wang Meng, Feng Suya, et al. 170602
Progress and Prospect of Microstructured Optical Fibers (Invited)	Xia Changming, Zhou Guiyao 170603
Progress on Novel Mid-Infrared Glass Fibers and Relative Lasers (Invited)	Jia Zhixu, Yao Chuanfei, Jia Shijie, et al. 170604
Research Progress of Mid-Infrared Rare Earth Ion-Doped Fiber Lasers at 3 μm (Invited)	Li Weiwei, Zhang Xiaojin, Wang Hang, et al. 170605
Progress in Preparation and Applications of Low-Loss Chalcogenide Infrared Fibers (Invited)	Guo Haitao, Cui Jian, Xu Yantao, et al. 170606
Research Progress of High-Power Erbium-Ytterbium Codoped Fiber Laser	Cheng Yongshi, Chen Gui, Li Jinyan 170607
Research Progress of Rare Earth Doped Fluorophosphate Glass Fiber for 2-3 μm Fiber Laser Application (Invited)	Tian Ying, Xu Shiqing, Huang Feifei, et al. 170608
Research Progress in Glass Ceramic Fibers (Invited)	Fang Zaijin, Zheng Shupei, Guan Baiou, et al. 170609
Fabrication and Applications of Metal Nanocrystals Hybridized Optical Fibers (Invited)	Ma Zhijun, Jiang Bofan, Xu Qi, et al. 170610
Research Progress in Preparation of Single Crystal Fiber and Fiber Lasers (Invited)	Wang Tao, Zhang Jian, Zhang Na, et al. 170611
Multi-Core Fiber Characteristics and Its Sensing Applications	Yuan Libo 170612
Graphene-Based Fiber Functional Sensors and Laser Devices (Invited)	Tan Teng, Yuan Zhongye, Chen Yuanfu, et al. 170613
Optofluidic Micro-Nanofiber Sensors (Invited)	Xu Yue, Zhang Lei, Tong Limin 170614
Preparation and Potential Applications of Microstructured and Integrated Functional Optical Fibers (Invited)	Lian Zhenggang, Chen Xiang, Wang Xin, et al. 170615

Research Development of Glass-Based Microsphere Laser (Invited)	<i>Li Angzhen , Wang Pengfei</i> 170616
Fast and Long-Distance Brillouin Optical Time-Domain Reflectometry Based on Raman Amplification	<i>Ma Xiangjie , Zhou Liming , Cheng Linghao , et al.</i> 170617
Eco-Friendly Ge-Se Chalcogenide Fiber Extrusion Preparation and Supercontinuum Generation	<i>Zhong Minghui , Wang Xiange , Jiao Kai , et al.</i> 170618
Temperature Compensated Fiber Optic Microfluidic Sensor Based on the Femtosecond Laser Drilling Technique	<i>Liu Zixi , Li Yuanpeng , Li Jie , et al.</i> 170619
Characteristics and Sensing Applications of Few-Mode Fiber with Critical Wavelength	<i>Lu Chenxu , Dong Xiaopeng , Su Juan , et al.</i> 170620
Polarization Spectra of U-Shaped Optical Fiber Cavities Filled with Liquid Crystal and Their Temperature Characteristics	<i>Ma Kuanming , Liu Zixuan , Liu Peiyuan , et al.</i> 170621
Fiber Bragg Grating Displacement Sensor Based on Beat Frequency Demodulation	<i>Xu Yulu , Ni Yi , Yu Tao , et al.</i> 170622
Optofluidic Refractive Index Sensor Based on Large Air-Hole Polarization-Maintaining Microstructured Optical Fiber Rocking Filter	<i>Qi Hong , Wu Chuang , Li Jie , et al.</i> 170623
Influence of Laser Frequency Stability on Distributed Brillouin Sensing System	<i>Zhu Jinding , Chen Linghao , Zhou Liming , et al.</i> 170624
A High Fineness Optical Fiber F-P Pressure Sensor Based on MEMS	<i>Zhang Taojie , Jiang Yi , Ma Weiyi</i> 170625
Brillouin Refractive Index Sensing Technique Based on Micro-Nano Fiber	<i>Huang Chenhui , Qin Li , Liang Hao , et al.</i> 170626
Fiber Cavity Ring-Down Refractive Index Sensing Method Based on Frequency-Shifted Interferometry	<i>Zhang Haoran , Zhou Ciming , Fan Dian , et al.</i> 170627
Sensing Characteristics of In-Fiber Michelson Interferometer Based on Multimode Interference	<i>Han Liang , Shao Min , Sun Haonan , et al.</i> 170628
Photonic Crystal Fiber Mach-Zehnder Interferometer Based on Refractive Index Sensitivity of Cladding Corrosion Optimization	<i>Huang Guojia , Ma Shizhang , Wang Lian , et al.</i> 170629
Non-Scanning Correlation Demodulation for Fiber-Optic Fabry-Perot Microcavity Strain Sensor	<i>Kou Wanying , Wang Wei , Chen Haibin , et al.</i> 170630
Brillouin Frequency Shift Extraction Method for Distributed Optical Fiber Temperature Sensing System	<i>Wang Ting , Tian Feng , Tang Wenqing , et al.</i> 170631
Sensitivity Enhancement of Fiber Laser Sensors Using Four-Wave Mixing	<i>Liu Zhe , Zou Xihua , Liu Puyu</i> 170632
Optical Fiber High-Temperature and Refractive Index Sensor Fabricated by Femtosecond Laser	<i>Dong Hangyu , Liu Changning , Sun Simei , et al.</i> 170633



第十六届“中国光谷”国际光电子博览会 暨论坛 (OVC EXPO 2019)

PHOTOELECTRONICS
FUTURE
AND TODAY

激光器与光智能制造

光学与精密光学

光通信与5G通信

芯片与光电显示

2019年11月13-15日
武汉·中国光谷科技会展中心
www.ovcexpo.com.cn