



EI 中文核心期刊



ISSN 1000-7032

CN 22-1116/O4

CODEN FAXUEW

# 发光学报

CHINESE JOURNAL OF LUMINESCENCE

第 39 卷

Vol. 39

2018

第 11 期

No. 11



中国科学院长春光学精密机械与物理研究所 主办  
中国物理学会发光分会 出版  
科学出版社

# 发 光 学 报

FAGUANG XUEBAO

第 39 卷 第 11 期 2018 年 11 月

## 目 次

### · 特邀报告 ·

红外波段的长余辉发光

..... 刘 峰, 杨 峰, 杨 慧, 苑佳琪, 翁维易, 于雅淳, 刘娅琳, 王笑军 (1487)

### · 材料合成及性能 ·

绿光  $\text{SrAl}_2\text{O}_4:\text{Eu}^{2+}, \text{Dy}^{3+}$  到近红外光  $\text{LiGa}_5\text{O}_8:\text{Cr}^{3+}$  的余辉能量传递及近红外余辉增强

..... 潘再法, 金可燃, 严丽萍, 王 锴, 张露露, 邵 康 (1496)

超薄金壳包覆  $\text{NaYF}_4:\text{Yb}, \text{Er}@\text{SiO}_2$  纳米结构的可控合成与表面增强上转换荧光

..... 安西涛, 王 月, 牟佳佳, 李 静, 张立功, 骆永石, 陈 力 (1505)

电场中非对称高斯势量子点内极化子量子跃迁的厚度效应

..... 赵玉伟, 王国胜, 韩 超, 额尔敦朝鲁 (1513)

热离子交换型铝锆酸盐波导玻璃中铕离子的  $1.2 \mu\text{m}$  近红外荧光发射

..... 杨佳心, 赵 昕, 张竞辉, 林 海 (1519)

介质阻挡放电系统中带晕蜂窝六边形发光斑图 ..... 于广林, 董丽芳, 窦亚亚, 孙浩洋, 米彦霖 (1527)

$\text{Al}^{3+}, \text{Ba}^{2+}$  掺杂  $\text{YF}_3:\text{Er}^{3+}, \text{Yb}^{3+}$  的上转换发光性能 ..... 张 磊, 范亚蕾, 黄月霞, 王德强 (1533)

### · 器件制备及器件物理 ·

交联 PMMA 修饰的 PVA 绝缘层对 P3HT 有机场效应晶体管性能的影响

..... 张华野, 张 帆, 张 猛, 姜志东, 滕 枫 (1542)

基于数据线控制发光的 A-IGZO 薄膜晶体管集成 AMOLED 像素电路

..... 王兰兰, 鲁 力, 于天宝, 廖聪维, 黄生祥, 邓联文 (1549)

磁控溅射 Sn 和 CuS 靶制备铜锡硫薄膜电池

..... 徐 信, 王书荣, 陆熠磊, 杨 帅, 李耀斌, 唐 臻, 杨洪斌 (1557)

镉(II)的共振散射光谱研究及应用 ..... 刘 琴, 杨迎春, 陈宁华, 何 妍 (1565)

光折变表面波诱导的薄层波导中的导波模式

..... 刘春阳, 鞠 莹, 宋 德, 母一宁, 杨继凯, 陈卫军 (1572)

基于金纳米棒@二氧化硅表面等离子体共振增强的有机太阳能电池

..... 李 雪, 张 然, 袁新芳, 熊建桥, 陈淑芬 (1579)

$2 \mu\text{m}$  掺铕固体激光器研究进展 ..... 吴春婷, 姜 妍, 戴通宇, 张晚秋 (1584)

915 nm/974 nm 单发射区半导体激光器光纤耦合模块设计

..... 刘翠翠, 井红旗, 倪羽茜, 王 鑫, 吴 霞, 马骁宇 (1598)

激光辐照  $\text{VO}_2$  薄膜温度场分布及透射特性研究 ..... 刘志伟, 路 远, 侯典心, 邹崇文 (1604)

Cs 掺杂的高性能  $(\text{NH}_2\text{CH}=\text{NH}_2)_{1-x}\text{Cs}_x\text{PbI}_3$  光电探测器

..... 张 猛, 张 帆, 张华野, 胡煜峰, 姜志东 (1613)

宽范围可调谐内腔液晶垂直腔面发射激光器设计与研究

..... 李保志, 邹永刚, 王小龙, 裴丽娜, 石琳琳, 李鹏涛, 关宝璐 (1621)

### · 发光学应用及交叉前沿 ·

基于近红外光谱及主成分雷达图特征提取的产品质量稳定性研究

..... 秦玉华, 张海涛, 高 锐, 张 磊 (1627)

银纳米粒子的 SERS 效应和 SEF 效应在微流控芯片光学检测中的应用

..... 郭 威, 吴 坚, 王春艳, 陈 涛 (1633)

汽油着火初期光谱特征及燃烧动力学分析 ..... 蒋新生, 徐建楠, 冯 军, 何 标, 李孝斌 (1639)

# CHINESE JOURNAL OF LUMINESCENCE

Vol. 39 No. 11

November 2018

## CONTENTS

### · Invited Paper ·

Long Persistent Luminescence in The Infrared

···*LIU Feng, YANG Feng, YANG Hui, YUAN Jia-qi, WENG Wei-yi, YU Ya-chun, LIU Ya-lin, WANG Xiao-jun* (1487)

### · Synthesis and Properties of Materials ·

Enhancement of Near-infrared Afterglow by The Persistent Energy Transfer from  $\text{SrAl}_2\text{O}_4:\text{Eu}^{2+}, \text{Dy}^{3+}$  to  $\text{LiGa}_5\text{O}_8:\text{Cr}^{3+}$

·····*PAN Zai-fa, JIN Ke-ran, YAN Li-ping, WANG Kai, ZHANG Lu-lu, SHAO Kang* (1496)

Controllable Synthesis and Surface-enhanced Upconversion Luminescence of Ultra-thin Gold Shell Coated  $\text{NaYF}_4:\text{Yb,Er}@\text{SiO}_2$

Nanostructures ······*AN Xi-tao, WANG Yue, MU Jia-jia, LI Jing, ZHANG Li-gong, LUO Yong-shi, CHEN Li* (1505)

Thickness Effect on Quantum Transition of The Polarons in An Asymmetric Gaussian Potential Quantum Dot Within

An Electric Field ······*ZHAO Yu-wei, WANG Guo-sheng, HAN Chao, EERDUNCHAOLU* (1513)

1.2  $\mu\text{m}$  Near Infrared Fluorescence Emission of Holmium Ions in Thermal Ion-exchanged Aluminum Germanate Waveguide

Glasses ······*YANG Jia-xin, ZHAO Xin, ZHANG Jing-hui, LIN Hai* (1519)

Honeycomb Superlattice Pattern with Hole in Dielectric Barrier Discharge System

·····*YU Guang-lin, DONG Li-fang, DOU Ya-ya, SUN Hao-yang, MI Yan-lin* (1527)

Upconversion Luminescence Properties of  $\text{YF}_3:\text{Er}^{3+}, \text{Yb}^{3+}$  Doped with  $\text{Al}^{3+}, \text{Ba}^{2+}$

·····*ZHANG Lei, FAN Ya-lei, HUANG Yue-xia, WANG De-qiang* (1533)

### · Device Fabrication & Physics ·

Influence of PVA Insulator Modified with Cross-linked PMMA on The Performance of P3HT OFETs

·····*ZHANG Hua-ye, ZHANG Fan, ZHANG Meng, LOU Zhi-dong, TENG Feng* (1542)

A-IGZO Thin-film Transistors Integrated AMOLED Pixel Circuit with Data Line Controlled Light-emitting

·····*WANG Lan-lan, LU Li, YU Tian-bao, LIAO Cong-wei, HUANG Sheng-xiang, DENG Lian-wen* (1549)

Fabrication of  $\text{Cu}_2\text{SnS}_3$  Thin Films Solar Cells by Magnetron Sputtering Sn and CuS Targets

·····*XU Xin, WANG Shu-rong, LU Yi-lei, YANG Shuai, LI Yao-bin, TANG Zhen, YANG Hong-bin* (1557)

Resonance Scattering Spectrum of Cadmium ( II ) and Its Application

·····*LIU Qin, YANG Ying-chun, CHEN Ning-hua, HE Yan* (1565)

Guided Modes in Thin Layer Waveguide Induced by Photorefractive Surface Waves

·····*LIU Chun-yang, JU Ying, SONG De, MU Yi-ning, YANG Ji-kai, CHEN Wei-jun* (1572)

Surface Plasmon Resonance-enhanced Organic Solar Cells Based on Au Nanorods@ $\text{SiO}_2$  Core-shell Structures

·····*LI Xue, ZHANG Ran, YUAN Xin-fang, XIONG Jian-qiao, CHEN Shu-fen* (1579)

Research Progress of 2  $\mu\text{m}$  Ho-doped Solid-state Laser

·····*WU Chun-ting, JIANG Yan, DAI Tong-yu, ZHANG Wan-qiu* (1584)

Design of 915 nm/974 nm Single-emitter Laser Diode Fiber-coupled Module

·····*LIU Cui-cui, JING Hong-qi, NI Yu-xi, WANG Xin, WU Xia, MA Xiao-yu* (1598)

Temperature Field Distribution and Transmittance Characteristics of  $\text{VO}_2$  Films Irradiated by Laser

·····*LIU Zhi-wei, LU Yuan, HOU Dian-xin, ZOU Chong-wen* (1604)

High-performance Photodetectors Based on Cs-doped  $(\text{NH}_2\text{CH}=\text{NH}_2)_{1-x}\text{Cs}_x\text{PbI}_3$  Thin Film

·····*ZHANG Meng, ZHANG Fan, ZHANG Hua-ye, HU Yu-feng, LOU Zhi-dong* (1613)

Design and Research of Wide Range Tunable Intracavity Liquid Crystal Vertical Cavity Surface Emitting Laser

·····*LI Bao-zhi, ZOU Yong-gang, WANG Xiao-long, PEI Li-na, SHI Lin-lin, LI Peng-tao, GUAN Bao-lu* (1621)

### · Luminescence Applications and Interdisciplinary Fields ·

Research on Products Quality Stability Based on Near Infrared Spectroscopy and Feature Extraction of PCA Radar Chart

·····*QIN Yu-hua, ZHANG Hai-tao, GAO Rui, ZHANG Lei* (1627)

SERS Effect and SEF Effect of Silver Nanoparticles Applied in Optical Detection of Microfluidic Chips

·····*GUO Wei, WU Jian, WANG Chun-yan, CHEN Tao* (1633)

Flame Spectral Characteristics and Analysis of Combustion Kinetics at Initial Stage of Gasoline Fire

·····*JIANG Xin-sheng, XU Jian-nan, FENG Jun, HE Biao, LI Xiao-bin* (1639)