

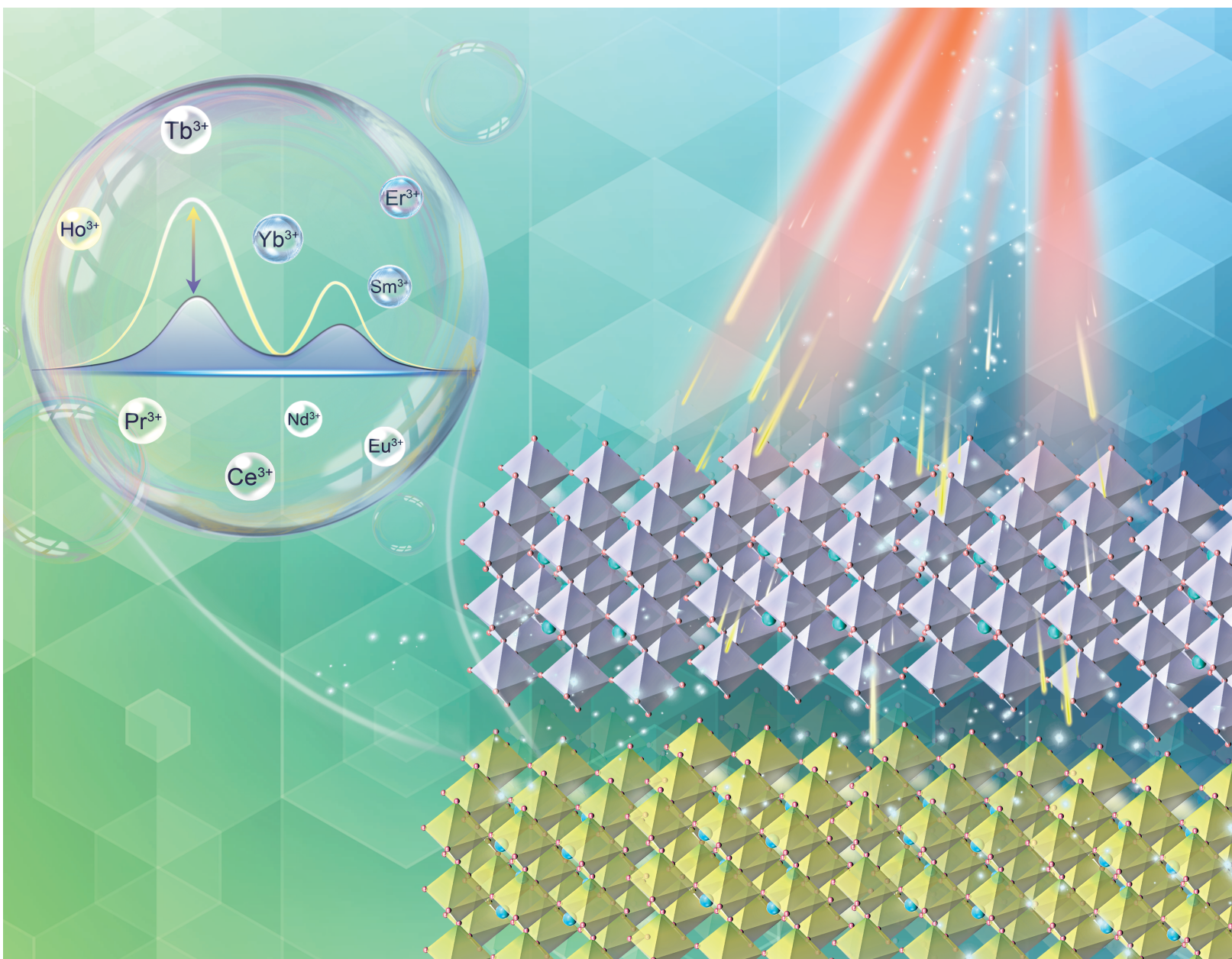
发光学报



2022年第43卷第4期

Chinese Journal of Luminescence

www.fgxb.org



中国科学院长春光学精密机械与物理研究所
中国物理学会发光分会
科学出版社

主办
出版



发 光 学 报

FAGUANG XUEBAO

第 43 卷 第 4 期 2022 年 4 月

目 次

· 封面文章 ·

基于变色效应的无机稀土发光材料荧光可逆调控及应用

····· 白雪, 徐 赞, 字映竹, 肖代文, 付丽香, 何彦妮, 赵和平, 杨钊烁,
宋友艳, HAIDER Asif Ali, 向斐斐, 宋志国, 寸阳珂, 邱建备, 杨正文 (463)

· 研究快报 ·

Bi 掺杂高磷石英基光纤实现 E 波段放大

····· 郭梦婷, 田晋敏, 王 璠, 阳求柏, 邵冲云, 王 孟, 张 磊, 崔淑珍, 于春雷, 胡丽丽 (478)

· 特邀综述 ·

磁耦合 Mn^{2+} - Mn^{2+} 离子对发光行为研究进展 ····· 朱兴路, 宋恩海, 邹炳锁, 叶 柿 (482)

· 材料合成及性能 ·

基于不同 ZnSe 壳层厚度的 InP/ZnSe/ZnS 量子点光电性能

····· 陈 祥, 赵浩兵, 罗芷琪, 胡海龙, 郭太良, 李福山 (501)

大模场 Er^{3+}/Yb^{3+} 共掺锥形微结构光纤 1.5 μm 激光特性 ····· 王玲玲, 许鹏飞, 周德春 (509)

基于咪唑并吡啶的双极性绿色磷光主体材料合成及其性能

····· 黄科文, 陈嘉雄, 戴 雷, 白科研, 周 路, 霍延平 (518)

邻苯二甲酸结晶诱导荧光碳点制备及其在白光发光二极管中的应用

····· 吕播瑞, 崔俊超, 徐文军, 秦振兴 (528)

ZnAl₂O₄/CaAl₁₂O₁₉: Mn⁴⁺ 荧光粉制备与发光性能

····· 林 贵, 罗 琦, 陈 茜, 刘燕婷, 蒙丽丽 (536)

高厚度 n 型 β -Ga₂O₃ 薄膜的 MOCVD 制备 ····· 李政达, 焦 腾, 董 鑫, 刁肇悌, 陈 威 (545)

· 器件制备及器件物理 ·

不同响应机制下的石墨烯基光电探测器研究进展

····· 张翼鹏, 王 雪, 纪佩璇, 赵 健, 张凯敏, 李 睿, 于凯丞, 田 昊, 马 雷 (552)

单层热激活延迟荧光有机发光器件及其激子分布特性 ····· 唐 歌, 刘士浩, 张乐天, 谢文法 (576)

侧向微结构宽脊波导分布反馈 1.06 μm 半导体激光器

····· 郭邗冬, 范 杰, 王海珠, 邹永刚, 马晓辉 (583)

· 发光产业及技术前沿 ·

基于混合量子点的颜色可调 QLED 器件性能及其白光应用

····· 阙思华, 卫黎明, 周雄图, 张永爱, 吴朝兴, 郭太良, 严 群 (591)

量子点 LED 用于可见光通信的调制带宽研究进展

····· 肖 华, 陈万里, 肖翔天, 王 锐, 王 恺 (598)

· 发光学应用及交叉前沿 ·

碳点用于荧光成像介导的原位膀胱癌靶向光动力/光热治疗

····· 南福春, 杨 阳, 赵晓智, 葛介超, 刘卫敏, 任昊慧, 郭宏骞, 汪鹏飞 (608)

开关式氧化锌量子点荧光探针制备及其特异性检测 Cu^{2+} 应用

····· 崔 葆, 黄秋梅, 戎西林, 崔美佳, 程 昊, 冯 军, 黄文艺 (620)

CHINESE JOURNAL OF LUMINESCENCE

Vol. 43 No. 4

April 2022

CONTENTS

• Cover Story •

- Reversible Fluorescence Modulation and Applications Based on Chromic Effect in Inorganic Rare-earth Luminescent Materials *BAI Xue, XU Zan, ZI Ying-zhu, XIAO Dai-wen, FU Li-xiang, HE Yan-ni, ZHAO He-ping, YANG Zhao-shuo, SONG You-yan, HAIDER Asif Ali, XIANG Fei-fei, SONG Zhi-guo, CUN Yang-ke, QIU Jian-bei, YANG Zheng-wen* (463)

• Research Letter •

- Amplification in E Band Based on Highly Phosphorus and Bismuth Co-doped Silica Fiber *GUO Meng-ting, TIAN Jin-min, WANG Fan, YANG Qiu-bai, SHAO Chong-yun, WANG Meng, ZHANG Lei, CUI Shu-zhen, YU Chun-lei, HU Li-li* (478)

• Invited Review •

- Progress of Luminescent Behaviors of Mn^{2+} - Mn^{2+} Pair with Magnetic Coupling Interaction *ZHU Xing-lu, SONG En-hai, ZOU Bing-suo, YE Shi* (482)

• Synthesis and Properties of Materials •

- Optoelectronic Properties of InP/ZnSe/ZnS Quantum Dots with Different ZnSe Shell Layer Thicknesses *CHEN Xiang, ZHAO Hao-bing, LUO Zi-qi, HU Hai-long, GUO Tai-liang, LI Fu-shan* (501)
- 1.5 μm Laser Properties of Large Mode Field Er^{3+}/Yb^{3+} Co-doped Microstructured Fiber Cone *WANG Ling-ling, XU Peng-fei, ZHOU De-chun* (509)
- Synthesis and Performance of Bipolar Green Phosphorescent Host Material Based on Imidazopyridine *HUANG Ke-wen, CHEN Jia-xiong, DAI Lei, BAI Ke-yan, ZHOU Lu, HUO Yan-ping* (518)
- Crystalline (phthalic acid)-induced Luminescence of Carbon Dots for White-light-emitting Diode Devices *LYU Bo-rui, CUI Jun-chao, XU Wen-jun, QIN Zhen-xing* (528)
- Preparation and Luminescent Properties of $ZnAl_2O_4/CaAl_2O_9: Mn^{4+}$ Phosphors *LIN Gui, LUO Qi, CHEN Qian, LIU Yan-ting, MENG Li-li* (536)
- Preparation of n-type β - Ca_2O_3 Film with High Thickness by MOCVD *LI Zheng-da, JIAO Teng, DONG Xin, DIAO Zhao-ti, CHEN Wei* (545)

• Device Fabrication and Physics •

- Research Progress of Graphene Based Photodetectors Under Different Response Mechanisms *ZHANG Yi-peng, WANG Xue, JI Pei-xuan, ZHAO Jian, ZHANG Kai-min, LI Rui, YU Kai-cheng, TIAN Hao, MA Lei* (552)
- Single-layer Thermally Activated Delayed Fluorescent Organic Light-emitting Devices and Exciton Distribution Profiles *TANG Ge, LIU Shi-hao, ZHANG Le-tian, XIE Wen-fa* (576)
- Wide-ridge Waveguide Distributed Feedback 1.06 μm Semiconductor Laser with Lateral Microstructure *GUO Zhi-dong, FAN Jie, WANG Hai-zhu, ZOU Yong-gang, MA Xiao-hui* (583)

• Luminescence Industry and Technology Frontier •

- Color-tunable QLED Based on Mixed Quantum Dots and Its White-light Application *QUE Si-hua, WEI Li-ming, ZHOU Xiong-tu, ZHANG Yong-ai, WU Chao-xing, GUO Tai-liang, YAN Qun* (591)
- Progress on Modulation Bandwidth of Quantum-dot LED in Visible Light Communication *XIAO Hua, CHEN Wan-li, XIAO Xiang-tian, WANG Rui, WANG Kai* (598)

• Luminescence Applications and Interdisciplinary Fields •

- Orthotopic Bladder Tumor Targeted Carbon Dots for Fluorescence Imaging-guided Phototherapy *NAN Fu-chun, YANG Yang, ZHAO Xiao-zhi, GE Jie-chao, LIU Wei-min, REN Hao-hui, GUO Hong-qian, WANG Peng-fei* (608)
- Preparation of Switchable $ZnO-NH_2$ QDs Fluorescent Probe and Its Application in Specific Detection of Cu^{2+} *CUI Bao, HUANG Qiu-mei, RONG Xi-lin, CUI Mei-jia, CHENG Hao, FENG Jun, HUANG Wen-yi* (620)