

EI数据库收录期刊

08期

2022年44卷

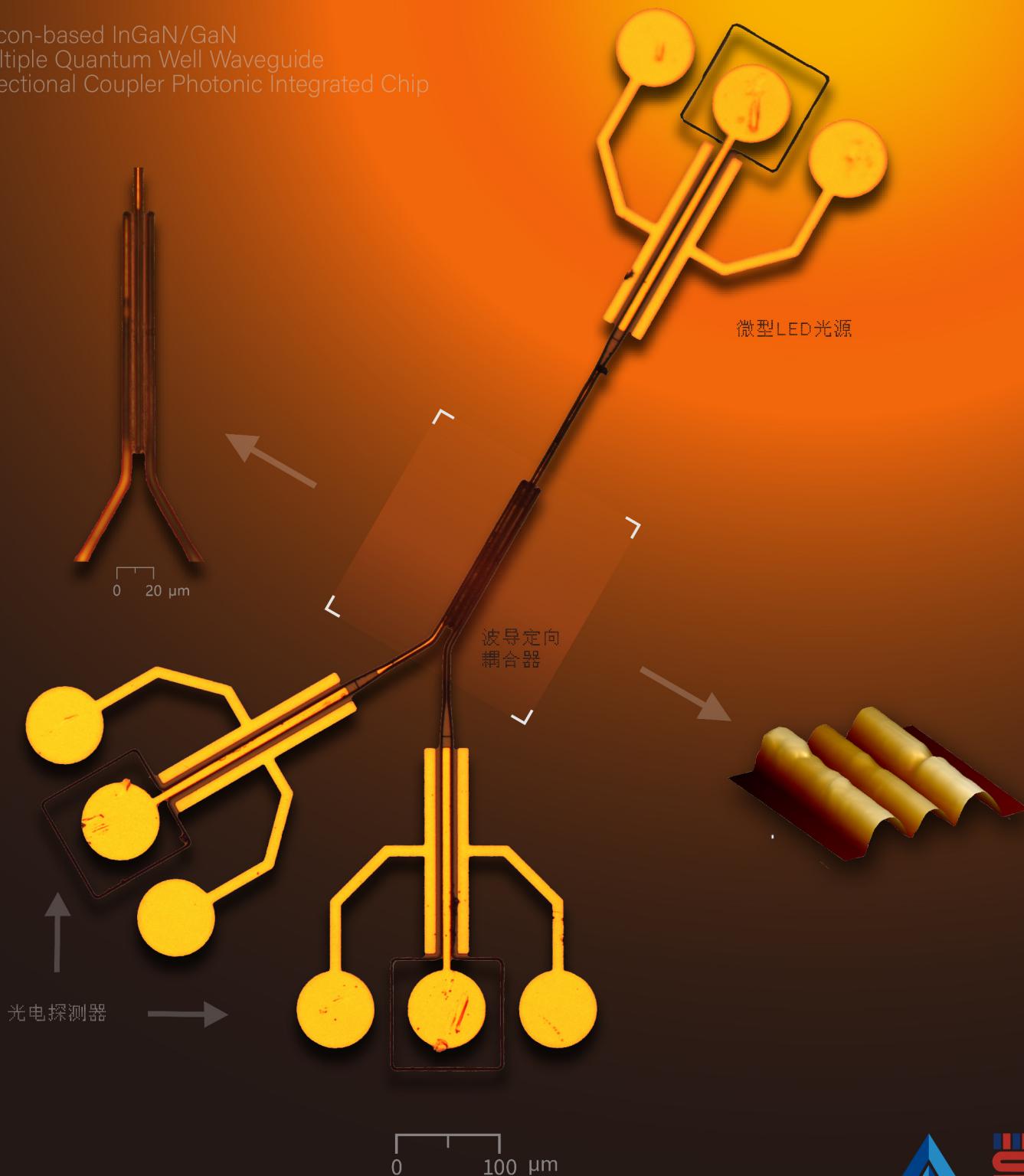
ISSN 1009-5896
CODEN DKXUEC
CN11-4494/TN

电子与信息学报

JOURNAL OF ELECTRONICS & INFORMATION TECHNOLOGY

面向6G的可见光通信专题

Silicon-based InGaN/GaN
Multiple Quantum Well Waveguide
Directional Coupler Photonic Integrated Chip



电子与信息学报

DIANZI YU XINXI XUEBAO

第44卷第8期 2022年8月

目 次

面向6G的可见光通信专题

- 可见光无线信能同传网络中能量有效的波束赋形设计 陆 杨, 熊 轲, 高 博, 范 典, 潘高峰, 艾 浩 (2611)
隐蔽可见光通信的基本性能限研究 王金元, 余鹏飞, 石佳炜, 林 敏, 王俊波 (2619)
基于参考条纹宽度判决的光学相机通信方法 陈 勇, 韩照中, 刘焕淋, 胡陈毅, 吴志倩 (2629)
可见光通信中融合VOOK和分层OFDM的高效频谱混合调制方法 李宝龙, 施建锋, 吴勤勤, 冯斯梦 (2639)
面向可见光通信的硅基InGaN/GaN多量子阱多口分路器光子集成芯片 李 欣, 王 徐, 李 芸, 沙源清, 蒋成伟, 王永进 (2649)
可见光与射频聚合系统稳健波束成形设计 马 帅, 秦莉莉, 李 兵, 杨瑞鑫, 李 航, 李宗艳, 王 悅, 李世银 (2659)
基于上行非正交多址接入技术的星空地融合网络性能分析 袁祖霞, 程 铭, 郭克锋 (2666)
基于新型开关控编码脉冲对的异步可见光定位方法 王正海, 许梦真, 梅佳能, 雷 恺, 余礼苏, 王玉皞 (2677)
可见光通信自适应直流偏置光正交频分复用系统设计与性能研究 贾科军, 郭慧玲, 秦翠翠, 曹明华, 黎锁平, 郝 莉 (2686)
面向可见光通信的硅基InGaN/GaN多量子阱波导定向耦合器光子集成芯片 李 欣, 李 芸, 王 徐, 沙源清, 蒋成伟, 王永进 (2695)
基于垂直结构GaN LED的水下蓝光通信系统 王永进, 高 羽, 王林宁, 高绪敏, 胡泽锋 (2703)
基于组合索引与欧氏距离相结合的OFDM-IM可见光通信系统研究 赵 黎, 何欢洁, 孟祥艳, 王 宁 (2710)
支持终端晃动的多光源可见光通信系统有效容量研究 钱 磊, 刘飞扬, 赵琳琳, 戈立军, 迟学芬 (2717)
可见光通信感知一体化芯片及关键技术 王永进, 尹清溪, 叶子琪, 傅 康, 王 浩, 苏宇龙, 高绪敏 (2725)

无线通信与物联网

- 无人机辅助物理层安全下的保密性能优化 高 远, 谭蓉俊, 邓志祥 (2730)
基于有限新息率的非瞬时扩散点源参数估计方法 付 宁, 沈孟垚, 尉志良, 乔立岩 (2739)
不完全信道状态信息下非线性波形非正交多址接入系统吞吐量分析 李 赛, 党小宇, 虞湘宾, 郝崇正, 李 杰, 张 俊 (2749)
CAEFi: 基于卷积自编码器降维的信道状态信息指纹室内定位方法 王旭东, 刘 帅, 吴 楠 (2757)
D2D通信中用户意识与信息耦合传播建模分析 甘臣权, 刘安棋, 张祖凡, 祝清意 (2767)
基于自适应网络编码的异构无线链路并发传输控制方法研究 赵 凤, 王 伟, 朱晓荣, 倪钦鉴 (2777)
一种基于预留-重用联合的C-V2X通信Q学习型半持续调度算法 王 萍, 陆 岩, 王 帅, 姚汪鼎 (2785)
考虑终端安全和资源调度的垂直切换算法 马 彬, 陈 鑫, 谢显中, 钟世林 (2792)

自适应高效无线传感器网络时间同步优化算法	王义君, 钱志鸿	(2802)
基于多智能体模糊深度强化学习的跳频组网智能抗干扰决策算法	赵知劲, 朱家晟, 叶学义, 尚俊娜	(2814)
改善用户体验的垂直切换算法	吴利平, 王双双, 马彬	(2824)
基于图注意力网络的服务功能链路径优化研究	黄万伟, 李松, 张超钦, 王苏南, 张校辉	(2833)
基于加权K-近邻分类的非视距识别方法研究	韦子辉, 解云龙, 王世昭, 叶兴跃, 张要发, 方立德	(2842)
雷达、声呐与阵列信号处理		
阵元位置互质的线性阵列:互耦分析和角度估计	何劲, 唐莽, 舒汀, 郁文贤	(2852)
基于ADMM的低仰角目标二维DOA估计算法	马健钧, 魏少鹏, 马晖, 刘宏伟	(2859)
基于局部散射中心的近、远场微动回波时频分布特性的解析表达	占伟杰, 万显荣, 易建新	(2867)
用于雷电测向的三磁环天线设计和研究	胡森, 张子石, 章越峰, 许蒙蒙, 周雪芳, 沈成竹	(2878)
稀疏贝叶斯字典学习空时机动目标参数估计算法	章涛, 张亚娟, 孙刚, 罗其俊	(2884)
一种基于干涉场匹配的声源距离速度估计方法	高源, 周胜增	(2893)
密码学与信息安全		
白盒SM4的分析与改进	张跃宇, 徐东, 陈杰	(2903)
改进的减轮MIBS-80密码的中间相遇攻击	任炯炯, 侯泽洲, 李曼曼, 林东东, 陈少真	(2914)
图像处理与模式识别		
全局关系注意力引导场景约束的高分辨率遥感影像目标检测	张菁, 吴鑫嘉, 赵晓蕾, 卓力, 张洁	(2924)
基于蓝绿通道自适应色彩补偿的水下图像增强	周景春, 卫晓靖, 史金余	(2932)
基于语义导向的光场图像深度估计	邓慧萍, 盛志超, 向森, 吴谨	(2940)
基于多层次感知卷积和通道加权的图像隐写检测	叶学义, 郭文风, 曾懋胜, 张珂绅, 赵知劲	(2949)
基于非对称卷积的孪生网络视觉跟踪算法	蒲磊, 魏振华, 侯志强, 冯新喜, 何玉杰	(2957)
微系统与传感器		
单细胞结构和电学特征检测方法	梁红雁, 陈德勇, 王军波, 陈健	(2966)

JOURNAL OF ELECTRONICS & INFORMATION TECHNOLOGY

Vol.44 No.8 August 2022

CONTENTS

Special Topic on Visible Light Communication for 6G

Energy-efficient Beamforming Design for Simultaneous Lightwave Information and Power Transfer in VLC systems	(2611)
..... LU Yang, XIONG Ke, GAO Bo, FAN Dian, PAN Gaofeng, AI Bo	
Research on Fundamental Performance Limit of Covert Visible Light Communications	(2619)
..... WANG Jinyuan, YU Pengfei, SHI Jiawei, LIN Min, WANG Junbo	
Optical Camera Communication Method Based on Reference Fringe Width Judgement	(2629)
..... CHEN Yong, HAN Zhaozhong, LIU Huanlin, HU Chenyi, WU Zhiqian	
Spectrum-Efficient Hybrid Modulation Based on VOOK and Layered OFDM for Visible Light Communications	(2639)
..... LI Baolong, SHI Jianfeng, WU Qinjin, FENG Simeng	
Silicon-based InGaN/GaN Multi-quantum Wells Multi-port Splitter Photonic Integrated Chip for Visible Light Communication	(2649)
..... LI Xin, WANG Xu, LI Yun, SHA Yuanqing, JIANG Chengwei, WANG Yongjin	
Robust Beamforming Design for Aggregated Visible Light Communication and Radio Frequency Systems	(2659)
..... MA Shuai, QIN Lili, LI Bing, YANG Ruixin, LI Hang, LI Zongyan, WANG Yue, LI Shiyin	
Performance Analysis of Satellite-Aerial-Terrestrial Integrated Network Based on Uplink NOMA Technology	(2666)
..... YUAN Zuxia, CHENG Ming, GUO Kefeng	
An Asynchronous Visible Light Positioning Method Based on New On-Off Keying Coded Pulse-pair	(2677)
..... WANG Zhenghai, XU Mengzhen, MEI Jianeng, LEI Kai, YU Lisu, WANG Yuhan	
Design and Performance Research of Adaptive Direct Current Biased Offset Optical-OFDM System for Visible Light Communication	(2686)
..... JIA Kejun, GUO Huiling, QIN Cuicui, CAO Minghua, LI Suoping, HAO Li	
Silicon-based InGaN/GaN Multiple Quantum Well Waveguide Directional Coupler Photonic Integrated Chip for Visible Light Communication	(2695)
..... LI Xin, LI Yun, WANG Xu, SHA Yuanqing, JIANG Chengwei, WANG Yongjin	
Underwater Blue Light Communication Using Vertical-structure GaN Light Emitting Diode	(2703)
..... WANG Yongjin, GAO Yu, WANG Lining, GAO Xumin, HU Zefeng	
Research on OFDM-IM Visible Light Communication System Based on Combination Index and Euclidean Distance	(2710)
..... ZHAO Li, HE Huanjie, MENG Xiangyan, WANG Ning	
Research on Effective Capacity of Multi-Source Visible Light Communication Systems Supporting Terminal Rotation	(2717)
..... QIAN Lei, LIU Feiyang, ZHAO Linlin, GE Lijun, CHI Xuefen	
Chip and Its Key Technology for Monolithically Integrated Visible Light Communication and Sensing	(2725)
..... WANG Yongjin, YIN Qingxi, YE Ziqi, FU Kang, WANG Hao, SU Yulong, GAO Xumin	
Wireless Communication and Internet of Things	
Secrecy Performance Optimization of Unmanned Aerial Vehicle -aided Physical Layer Security	(2730)
..... GAO Yuan, TAN Rongjun, DENG Zhixiang	
A Parameter Estimation Method of Non-instantaneous Diffusion Point Source Based on Finite Rate of Innovation	(2739)
..... FU Ning, SHEN Mengyao, WEI Zhiliang, QIAO Liyan	
Throughput Analysis of Non-Linear Waveform Non-Orthogonal Multiple Access System with Imperfect Channel State Information	(2749)
..... LI Sai, DANG Xiaoyu, YU Xiangbin, HAO Chongzheng, LI Jie, ZHANG Jun	
CAEFI: Channel State Information Fingerprint Indoor Location Method Using Convolutional Autoencoder for Dimension Reduction	(2757)
..... WANG Xudong, LIU Shuai, WU Nan	
Modeling and Analysis of User Awareness and Information Coupling Propagation in D2D Communications	(2767)
..... GAN Chenquan, LIU Anqi, ZHANG Zufan, ZHU Qingyi	

(To be continued on inside back cover)

(Continued)

Research on Concurrent Transmission Control of Heterogeneous Wireless Links Based on Adaptive Network Coding	ZHAO Su, WANG Wei, ZHU Xiaorong, NI Qinyin	(2777)
A Reservation and Reuse Combined Q-learning Semi Persistent Scheduling for C-V2X Communication	WANG Ping, LU Yan, WANG Shuai, YAO Wangding	(2785)
Vertical Handover Algorithm Considering Terminal Security and Resource Scheduling	MA Bin, CHEN Xin, XIE Xianzhong, ZHONG Shilin	(2792)
Adaptive and Efficient Time Synchronization Optimization Algorithm in Wireless Sensor Networks	WANG Yijun, QIAN Zhihong	(2802)
Intelligent Anti-jamming Decision Algorithm for Frequency Hopping Network Based on Multi-agent Fuzzy Deep Reinforcement Learning	ZHAO Zhijin, ZHU Jiasheng, YE Xueyi, SHANG Junna	(2814)
Vertical Handoff Algorithm for Improving User Experience	WU Liping, WANG Shuangshuang, MA Bin	(2824)
Research on Optimization of Service Function Chain Path Based on Graph Attention Network	HUANG Wanwei, LI Song, ZHANG Chaoqin, WANG Sunan, ZHANG Xiaohui	(2833)
Research on Non-Line-Of-Sight Recognition Method Based on Weighted K-Nearest Neighbor Classification	WEI Zihui, XIE Yunlong, WANG Shizhao, YE Xingyue, ZHANG Yaofa, FANG Lide	(2842)
Radar, Sonar and Array Signal Processing		
Linear Coprime Sensor Location Arrays: Mutual Coupling Effect and Angle Estimation	HE Jin, TANG Mang, SHU Ting, YU Wenxian	(2852)
Two-dimensional DOA Estimation for Low-angle Target Based on ADMM	MA Jianjun, WEI Shaopeng, MA Hui, LIU Hongwei	(2859)
Analytical Expression of the Time-Frequency Features of the Near-Field and Far-Field Micro-Motion Echo Based on Local Scattering Centers	ZHAN Weijie, WAN Xianrong, YI Jianxin	(2867)
Research of Three-magnetic Loop Antenna for Lightning Direction Finding	HU Miao, ZHANG Zishi, ZHANG Yuefeng, XU Mengmeng, ZHOU Xuefang, SHEN Chengzhu	(2878)
Maneuvering Target Parameter Estimation Based on Sparse Bayesian Dictionary Learning in Space-Time Adaptive Processing	ZHANG Tao, ZHANG Yajuan, SUN Gang, LUO Qijun	(2884)
A Distance and Velocity Estimation Method for Sound Source Based on Interference Field Matching	GAO Yuan, ZHOU Shengzeng	(2893)
Crypton and Information Security		
Analysis and Improvement of White-box SM4 Implementation	ZHANG Yueyu, XU Dong, CHEN Jie	(2903)
Improved Meet-in-the-middle Attacks on Reduced-round MIBS-80 Cipher	REN Jiongjiong, HOU Zezhou, LI Manman, LIN Dongdong, CHEN Shaozhen	(2914)
Image Processing and Pattern Recognition		
Scene Constrained Object Detection Method in High-Resolution Remote Sensing Images by Relation-Aware Global Attention	ZHANG Jing, WU Xinjia, ZHAO Xiaolei, ZHUO Li, ZHANG Jie	(2924)
Underwater Image Enhancement Algorithm Based on Blue-green Channel Color Compensation	ZHOU Jingchun, WEI Xiaojing, SHI Jinyu	(2932)
Depth Estimation Based on Semantic Guidance for Light Field Image	DENG Huiping, SHENG Zhichao, XIANG Sen, WU Jing	(2940)
Image Steganography Detection Based on Multilayer Perceptual Convolution and Channel Weighting	YE Xueyi, GUO Wenfeng, ZENG Maosheng, ZHANG Keshen, ZHAO Zhijian	(2949)
Siamese Network Visual Tracking Based on Asymmetric Convolution	PU Lei, WEI Zhenhua, HOU Zhiqiang, FENG Xinxi, HE Yujie	(2957)
Microsystems and Sensors		
Methods for Measuring Single-Cell Structural and Electrical Properties	LIANG Hongyan, CHEN Deyong, WANG Junbo, CHEN Jian	(2966)