2021 9th International Symposium on Next Generation Electronics (ISNE 2021)

Changsha, China 9 – 11 July 2021



IEEE Catalog Number: CFP2160J-POD ISBN:

978-1-7281-6259-1

Copyright © 2021 by the Institute of Electrical and Electronics Engineers, Inc. All Rights Reserved

Copyright and Reprint Permissions: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

*** This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.

 IEEE Catalog Number:
 CFP2160J-POD

 ISBN (Print-On-Demand):
 978-1-7281-6259-1

 ISBN (Online):
 978-1-7281-6258-4

ISSN: 2378-8593

Additional Copies of This Publication Are Available From:

Curran Associates, Inc 57 Morehouse Lane Red Hook, NY 12571 USA

Phone: (845) 758-0400 Fax: (845) 758-2633

E-mail: curran@proceedings.com Web: www.proceedings.com



1 Tutorial Speaker

T01 Electrostatic Discharge (ESD) Protection for Modern and Future Integrated Circuits: Challenges and Solutions(Tutorial Speaker, Oral Presentation Only)...N/A

Juin J. Liou, Shenzhen University, China

2 Keynote Speech

K01 High-performance Nano-Optoelectronic Systems for Healthcare Applications(Keynote Speaker, Oral Presentation Only)...N/A

M. Jamal Deen, McMaster University, Canada

K02 Why open source innovation works (Keynote Speaker, Oral Presentation Only)...N/A
Huai-Min Wang, National University of Defense Technology, China

K03 Wearable and Wireless Respiratory Monitoring System(Keynote Speaker, Oral Presentation Only)...N/A

Eun Sok Kim, University of Southern California, USA

K04 Past, Present, and Future of CMOS Scaling(Keynote Speaker, Oral Presentation Only)...N/A
Frank Schwierz ,Technische Universität (TU) Ilmenau, Germany

3 Sessions

S1 Integrated Circuits Technology

S1-01 The Application of the High-k Dielectrics in Lateral Double-Diffused Metal Oxide Semiconductor(Invited Speaker)...1

Yufeng Guo*, Zhenyu Zhang, Jiafei Yao*, Ling Du, Man Li, Jun Zhang, Kemeng Yang, Maoling Zhang

S1-02 Channel Surface Integrity with 2.4nm High-k Gate Dielectric under DPN Treatment at Different Annealing Temperatures...5

Mu-Chun Wang*, Cheng-Hsun-Tony Chang, Hao-Lun Hu, Zi-Wen Zhong, Guo-Xuan Qiu, Wen-How Lan*

S1-03 Evolution and Challenge of Advanced Field-Effect Transistors (Invited Speaker, Oral Presentation Only)...N/A

Mu-Chun Wang, Minghsin University of Science and Technology

S1-04 Characterization of Nanoelectronic Devices & Circuits by Advanced Physical,
Electrical and Optical Analysis Techniques (Invited Speaker, Oral Presentation Only)...N/A
Kin Leong Pey, Singapore University of Technology and Design, Singapore

S1-05 Consideration of CDM Measurement for Bare Dies and Wafers (Invited Speaker, Oral Presentation Only)...N/A

Teruo Suzuki, Socionext Inc., Japan

S1-06 TSV Filling Technology for 3D Microelectronics Packaging (Invited Speaker, Oral Presentation Only)...N/A

Fu-Liang Wang ,Central South University, China

S1-07 Power-Aware Testing for Low-Power VLSI Circuits (Invited Speaker, Oral Presentation Only)...N/A

Xiaoqing Wen, Kyushu Institute of Technology, Japan

S1-08 Recent Progress on the Graphene-based Device and Circuit SPICE Modeling (Invited Speaker, Oral Presentation Only)...N/A

Jin He, Peking University, China

S1-09 BEOL- integrated Hf0.5Zr0.5O2 based ferroelectric capacitors for 32Mbit FeRAM with 0.35um CMOS for embedded memory applications (Invited Speaker, Oral Presentation Only)...N/A

Wen-Wu Xiao, Xi'an UniIC Semiconductors Co. Ltd, China

S2 Optoelectronics

S2-01 Low-dimensional semiconductor optoelectronic modulation and integration (Invited Speaker, Oral Presentation Only)...N/A

An-Lian Pan, Hunan University, China

S2-02 Graphene Luminescence by Hot Electron(Invited Speaker, Oral Presentation Only)...N/A

Shi-Qiao Qin, National University of Defense Technology, China

S2-03 Polarized and Unidirectional Emission from Micro-LED for 3D Display(Invited Speaker, Oral Presentation Only)...N/A

Lian-Cheng Wang, Central South University, China

S2-04 Intelligent Optoelectronic Devices based on Luminescent Quantum Dots(Invited Speaker, Oral Presentation Only)...N/A

Fu-Shan Li, Fuzhou University, China

S2-05 Atomic-scale Manufacturing based on TEM (Invited Speaker, Oral Presentation Only)...N/A

Li-Tao Sun, Southeast University, China

S3 Semiconductor Devices

S3-01 SiC Trench MOSFET Merged Schottky Barrier Diode for Enhanced Reverse Recovery Performance(Invited Speaker)...9

Moufu Kong, Bin Wang, Huanjie Wu, Jiaxin Guo, Ke Huang, Bingke Zhang

S3-02 A Novel GaN Bidirectional Current Rectifier Using Self-Quantum Channel Modulation(Invited Speaker)...13

Zeheng Wang, Shengji Wang, Yihao Li, Yuanzhe Yao*

S3-03 New Device Technology in the Post-Moore Era(Invited Speaker, Oral Presentation Only)...N/A

Gen-Quan Han, Xidian University, China

S3-04 Application development and imagination of material genetic engineering in micronano energy materials (Invited Speaker, Oral Presentation Only)...N/A

Xin-Quan Wang, Changsha Semiconductor Innovation Institute, China

S3-05 Research and Exploration of Power Semiconductor Devices Based on Gallium Oxide(Invited Speaker, Oral Presentation Only)...N/A

Ji-Wu Lu, Hunan University, China

S3-06 Development Trend and Solutions of Cost-effective High-performance SiC Power Devices (Invited Speaker, Oral Presentation Only)...N/A

Jun Wang, Hunan University, China

S4 Integrated Circuits Design

- S4-01 Ku-Band Bidirectional Mixer with Directional Control(Invited Speaker)...16
 Kiat Seng Yeo, Jinna Yan, Bharatha Kumar Thangarasu, Hang Liu
- S4-02 A 12-bit 100-Msps DAC with 75.3 dB SFDR Using Randomized Biasing Current Source Selection for Real-time FOG Systems(Invited Speaker)...20
 Chua-Chin Wang, Hsin-Cheng Liu, U-Fat Chio, Yung-Jr Hung, Yi-Jen Chiu
- S4-03 Scaling Beyond 7nm Node: An Overview of Gate-All-Around FETs...24
 Wei Hu, Feng Li
- S4-04 A 1ps Resolution Two-Step Time-to-digital Converter Using Parallel Digital-to-time Converters...30

Yiheng Xi, Bo Wang, Minghim Lui, Chen Zhang, Cong Lin

S4-05 Analysis and Simulation of A Gate-Controlled DDSCR Embedded with MOS-Path for Adjustable Holding Voltage in HV ESD Protection...34

Zeyu Zhong, Xianhui Zhou, Xiangliang Jin*

S4-06 Design and Characterization of an SCR with separate bipolar transistors for ESD Protection...39

Ming Wu, Zhuojun Chen

S4-07 Principle and design of a high performance analog switch circuit...43

Lin Zhang, Xiangliang Jin

S4-08 Emerging Memory-based Computing: Architecture and Technology (Invited Speaker, Oral Presentation Only)...N/A

Xue-Cheng Zou , Huazhong University of Science and Technology, China

S4-09 CMOS integrated Bulk Acoustic Resonators for Sensors and Filters (Invited Speaker, Oral Presentation Only)...N/A

Ioannis (John) Kymissis, Columbia University, USA

S4-10 ESD Optimization Techniques and Methods for an Analog Amplifier(Invited Speaker, Oral Presentation Only)...N/A

Xiao-Zong Huang, Chongqing Acoustic-optic-electronic Co. Ltd, China

S5 Bioelectronics

S5-01 The Transistors Based on Two Dimensional Materials (Invited Speaker, Oral Presentation Only)...N/A

Lei Liao, Hunan University, China

- S5-02 Anomalous Behaviors of Spin Waves (Invited Speaker, Oral Presentation Only)...N/A
 Xiang-Bai Chen ,Wuhan Institute of Technology, China
- S5-03 Underlying Magnetic Mechanisms and Quantum Manipulation of layered Ferromagnetic Chromium Trihalides (Invited Speaker, Oral Presentation Only)...N/A

Wei-Bing Zhang, Changsha University of Science and Technology, China

S5-04 Synthesis of Copper Nanomaterials and Sensing Application Design (Invited Speaker, Oral Presentation Only)...N/A

Lian-Wen Deng ,Central South University, China

S5-05 Two-dimensional semiconductor GeSe and its heterostructure for near-infrared photodetector (Invited Speaker, Oral Presentation Only)...N/A

Yu-Liang Mao, Xiangtan University, China

S6 Millimeter Wave and Terahertz

S6-01 Design and Optimization of Bow-Tie Terahertz Micro-Antennas (Invited Speaker, Oral Presentation Only)...N/A

Ibrahim M. Abdel-Motaleb , Northern Illinois University, USA

S6-02 3D MEMS Metamaterial Modulators for THz Communication(Invited Speaker, Oral Presentation Only)...N/A

Xiu-Han Li, Beijing Jiaotong University, China

S6-03 Millimeter-Wave On-Chip Bandpass Filters with High Performance (Invited Speaker, Oral Presentation Only)...N/A

Kai-Da Xu, Xi'an Jiaotong University, China

S6-04 Vortex Electromagnetic Wave and Its Applications in Radar Realms(Invited Speaker, Oral Presentation Only)...N/A

Kang Liu , National University of Defense Technology, China

S7 Sensors and Biomedical Electronics

S7-01 Detection of Gaussian-like vibration in fiber optical distributed sensing by 4th-order cumulants...47

Qian He, Zongqiang Wang

S7-02 Wearable and Printable Sensors for Human Healthcare Monitoring(Invited Speaker, Oral Presentation Only)...N/A

Jun-Liang Yang ,Central South University, China

S7-03 The Marriage of Micro/nano Electronics and Life Science(Invited Speaker, Oral Presentation Only)...N/A

Cheng-Jun Huang ,Institute of Microelectronics, Chinese Academy of Sciences, China

S7-04 Automatic in Situ Synthesis System for Polypeptide Biochip Based on icrofluidic Mixer (Invited Speaker, Oral Presentation Only)...N/A

Zheng-Chun Liu ,Central South University, China

S7-05 Regulating the High-Voltage and High-Impedance Characteristics of Triboelectric Nanogenerator toward Practical Self-Powered Sensors(Invited Speaker, Oral Presentation Only)...N/A

Hua Yu Chongqing University, China

S7-06 Stretchable Electronics for Clinical Application(Invited Speaker, Oral Presentation Only)...N/A

Shu-Rong Dong, Zhejiang University, China

S7-07 TBD (Invited Speaker, Oral Presentation Only)...N/A

Zhi-Ping Huang , National University of Defense Technology, China

S7-08 Ultrasonic Phased Array Sparse-TFM Imaging(Invited Speaker, Oral Presentation Only)...N/A

Hong-Wei Hu Changsha University of Science and Technology, China

S7-09 Research on the Key Technology for Carbon-based Field Effect Transistor Sensor array (Invited Speaker, Oral Presentation Only)...N/A

Jue-Xian Cao, Xiangtan University, China

S8 Neuromorphic Computing

S8-01 MXene/SiO2 Structure-based RRAM devices for the Application of Neuromorphic Computing...51

Xiaojuan Lian*, Xinyi Shen, Miaocheng Zhang, Fei Gao, Nan He, Yu Wang, Yihao Chen, Ertao Hu, XiangWan, Jianguang Xu, Yufeng Guo, Yi Tong*

S8-02 Modeling of Discrete Memristor and Its Applications in Chaotic Systems(Invited Speaker, Oral Presentation Only)...N/A

Ke-Hui Sun, Central South University, China

S8-03 Memristor based Neuromorphic Computing(Invited Speaker, Oral Presentation Only)...N/A

Qing-Jiang Li, National University of Defense Technology, China

S8-04 Brain-Inspired Intelligent Computing Circuit Design and Its Application(Invited Speaker, Oral Presentation Only)...N/A

Qing-Hui Hong, Hunan University, China

S8-05 Memory Characteristics and Brain-like Simulation of Fully Transparent Flexible Memristor(Invited Speaker, Oral Presentation Only)...N/A

Wei-Jie Duan , Hunan Institute of Engineering, China

S9 Artificial Intelligence

S9-01 Traffic Sign Recognition Based on ZYNQ...55

Juan Liu, Zhigang Zhang, Longhao Zheng, Yongjun Wen, Feng Bin, Lijun Tang

S9-02 An Effective Method for Lane Detection in Complex Situations...58

Hongru Hou, Pute Guo, Bin Zheng, Junjie Wang

S9-03 Fuzzy Run Theory and Its Application in Performance Evaluation of Automatic Target Recognition...62

Yanpeng Li, Shaoxian Shu, Meisheng He

S9-04 Deep Learning Based Heat Sealing Quality Inspection...66

Liu Wanqing, Zhou Qinghua, Zeng Xiaowei

S9-05 Urban layout optimization based on graph features(Invited Speaker, Oral Presentation Only)...N/A

Jin-Xin Xie Tencent

S10 Miscellaneous

S10-01	Statistical Analysis of Degradation and Failure of Flexible LTPS TFTs under Dynamic Mechanical Stress(Invited Speaker)70
	Xiangyuan Yin, Bin Li, Mengjun Du, Mingxiang Wang*
S10-02	Study on Time-frequency Hybrid Noise Reduction Method of Low Voltage PowerCarrier signal Based on Reactive Compensation(Invited Speaker)74
	Yibo Wang,Bo Yu,Xianglin Wang
S10-03	A low-cost Hardware Architecture of Convolutional Neural Network for ECG Classification78
	Lai Wei, Dongsheng Liu*, Jiahao Lu, Lingsong Zhu, Xuan Cheng
S10-04	Optimizing the electron leakage of deep ultraviolet laser diode by V-shaped electron blocking layer82
	Pengfei Zhang, Aoxiang Zhang, Yao Wang, Mengzhen Wang, Fang Wang, Yuhuai Liu
S10-05	Identification of low frequency oscillation parameters based on EEMD-SVD method and Prony algorithm85
	Xianhui Zhou, Zeyu Zhong, Xiangliang Jin*
S10-06	Effect of Monoethanolamine Stabilizer on the Solution-Processed InGaZnO Thin- film Transistors89
	Hengda Qiu, Zihao Liang, Libin Zheng, Hejing Sun, Juncheng Xiao, Hang Zhou
S10-07	7 Thickness-dependent photoresponse of P3HT:PCBM organic photodiode fabricated by drop-casting method92
	Li Xiang, Xuekai Huang, Ya Wang, Zhilong Xin, Hang Zhou*
S10-08	3 A Novel Analysis and Design of High-Voltage Power Switch for Solid-State
	Transformer95
	Liang Wang, Donglai Zhang
S10-09	National Grid Job Scheduling System (Invited Speaker, Oral Presentation Only)N/A
	Xiao-Yong Tang, Changsha University of Science and Technology, China
S10-10	Oco-effect of Light and Electric Field in LaAlO3/SrTiO3(Invited Speaker, Oral Presentation Only)N/A
	Yan-Peng Hong, Hunan Institute of Engineering, China
4 Po	oster
P-01	A 1.3mW 8-bit Two-step Time-to-Digital Converter99
	MingHim LUI, Bo Wang, Yiheng Xi, Chen Zhang
P-02	Joint Optimization of SWIPT Enabled Ambient Backscatter Communication System with Multiple Antennas103
	BaofengJi, Zhenzhen Chen, Peng Li, Kang Song, Chunguo Li, Dang Wang
P-03	Comparison of I-V Curves between Unidirectional SPAD and Bi- directional SPAD in Generalized Memristive Characteristics107 Jianxiu Hao, Xiangliang Jin*
P-04	Low Frequency Noise of the Tunneling Contact Thin-Film Transistors110
	Yalan Zhang, Xinke Li, Peiwen Wu, WeiranCai, Lining Zhang*, Juin J. Liou

P-05 A 9-MHz Temperature Insensitive Hybrid Ring Oscillator for the On-Chip Clock...112
Rui Wang, Bo Wang*, Kanglin Xiao, Hai Rui Wang, Jun Yao Wang, Chen Zhang

P-06 An Adjustable-delay SSHC Method for Inductorless Load Regulation for Piezoelectric Energy Harvesting...116

Liao Wu, Dong Sam Ha

P-07 Interfacial Modification of Thin Film Transistor via Supercritical Fluids Treatment and Mechanism Exploration...120

Yonggao Hu, Kuan-Chang Chang*, Lei Li, Ziwen Wang

P-08 An Effective Method for Improving the Insulating Property of Polyvinyl Alcohol in Device with Supercritical Fluids...123

Yingkai Zheng, Kuan-Chang Chang*, Lei Li

P-09 Research on Complex Behavior Analysis Scheme for Network Users...127 Shuai Xiao, Wen Li, Yongjun Wen

P-10 Supercritical Fluid of Amorphous-silicon Flexible Thin-film Transistors...131 Hung-ChihChin, Luodan Hu, Kuan-chang Chang*, Xinnan Lin*

P-11 Improved performance of GaN-based LEDs with PVD AlN...134

Weijun Chen, Yanjun Liu, Ava Chen Li

P-12 A 1.4-2.3GHz low-noise, low-power LC-VCO with automatic amplitude control using digitally-tuned resistor array...137

Peng Tang, Sha He, Wanghui Zou

P-13 Voltage Dependent Viscosity in Landau-Khalatnikov Theory for Switching Dynamics...141

Ning Feng, Xiaoqing Huang, Xuhui Chen, Longfei Li, Zhao Rong, Lining Zhang*

P-14 A Sub-1 GHz +24 dBm Linear Two-Stage Power Amplifier with Self-Adaptive Bias Control...144

Shuyu Liu, Xingyu Qi, Zongyuan Zheng, Bo Wang*, Xinan Wang, Xing Zhang

P-15 Design of a low on-resistance analog switch circuit...148

Duocai Peng, Xiangliang Jin, Liang Xie

P-16 Realization of CAN FD Shielding in High Speed CAN Transceiver for partial Networking...152

JianPan, Liang Xie, Xiangliang Jin

P-17 8G Physical Coding Sub-layer design based on PCI Express 3.0 protocol under 40nm process...156

Jin HU, Xufeng JIAO, Tao WANG

P-18 A High Power X-band GaN Solid-State Power Amplifier with 55% PAE...160
Yapeng Wang, Xinnan Lin*

P-19 Quantum tunneling and Floquet enerrgy in the Non-Hermitian Bose-Hubbard model...163
Haisheng Ye, Gengbiao Lu

P-20 Optimization of deep ultraviolet laser diode using thickness gradient multiplequantum-well...167

Aoxiang Zhang, Pengfei Zhang, Yao Wang, Mengzhen Wang, Fang Wang, Yuhuai Liu*

P-21 A 1.1-V 10-Bit 25-MS/s 7.58fJ/conversion-step SAR ADC in 40-nm CMOS...171 Chengcheng Zhang, Zirui Jin, Dongsheng Liu*

P-22 The effect of disorder on ground state coherence in a polarized annular triple-well...175
Yuxuan Wang, Gengbiao Lu

P-23 New System Design of Smart Road Cone for the Security Organization of Road Construction...178

Xiangdong Li, Zhuchun Liu, Bojing Cheng

P-24 Study of growth parameters on the well-oriented InxAl1-xN using sputtering on Si (100) substrate...181

Wenqing Song, Tao Li, Wenhui Zhu, Lei Zhang, Liancheng Wang

- P-25 Design and analysis of XOR logic gate based on Photoelectric Memristor...184 Lingyue Xue, Xiangliang Jin*
- P-26 The Design and Realization of the Collaborative Control System by Filter for Secret Service based on E-R demand model...187

Bojing Cheng, Xiangdong Li, Hongye Liu

P-27 Optimization and Characterization of RF Sputtered a-InSnZnO Thin-Film Transistors Fabricated at Low Temperature...191

Yunhao Wan, Meng Zhang*, Xincheng Zhang, Yuyang Yang, Yuhuang Zeng, Siting Chen, Yan Yan, Juin Jei Liou

P-28 Characterization of Low-Frequency Noise in Polycrystalline Silicon Thin-Film Transistors under Different Temperature...195

Yuyang Yang, Meng Zhang*, Yuhuang Zeng, Zhihe Xia, Letong Qian, Yan Yan, Man Wong, Juin Jei Liou, Hoi-Sing Kwok

P-29 Effect of RF Sputtering Power Density and Post Thermal Annealing Temperature on the Performance of Aluminium-Doped Zinc Oxide Thin-Film Transistor...199

Jinyang Huang, Meng Zhang*, Yuyang Yang, Xincheng Zhang, Yuhuang Zeng, Zhiying Chen, Yan Yan, Juin Jei Liou

P-30 Modulated flexible artificial synaptic transistor based on graphene and ionic gel...203
Di Feng, Zihao Niu, Jiayi Yang, Shuangshuang Liu, Yan Meng, Wei Xu, Baolong Wang, Meiqi Wang Xiuhan Li*

P-31 The Impact of Temperature on Reconfigurable Field-Effect Transistor and Its Applications...206

Wangze Ni, Yichi Zhang, Bairun Huang, Zhuojun Chen*

P-32 Simulation Comparative Study on Ga2O3 and SiC Schottky Diodes...210

Zongqi Chen, Zewei Hu, Jiacheng Gao, Moufu Kong*, Ke Huang, Ronghe Yan, Jiaxin Guo, Bin Wang, Bingke Zhang

- P-33 Exploration of Negative Capacitance in Multi-Gate Junctionless Transistor...214
 Longfei Li, Lining Zhang, Xinnan Lin*
- P-34 Structure optimization of deep ultraviolet laser diodes with superlattice electron blocking layer...217

Liya Jia, Mengzhen Wang, Aoxiang Zhang, Pengfei Zhang, Fang Wang*, Yuhuai Liu*

- P-35 Impacts of metal interlayer on Negative Capacitance Transistors...220 Zhao Rong, Xiaoqing Huang, Yanxin Jiao, Lining Zhang*
- P-36 Extended-gate Field Effect Transistors with Zinc Oxide as sensing film for pH Sensing...224

Jialin Li, Tingke Rao, Wugang Liao*, Jie Jiang, Peng Yang, Juin J. Liou

- P-37 Electrical Conductivity and Thermal Sensing of CNTs/Polymer Nanocomposites...227 Siting Yang, Min Wu, Wugang Liao*, Yuanliang Zhou, Yuankang Chen, Juin J. Liou
- P-38 Gas-sensitive Properties of Adsorping Toxic Gases on Antimonene Nanoribbons...230 Xueyu Tang, Hui Zou
- P-39 Effect of source/ drain electrode fabrication technology on the electrical properties of solution-processed a-IGZO based transistors...234

Jinxuan Wu, Qijun Sun, Meng Zhang, Yan Yan*, Juin Jei Liou

P-40 Dynamic tunable absorber based on VO2 pyramid array structure working in infrared band...238

Nuo Yin, Shiwei Shu, Yan Yan*, Jingqi He, Meng Zhang, Mingxiang Wang, Juin J. Liou

- P-41 Functional Safety Design for Torque Control of a Pure Electric Vehicle...242
 Feng Yi, Wei Zhang, Wei Zhou
- P-42 Raman Spectrum of layered Ferromagnetic Material VI3 from First-principles...246

 Bin-Guang He, Zi-Peng Cheng, Hongxing Li, Zhixiong Yang, and Wei-Bing Zhang
- P-43 Design of high PSRR linear regulator based on pre regulated Technology...250
 Tang Junlong, Meng Zhen, Ouyang Luoluo
- P-44 Light-Illumination-Induced Degradation in Elevated-Metal Metal-Oxide Thin-Film Transistors without and with Fluorination...254

Siting Chen, Meng Zhang*, Zhiying Chen, Yuhuang Zeng, Lei Lu, Yan Yan, Man Wong, Juin Jei Liou, Hoi-Sing Kwok

- P-45 A design of high voltage pre-regulator circuit for LED driver...258
 Junlong Tang, Chaoxiong Dai, Luoluo Ouyang, Yaodong Wang, Wanghui Zou
- P-46 Smoking Behavior Detection Based On Improved YOLOv5s Algorithm...262
 Junlong Tang, Shenbo Liu, Bin Zheng, Jun Zhang, Bin Wang, Mukun Yang
- P-47 A Low-Power Fast-Transient Output-Capacitorless LDO...266
 Junlong Tang, Luoluo Ouyang, Chaoxiong Dai, Yaodong Wang, Wanghui Zou
- P-48 The Compilation Performance Tests and Analysis of RISC-V Compilation Toolchain On the SPEC CPU®2017...270

Junlong Tang, Jun Zhang, Qiang Song, Shenbo Liu, Zhiwen Yu, Wanghui Zou

P-49 A Full-region Model for Ultra-Scaled MoS2 MOSFET Covering Direct Source-Drain Tunneling...274

Weiran Cai, Wenrui Lan, Zichao Ma, Lining Zhang*, Mansun Chan

P-50 Research on the Performance of Overlay / Underlay Cognitive Radio Waveforms in Different Channels...277

Zhiqiang Zhang, Yajiao Guo