

2013 International Symposium on Next-Generation Electronics

(ISNE 2013)

**Kaohsiung, Taiwan
25 – 26 February 2013**



IEEE Catalog Number: CFP1360J-PRT
ISBN: 978-1-4673-3036-7

Time	Room & Topic				
13:30~15:00	Section 1 Room I Topic C	Section 1 Room II Topic E	Section 1 Room III Topic A	Section 1 Room IV Topic F	
15:00~15:30	Coffee Break				
15:30~17:00	Section 2 Room I Topic C&F	Section 2 Room II Topic E		Section 2 Room IV Topic E	
17:00~17:30	Closing Remark and Best Student Paper Awards Ceremony				

Keynote Speech 1

Topic

Challenges of Designing Electrostatic Discharge (ESD) Protection in Modern and Emerging CMOS Technologies

Speaker

Dr. Juin J. Liou (Chair Professor, University of Central Florida, U.S.A.)

Keynote Speech 2

Topic

Mixed-Voltage I/O Design Using CMOS Process

Speaker

Dr. Chua-Chin Wang (Professor of EE, NSYSU, Taiwan)

Invited Speech

Topic

Development of Smart Distribution Grid

Speaker

Dr. Chao-Shun Chen (Chair Professor, I-Shou University, Taiwan)

Topic

AlGaIn/GaN Power HEMT Devices for future Energy Conversion Applications

Speaker

Dr. Yung C. Liang (Professor of ECE, NUS, Singapore)

Topic

MBE Growth of van der Waals Epitaxy Using Graphene Buffer Layer

Speaker

Dr. Charles Surya (Professor of EIE, HKPU, Hong Kong)

Topic	Novel Approaches to the Parametric Cubic-Spline Interpolation''P IC
Speaker	Dr. Trieu-Kien Truong (Chair Professor, I-Shou University, Taiwan)
Topic	Integration of Spintronics with CMOS for Low Dissipation Electronic''''P IC
Speaker	Dr. Kang L. Wang (Professor of EE, UCLA, U.S.A.)
Topic	Silicon Photonic for Data Center Networking''''P IC
Speaker	Dr. Yung Jui (Ray) Chen (Professor of DOP, NSYSU, Taiwan)
Topic	Recent Progress of Planar Lightwave Circuits''''36
Speaker	Dr. Okamoto (Chief Technology Officer, AiDi Corporation, Japan)
Topic	Advances in Photonic Devices for Integration''''P IC
Speaker	Dr. Gary A. Evans (Professor of EE, SMU, U.S.A.)

25 February 13:30 - 15:15	ROOM I
Section 1 (Topic C)	Presider: Dr. Hung-Wen Chang

Order/Paper Number/ Paper Title / Author		
1	[Invited] Applications of Multidomain Legendre Pseudospectral Time-domain Method to Plasmonics Problems / Hung-chun Chang	N/A
2	Single-Longitudinal-Mode Linear-Cavity Fiber Laser Using Subring Cavities and Broadband Fiber Mirror / H. Wang, S. K. Liaw, H. I. Hsu, C. S. Shin, and R. Y. Liu	79
3	Output Characteristics of a Semiconductor Circular Ring Laser with Tow Y-junction Couplers / Ming Chang Shih, and Wen How Lan	83
4	The Method of Connected Local Fields for the Helmholtz Equation	86

	/ Hung-Wen Chang and Sin-Yuan Mu	
5	Dispersion Analysis for Local Field Expansion Equations in the Method of Connected Local Fields	89
	/ Hung-Wen Chang and Sin-Yuan Mu	
6	Fast Polymer Thermo-optic Switch with Silica Under-cladding	92
	/ H. Wang, S. K. Liaw, H. I. Hsu, C. S. Shin, and R. Y. Liu	

25 February 13:30 - 15:00	ROOM II
Section 1 (Topic A&B)	Presider: Dr. Wen-Kuan Yeh

Order/Paper Number/ Paper Title / Author

1	[Invited] IC Design Techniques for Easily-Integrated and Low-Energe-Consumption SAR ADCs	N/A
	/ Soon-Jyh Chang	
2	On the electron conduction in n-diamond	48
	/ M. Hosoda, K. Kakushima, K. Natori, S. Yamasaki, H. Ohashi and H. Iwai	
3	Dual Glucose/Cholesterol Meter Applications Based on FPGA Platform	17
	/ Teddy Lesmana, Wen-Yaw Chung, Shih-Lun Chen, and Lu-Chiang Hung	
4	Via-Configurable Structured ASIC Implementation of OpenRISC 1200 Based SoC Platform	21
	/ Tsung-Han Heish, Rung-Bin Lin	
5	Layout Strategy of P+ Pick-up on the LV nMOST ESD Reliability for 0.6 μ m to 0.18 μ m CMOS Technologies	51
	/ Shen-Li Chen and Min-Hua Lee	

25 February 13:30 - 15:15	ROOM III
Section 1 (Topic D)	Presider: Dr. Hung-Liang Cheng, and Dr. En-Chih

		Chang
Order/Paper Number/ Paper Title / Author		
1	Self-Protected LDMOS Output Device with Embedded SCR to Improve ESD Robustness in 0.25- μm 60-V BCD Process / Yu-Ching Huang, Chia-Tsen Dai, and Ming-Dou Ker	116
2	Design of Single-Phase Power Converters for Wind Power Systems with Permanent-Magnet Synchronous Generators / Ming-Hung Chen	120
3	Effect of Substrate Type and Thickness on Power output of Silicon Nanowire Thermoelectric Device / Hsin-Luen Tsai	126
4	A Multiple-Winding Bidirectional Flyback Converter Used in the Solar System / Yie-Tone Chen, Member, IEEE, and Sian-You Wei	130
5	Energy Conservation for Lighting System in County Government Building / Chia-Ching Lin , Wen-Bin Lin , Chien-An Chen , and Wei-Po Lin	134
6	An Apparatus in Monitoring the Energy Charging System / Wen-Ching Kuo, Joy Iong-Zong Chen Director of Extension Education Center, TransWorld University of Technology 1221, Jen-Nang Rd., Chia-Tong Li, Douliou, Yunlin, Taiwan R.O.C	138

25 February 13:30 - 15:15	International Conference Hall
Section 1 (Topic E)	Presider: Dr. Rey- Chue Hwang

Order/Paper Number/ Paper Title / Author		
1	[Invited] The Design of Cloud-based 4G/LTE for Mobile Augmented Reality with Smart Mobile Devices / Bao-Shuh Paul Lin	N/A
2	A Simple Text-Based Shoulder Surfing Resistant Graphical Password Scheme / Yi-Lun Chen, Wei-Chi Ku, Yu-Chang Yeh, and Dun-Min Liao	161

3	Non-expanded Visual Cryptography Scheme with Authentication 165 / Yi-Jing Huang ¹ and Jun-Dong Chang ²
4	Low-complexity Data Hiding Algorithms with Graph-based Parity Check 169 / Jyen-Ying Huang and Yuh-Ming Huang
5	LBP-based Fragile Watermarking Scheme for Image Tamper Detection and Recovery 173 / Jun-Dong Chang ¹ , Bo-Hung Chen ² , and Chwei-Shyong Tsai ²
6	State-based Attack Detection for Cloud 177 / Chia-Mei Chen, D.J. Guan, Yu-Zhi Huang, and Ya-Hui Ou

25 February 15:30 - 17:00	ROOM I
Section 2- (Topic C)	Presider: Dr. Ming-Chang Shih, and Dr. Wen-How Lan

Order/Paper Number/ Paper Title / Author

1	[Invited] Fiber-Bragg-Grating Based Optical Amplifiers N/A / Shien-Kuei Liaw
2	Transmission and Reflection Characteristics of Fiber Bragg Gratings 95 / Nai-Hsiang Sun, Chia-Ming Hu, Fang-Jui Chang, Tsum-Yen He, Guan-Hua Chen, Yu-Wei Liu, Jung-Sheng Chiang, Tao Li, and Wen-Fung Liu
3	A Random-Rotational Angle Fiber Sensor 97 / Ming-Shin Lin, Pei-Tsung Tsai, Hao-Jan Sheng, Guei-Ru Lin, Ming-Yue Fu, Hai-Tao Sun, and Wen-Fung Liu
4	A Refractive-index Fiber Sensor by Using No-Core Fibers 100 / Lung-Shiang Huang, Guei-Ru Lin, Ming-Yue Fu, Hao-Jan Sheng, Hai-Tao Sun, and Wen-Fung Liu

25 February 15:30 - 17:00	ROOM II
Section 2- (Topic B)	Presider: Dr. Te-Kung Chiang

Order/Paper Number/ Paper Title / Author

1	Electrical and Infrared Absorption Studies on La-silicate/Si Interface 55 / Takuya Seki, Takamasa Kawanago, Kuniyuki Kakushima, Parhat Ahmet, Yoshinori Kataoka, Akira Nishiyama, Nobuyuki Sugii, Kazuo Tsutsui, Kenji Natori, Takeo Hattori, and Hiroshi Iwai	
2	Electrical analyses of nickel silicide formed on Si nanowires with 10-nm-width 58 / K. Matsumoto, M. Koyama, Y. Wu, K. Kakushima, P. Ahmet, Y. Kataoka, A. Nishiyama, N.Sugii, K. Tsutsui, K. Natori, T. Hattori, and H. Iwai	
3	Surface Potential Redistribution in Laterally Diffused Field Effect Transistors 62 / Hsueh-Chun Liao, Yeh-Wei Wu, Ruey-Dar Chang and Jung-Ruey Tsai	
4	A Wide Dynamic Range Sigma-Delta Modulator with Automated Coefficients Adaptation 65 / Ming-Chun Liang, Jia-Hua Hong, Yu-Jie Chiou and Shuenn-Yuh Lee	
5	Proper Determination of Tunnel Model Parameters for Indirect Band-to-Band Tunneling in Compressively Strained Si _{1-x} Ge _x TFETs 67 / Nguyen Dang Chien ¹ , Luu The Vinh, Nguyen Van Kien, Jui-Kai Hsia, Ting-Shiuan Kang, and Chun-Hsing Shih	
6	Accurate Equivalent Circuit Model of Deep Trench Capacitors by Numerical Simulation and Analytical Calculation 71 / Ashif Aminulloh Fathnan, Vikash Kumar, Shao-Ming Yang, Gene Sheu	

25 February 15:30 - 17:00	ROOM III
Section 2 (Topic D)	Presider: Dr. shih-Chieh Hsieh and Dr.Chien-Hsuan Chang

Order/Paper Number/ Paper Title / Author

1	[Invited] Moulding Machine Cycle Time Improvement using Rules Extracted Multilayer Perceptron N/A / Yu-Jen Lin	
---	---	--

3	Design and Implementation of the Improved MPPT Method with Rapidly Tracking Feature 142 / Chien-Hsuan Chang, Chun-An Cheng, Hung-Liang Cheng, Fang-Ying Liu, and Ping-Feng Lee
4	A Novel Single-Stage HPF AC/DC Converter with Integrated Buck-Boost and Flyback 146 / Hung-Liang Cheng, Chun-An Cheng, and Chu-Shen Chang
5	A Single-Stage LED Driver for Street-Lighting Applications with Interleaving PFC Feature 150 / Chun-An Cheng, Hung-Liang Cheng, Chien-Hsuan Chang, Fu-Li Yang and Tsung-Yuan Chung
6	Implement of DSP Based Optimal Power Analyzer 153 / Rong-Ching Wu, En-Chih Chang, Jia-Chu Lee, Chun-Wei Huang

25 February 15:30 - 17:00	ROOM IV
Section 2 (Topic F)	Presider: Dr. Chieh-Chuan Feng and Dr. Yuan-wei Tseng

Order/Paper Number/ Paper Title / Author

1	One-Tier Device De-embedding Using On-Wafer Line-Series-Shunt Calibration 252 / Chien-Chang Huang and Yu-Chuan Chen
2	XOXO : Haptic Interface for Mediated Intimacy 256 / Hooman Samani, James Teh, Elham Saadatian and Ryohei Nakatsu
3	Skin Impedance Model for Biological signal Analysis 260 / Chun-Wei Huang, Yu-Jung Huang, and Chung-Long Pan
4	Motion Planning of Multifingered Hand-Arm System with Optimal Grasping Force 262 / Chun-Hsu Ko, Shih-Hsiung Lin, and Jing-Kun Chen

5	Differential and Integral Inequalities Approach to Oscillator Design for a Class of Bilinear Systems 266 / Yeong-Jeu Sun, Yu-Biaw Wu, Ching-Cheng Wang, Nai-Hsiang Sun, and Bo-Sheng Li
6	Design of the Crescent-Shape Planar Ultrawideband Antenna with a Band-notch Structure 271 / Min-Sian Chen, Wei-Chung Weng, and Shuming T. Wang

26 February 13:30 - 15:00	ROOM I
Section 1 (Topic C)	Presider: Dr. Shui-Jinn Wang and Dr. Wei-Chou Hsu

Order/Paper Number/ Paper Title / Author

1	[Invited] Design a free-space fiber coil gyroscope using Mueller matrix N/A / Yu-Lung Lo , C. C. Yen , Y.F. Chung , H.H. Lin and R.Y. Liu
2	The improved optoelectronic characterization in annealed Al/AZO layer after sputtering 103 / Wen-Kuan Lin , Yi-Chuan Wang , Wei-Che Huang , Ze-Syue Wu, Ci-Sheng Cai , Yen-Sheng Lin, Werner P.Rehbach
3	Design a free-space fiber coil gyroscope using Mueller matrix 105 / Y. L. Lo , C. C. Yen , Y. F. Chung , H. H. Lin , R. Y. Liu
4	Analysis of Elliptical-Hole Photonic Crystal Fiber 108 / Jung-Sheng Chiang , Rui-Sheng Wang , Hsi-Cheng Yang , Yu-Liand Chen
5	Highly Intensity Enhancement of Surface Plasmon (SP) and Hybridity Surface Plasmoms (HSP) Modes 111 / Fang-chi Lin , Nai-Hsiang Sun , Po-jui Chiang

26 February 13:30 - 15:00	ROOM II
Section 1 (Topic E)	Presider: Dr. Jyh-Horng Jeng and Dr.Ming-Haw Jing

Order/Paper Number/ Paper Title / Author

1	A Preliminary Study of ANN Implementing Image Filters 181 / Jhih-Hao Chen , Chih-Wen Wang , Jyh-Horng Jeng
2	Subtractive Clustering for PCA Image Coding 185 / Chih-Wen Wang , Jyh-Horng Jeng
3	Significant Predictor for Function of Left Ventricle by Systolic Volume Ratio with Cardiac MDCT 189 / Kuo-Ying Liu , Nan-Han Lu, Yung-Hui Huang, Tai-Been Chen
4	Classification of Nonalcoholic Fatty Liver Ultrasonography by Significant Image Features 192 / Chi-Yuan Wang , Tai-Been Chen , Kuei-Fen Chen , Chiao-Yi Lu
5	Extent the Retention time in DRAM using 3C Decoder 195 / Minghaw Jing , Chong-Dao Lee , Y. Chang
6	[Invited] Tolerating Triple Disk Failures in Triple-Parity RAID 199 / Minghaw Jing, Chong-Dao Lee , Yaotsu Chang , and Kai Su

26 February 13:30 - 15:00	ROOM III
Section 1 (Topic A)	Presider: Dr. Jyi-Tsong Lin

Order/Paper Number/ Paper Title / Author

1	A Threshold-Embedded Offset Calibration Technique for Folding Flash ADCs 25 / Tzu-Yi Tang, Jhao-Wei Zeng, Kevin Chen, and Tsung-Heng Tsai
2	A 12-bit 4-kHz Incremental ADC with Loading-Free Extended Counting Technique 29 / I-Jen Chao, Chia-Chun Huang, Ying-Cheng Wu, Bin-Da Liu, Chun-Yueh Huang, and Jai-Ming Lin

3	Integrated Single-Inductor Dual-Output DC-DC Converter with Power-Distributive Control 33 / Chi-Yuan Huang, Ying-Chi Chen, and Chien-Hung Tsai
4	Three Approaches to Light an 8x8 LED Dot- Matrix Display 37 / Wan-Fu Huang
5	A Layout-Aware Test Methodology for Silicon Interposer in 3D System-in-a-Package 41 / Ruei-Ting Gu, Cheng-You Ho, Katherine Shu-Min Li, Yingchieh Ho, Liang-Bi Chen, Kai-Yang Hsieh, Jiun-Jie Huang, Bo-Chuan Cheng, Syng-Jyan Wang, and Zih-Huan Gao
6	Crystal-originated particles on performance for Nano-generation IC process 75 / Po-Ying Chen, Wen-Kuan Yeh, and Pin-Han Li

26 February 13:30 - 15:00	ROOM IV
Section 1(Topic F)	Presider: Dr. Lain-Chyr Hwang and Dr. Guan-Hsiung Liaw

Order/Paper Number/ Paper Title / Author

1	A Symmetric-Key Broadcast Encryption Scheme with Shorter Transmissions 275 / Shyh-Yih Wang, Wu-Chuan Yang, and Show-Shiow Tzeng
2	K-Hop Search Based Geographical Opportunistic Routing for Query Messages in Vehicular Networks 279 / Bo-Sheng Chiou, Ying-Jen Lin, Yu-Ching Hsu, Shyh-Yih Wang, Show-Shiow Tzeng, and Jian-Yu Huang
3	Location Explorer with Information Services: A Mobile Application to Deliver Location- Based Web Services 283 / Shang-Pin Ma, Wen-Tin Lee and Chia-Hsu Kuo
4	Design of Video Surveillance in Wireless Router 287 / Tain-Lieng Kao, Yih-Chang Lee, Yu-Wen Lin, Kou-Tan Wu, and Lain-Chyr Hwang
	Universal Middleware Bridge System for IP Cam Networking 291

5

/ Chia-Hsu Kuo, Huan-Ming Hsu, Shu-Chun Ho, Wen-Tin Lee

6

Adaptive Rate Control for Broadcasting Multimedia Streams in IEEE 802.11 Networks 296

/ Guan-Hsiung Liaw, Ke-Han Tsai, Sun-Yuan Wang, Tain-Lieng Kao, Lain-Chyr Hwang, and Yuh-Chung Lin?

26 February 15:30 - 17:00

ROOM II

Section 2 (Topic E)

Presider: Dr. Jung-Sheng Huang and Dr. Jung-Sheng Chiang

Order/Paper Number/ Paper Title / Author

1

A Fault Location System for Underground Transmission Line on Google Map 157

/ Jun-Zhe Yang and Hung-Yu Lin

2

Phase Dependent of DBR Gratings 114

/ Nai-Hsiang Sun, Chia-Ming Hu, Ping-Hung Lin, Jung-Sheng Chiang, Shih-Chiang Lin, Tso-Min Chou, Jerome K. Butler, and Gary A. Evans

3

Design of a PA Controller for a Quad-Band Cell Phone 45

/ Shen-Whan Chen, Shuming T. Wang, Chien-Hsun Chen, Rey-Chue Hwang, Wei Zhen and Cheng-Ta Chiang

4

An H2 Robust Control Scheme for Systems with Nonlinearities 301

/ Chieh-Chuan Feng and Yung-Yeh Lin

5

Elderly Health Care Systems - Part I: Hardware Implementations of Wireless Sensor Networks 305

/ Chieh-Chuan Feng, Shang-Zhi Chen, Qi-Zhi Weng, Hong-Jun Hu, Yan-De Wang, Bo-Bin Chen, Ting-Yu Yan

26 February 15:30 - 17:00

ROOM II

Section 2 (Topic E)

Presider: Dr. Chong-Dao Lee and Dr. Wei-Cheng Lin

Order/Paper Number/ Paper Title / Author

1	An Efficient H.264 Video Encoder Based on BF548 DSP 202 / Chou-Chen Wang, Hsiang-Chun Wang, Yi-Chieh Tsai, Jin Feng
2	3-D IR Imaging System for Heat spot Tracer. 206 / Jun-Ming Pan, Chia-Yen Chen, Jen-Hao Teng, and Chi-Fa Chen
3	Mechanical Design Using Mixed-Integer Memetic Algorithm with Lagrange Method 212 / Yung-Chien Lin, Wei-Cheng Lin, and Po-Ying Chen
4	The Optimization of Nonlinear Programming Problem by Subgradient-Based Lagrangian Relaxation 216 / Wei-Cheng Lin, Yung-Chien Lin, Kie-Yang Lo, and Po-Ying Chen
5	Intelligent robot motion control system Part I: system overview and image recognition 220 / Yuan-Wei Tseng Chang-Meng Li, Alan Lee and Guo-Cin Wang
6	Intelligent robot motion control system Part II: Fuzzy motion control and experiment 224 / Yuan-Wei Tseng, Chang-Meng Li, Alan Lee and Guo-Cin Wang

26 February 15:30 - 17:00	ROOM IV
Section 2 (Topic E)	Presider: Dr. Chun-Hsu Ko and Dr. Chin-Wen Chuang

Order/Paper Number/ Paper Title / Author

1	The Data Mining for TP Film's Transmittance by Using Neural Network 228 / Yu-Ju Chen, Rey-Chue Hwang, Chuo-Yean Chang, Huang-Chu Huang, Pu-Ten Hsu
2	Robust chaos suppression design for a nonlinear energy resource system with uncertainties in the control input 232 / Cheng-Fang Huang ¹ , Teh-Lu Liao ¹ , Jun-Juh Yan

3	Polynomial Fuzzy Control of an Inverted Pendulum System by Sum-of-Squares Approach	236
	/ A. Gwo-Ruey Yu , and B. Shun-Min Wang	
4	Synchronous buck converter modeling by a particle swarm optimization approach	240
	/ Shan-Cheng Pan, Wei-Der Chang, Jun-Ping Cheng	
5	Fairness Uplink Packet Scheduling Strategies in LTE Networks	244
	/ Shih-Jung Wu	
6	Indoor Positioning in Complex Environments Using Modified Probabilistic Neural Network	248
	/ Chih-Yung Chen	

25 February 13:30 - 15:00	ROOM V
Poster for Topic A, Topic B, and Topic C	

Order/Paper Number/ Paper Title / Author

1	Electrical Performance of a-Si:H and Poly-Si TFTs with Heating Stress	309
	/Shea-Jue Wang ¹ , Ssu-Hao Peng ³ , You-Ming Hu ² , Shuang-Yuan Chen ² , Heng-Sheng Huang ² , Mu-Chun Wang ^{3,a} , Hsin-Chia Yang ^{3,b} , Chuan-Hsi Liu ⁴	
2	High Quality of 0.18 μ m CMOS 5.2GHz Cascode LNA for RFID Tag Applications	313
	/Hsin-Chia Yang ¹ , Ssu-Hao Peng ¹ , Shea-Jue Wang ^{2,b} , Mu-Chun Wang ^{1,a} , Chun-Wei Lian ¹ , Jie-Min Yang ¹ , Hung-I Chin ¹ , Chuan-Hsi Liu ³	
3	A New Method Characterizing pH in EIS	317
	/Shanglin Liu, Janlung Li , Yuchung Huang	
4	Clock Skew Minimization with Adjustable Delay Buffers Restriction	321
	/Chi-Chou Kao and Kun-Cte Lin	
5	Software-Based Microprocessor Verification Methodology for Linux Booting	325

	/Chien-Chih Chen, Chi-Tsai Yeh and Ing-Jer Huang	
6	Design and Application of Van Der Pol Oscillator Using NDR Circuit	329
	/Kwang-Jow Gan, Zheng-Jie Jiang, Din-Yuen Chan, Cher-Shiung Tsai, Jian-Syong Huang, Zhen-Kai Kao, and Wen-Kuan Yeh	
7	Design and Representation of Parameterized Layouts for Octagonal Spiral Inductors	333
	/Zhi-Wen Wang, I-Lun Tseng, and Adam Postula	
8	A 300mV Sub -1pJ Differential 6T Sub-threshold SRAM with Low Energy and Variability Resilient Local Assist Circuit	337
	/Lih-Yih Chiou, Chi-Ray Huang, Chang-Chieh Cheng and Yu-Lin Tsai	
9	A Direct-Conversion RF Transmitter for 4G LTE Applications	341
	/Jian-Ming Wu, Ming-Yin Ko, Kang-Chun Peng, and Sheng-Fuh Chang	
10	LED Strobe Lighting for Machine Vision Inspection	345
	/Wen-Kuan Lin, Chii Maw Uang, Ping-Chieh Wang, and Zu-Sheng Ho	
11	Building Electronic Design Automation Tools Developed for UNIX on Microsoft Windows	347
	/Hsin-Jung Wang and Zhi-Ming Lin	
12	Use Moment Method with Sub-domain function to compute the Parameters of Double-layer Microstrip antenna	350
	/Tung-Hung Hsieh, Chin-Chia Chen, Pi-Wei Chen	
13	Dual-Band Microstrip Antenna With Z-Shape Patch	354
	/Tung-Hung Hsieh, Yi-Ming Cheng, and Pi-Wei Chen	
14	Numerical Simulation of Metal-Oxide-Semiconductor Metamorphic High-Electron-Mobility Transistor	357
	/Jung-Sheng Huang, Kuan-Wei Lee, Po-Yu Lin, Yu-Hsiang Tseng, Chih-Hung Tu, and Wuttinun Raksavas	

15	Si-Capping Thicknesses Impacting Compressive Strained MOSFETs with Temperature Effect 361 /Mu-Chun Wang, Ssu-Hao Peng, Shea-Jue Wang, Hsin-Chia Yang, Wen-Shiang Liao, Chao-Wang Li, Chuan-Hsi Liu
16	Development of Bragg Reflectors with Multi-Layered Porous-Silicon Structures for Optically Chemical-Sensing Applications 365 /Kuen-Hsien Wu
17	Short Channel Effect of Stack Si/SiGe pMOSFET 368 /Yu-Seng Lin, and Wen-Teng Chang
18	Strained pMOSFETs with SiGe Channel and Embedded SiGe Source/Drain Stressor under Heating and Hot-Carrier Stresses 371 /Mu-Chun Wang,, Min-Ru Peng, Liang-Ru Ji, Heng-Sheng Huang, Shuang-Yuan Chen, Shea-Jue Wang,, Hong-Wen Hsu, Wen-Shiang Liao, Chuan-Hsi Liu
19	Probing Moving Charge Distribution of Biaxial and CESL Strained PMOSFETs with Body Effect 375 /Mu-Chun Wang, Jing-Zong Jhang, Shea-Jue Wang,a, Hsin-Chia Yang, Wen-Shiang Liao, Ming-Feng Lu, Guo-Wei Wu, Chuan-Hsi Liu
20	Body Effect of SiGe and CESL Strained Nano-node NMOSFETs on (100) Silicon Substrate 379 /Mu-Chun Wang, Guo-Wei Wu, Shea-Jue Wang, Hsin-Chia Yang, Wen-Shiang Liao, Ming-Feng Lu, Jing-Zong Jhang, Chuan-Hsi Liu
21	Simulation of Self-heating Effects on Heterojunction Bipolar Transistors 383 /Yang-Hua Chang and Jia-Shiou Cai
22	Diagnosis of Carbon Content Defects during Nitride Layer Growth for Nano-generation Technology 386 /Po-Ying Chen, Wen-Kuan Yeh and Keng-Chang Tu
23	Trend of Subthreshold Swing with DPN Process for 28nm N/PMOSFETs 389 /Mu-Chun Wang, Chong-Kuan Du, Min-Ru Peng, Shea-Jue Wang, Shuang-Yuan Chen, Chuan-Hsi Liu, Osbert Cheng, LS Huang, Shih Ching Lee
24	Yield Improvement of Gadolinium Oxide Resistive Switching Memory with Oxygen Post-Metallization Annealing 393 /Jer-Chyi Wang, Chao-Sung Lai, De-Yuan Jian, and Yu-Ren Ye

	Chang Gung University, Taoyuan, Taiwan.	
25	Graphene Oxide Based Device for Flexible RRAM Application /Chun-Chieh Lin, Yi-Da Chen, and Nian-Cin Lin	396
26	A Viscosity Sensor Using AT-Cut Quartz Resonator /Ping-Cheng Chen and Chung-Long Pan	399
27	Improved Microwave Dielectric Properties of Nd(Mg _{0.5} Sn _{0.5})O ₃ Ceramics with Ca Substitution /Yih-Chien Chen, Da-Yeh Tsai and Kuang-Chiung Chang	402
28	Analysis of the Conversion Efficiencies of β -FeSi ₂ and BaSi ₂ Solar Cells /Jung-Sheng Huang, Kuan-Wei Lee, Shang-Ru Li, Cheng-Lung She, and Wuttinun Raksavas	406
29	Calculation of Internal Quantum Efficiency of β -FeSi ₂ Light-Emitting Diode /Jung-Sheng Huang, Kuan-Wei Lee, Jung-Chin Chang, Chan-Cheng Yeh, and Wuttinun Raksavas	409
30	Highly sensitive fiber-optic particle plasmonresonance refractive index sensor based on spatiaallight modulation technology /Chien-Hsing Chen, Jaw-Luen Tang, Lai-Kwan Chau, Tai-Huei Wei and Wei-Te Wu	412
31	Microcavity fiber Fabry-Pérot interferometer with embedded golden thin film for high temperature measurement /Cheng-Ling Lee, Jui-Ming Hsu, Jing-Shyang Horng, and Wei-Yi Sung	415
32	Fabrication of Plasmonics Si Solar Cells Based on Indium Nanoparticles and TiO ₂ Space Layer /Yuan-Tsz Chen, Wen-Jeng Ho, Yi-Yu Lee, Jia-Ying Wu and Hung-Pin Shiao	417
33	White Organic Light-Emitting Diode Fabricated with Fluorescent-Phosphorescent Emission Layers /Su-Hua Yang, Po-Jen Shih, Wen-Jie Wu, Yi-Hua Huang National Kaohsiung University of Applied Sciences, Kaohsiung, Taiwan	420
	Characterization of ambipolar organic thin-film transistors	423

34	/Sheng-Luen Huang, Shui-Hsiang Su, Chung Ming Wu, Yao-Sheng Hsieh, and Meiso Yokoyama	
35	Photo-responsivity of a Si-based MIS Photo-detector with Multi-dielectric Layers /Ming Chang Shih, Sing Wei Fang, and Wen How Lan	426
36	Color-tunable white organic light-emitting diodes with a red dopant as the color conversion layer /Chun-Yo Chen, Shui-Hsiang Su, Zih-Yu Shao, Yu-Lin Liu, and Meiso Yokoyama	429
37	White organic light-emitting diodes with a YAG:Ce ³⁺ color conversion layer /Kai-Yuen Lam, Yu-Lin Liu, Shui-Hsiang Su, Chun-Yu Chen, Chien-Feng Lin, and Meiso Yokoyama	432
38	Measurement of Index of Refraction of Unknown Liquid Using a Microstructure Fiber Bragg Grating /Ming Chang Shih, Chau Jie Kang, and Zhong Chi Chen	435
39	Deposition of Homo-Multilayer Indium Tin Oxide Films on PET Substrates by Roll-to-Roll Sputtering /Hung-Wei Yeh, Chih-Lung Tseng, Po-Jui Chiang, Jau-Ji Jou, and Nai-Hsiang Sun	438
40	Enhancing the efficiency of inverted organic solar cells by using the exciton blocking layers /Kai-Yuen Lam, Hui-Hsuan Lee, Shui-Hsiang Su, Wen-Kai Lin, Che-Chun Liu, Zhi-Ren Wang, and Meiso Yokoyama	441
41	Enhancing the responsivity of UV to visible by inserting a SiO ₂ layer between p-Si and i-ZnO for the heterojunction photodiode with p-Si/SiO ₂ /i-ZnO/n-ZnO structure /William-Ting Han Wu, Jun-Dar Hwang	443
42	Organic Solar Cells with Embedded Nickel Reflectors /C. M. Hsu, W. T. Wu, C. C. Sou and G. T. Lin	446
43	Nano Photoelectric Material Structures – Photonic Crystals /Li-Hsiang Wang, Su-Hua Yang	450

25 February 15:30 - 17:00

ROOM V

Poster for Topic D, Topic E, and Topic F

Order/Paper Number/ Paper Title / Author

1	Design, Analysis and Experimental Verification of a Modularized Output Current Ripple-Free Microgrid Inverter /Ching-Ming Lai, Yi-Hung Liao	455
2	A study of preparation and optical properties of the white OLEDs stacked with YAG and Sr ₂ Si ₅ N ₈ : Eu phosphors based Color Conversion Layers /Zhi Zhou, Suqin Liu, Younian Liu, Meiso Yokoyama	459
3	Study of a DC-DC Converter for Solar LED Street Lighting /Chia-Ching Lin, Lung-Sheng Yang, and En-Chih Chang	461
4	Study of a DC-DC Converter with Large Step-Down Voltage Conversion /Lung-Sheng Yang, En-Chih Chang, and Chia-Ching Lin	465
5	Simulation of a novel single junction thin film solar cell /Wan-Rou Chang, Jyi-Tsong Lin, Yi-Chuen Eng, Yu-Sheng Kuo, Yun-Ru Chen, Po-Hsieh Lin	469
6	The Optimal Economic Dispatch of Smart Microgrid Including Distributed Generation /Gwo-Ching Liao	473
7	Effects of Screen-Printed Aluminum-Alloyed Front Emitter on Characteristics of Screen-Printed N-Type Silicon Solar Cells /Wei-Ching Chuang, Manh-Tan Nguyen, Chin-Lung Cheng, Chi-Chung Liu,, and Guan-Yu Ji	478
8	Solar Tracking Control System Based on a hybrid BFO/PSO /Te-Jen,Su, Chien-Fang,Lo, Chun-Sheng,Chiu, Jui-Chuan,Cheng	482
	Solar PV Generation System Controls for Improving Voltage in Distribution Network	486

9	/C. T. Hsu, L. J. Tsai, T. J. Cheng, C. S. Chen and C. W. Hsu	
10	Optimal Penetration level of PV generation for Distribution System load transfer	490
	/Wei-Lin Hsieh, Chia-Hung Lin, Chao-Shun Chen, Cheng-Ting Hsu, Te-Tien Ku, Chin-Ying Ho	
11	Advanced Distribution Automation System for control of PV inverters to enhance PV penetration	494
	/C. S. Chen, C. H. Lin, W. L. Hsieh, C. T. Hsu, T. T. Ku	
12	High Step-Up DC/DC Converter for Fuel Cell Hybrid Electric Vehicles	498
	/Kuo-Ching Tseng, Jian-Ting Lin	
13	Study and Implementation of Asymmetrical Half-Bridge Converter	502
	/Kuo-Ching Tseng, Fenf-Jie Chiou, Jyun-Ze Chen, Jia-Huei Kang	
14	Design of High Step-Up Conversion Circuit for Fuel Cell Power Supply System	506
	/Kuo-Ching Tseng, Ming-Han Tsai, Chia-Yu Chan	
15	Field emission characteristics of carbon nanotubes deposited on various metal cathodes	510
	/Meiso Yokoyama, Peng-Wei Hung, Shui-Hsiang Su, and Ming-Chen Sun	
16	Ultra High Step-Up Converters with Reduced Diode Stresses Sharing	513
	/Kuo-Ching Tseng, Chi-Chih Huang	
17	Subjective Mood Estimation Using PowerEnergy of EEG Frequency Band	517
	/Chin-Shun Hsieh , and Cheng-Chi Tai	
18	Stereoscopic Visual System for2D to 3D Conversion System	521
	/Yu-Cheng Fan, Yi-Chun Chen, and De-Wei Shen	

19	Concatenated Multilevel Coset Codes with Interlevel Coding	525
	/Shang-Chih Ma	
20	The Quantitative Analysis of Liver Ultrasound Images by Depth Correction	528
	/Shih-Yen Hsu, Wei-Chang Du, Nan-Han Lu,, Yung-Hui Huang, Tai-Been Chen,	
21	Study on Using the Heart Rate Peak Sensor to Detect the First Moment of Doze	531
	/Po-Ying Chen, Wen-Kuan Yeh, Pin-Han Li and Keng-Chang Tu	
22	Searching the Doze Characteristics from Skin Surface Information	534
	/Po-Ying Chen, Wen-Kuan Yeh and Keng-Chang Tu	
23	Image Registration Based on CEMD	537
	/Ho-HsuanChang , Jin-Shing Shia and Zeng-Hwa Tsai	
24	Gabor Feature Based Classification Using Enhance Two-direction Variation of 2DPCA Discriminant Analysis for Face Verification	541
	/Hsi-Kuan Chen, Yi-Chun Lee Chin-Hsing Chen	
25	An calculation forc omplex eye-blink duration by regression	549
	/Chin-Shun Hsieh , and Cheng-Chi Tai	
26	The Implementation of Using P-P-C Filter to Balloon Snake Algorithm	553
	/Ta-Shan Tsui,, Shyr-Shen Yu, Shi-Hwang Lin, Jr-Luen Lin, Huang-Chieh Change and Chih-Yu Hsu	
27	Implementation of Stream Cipher Service in JCA	557
	/Wu-Chuan Yang , Jian-Xun Lee	
28	The Adaptive Visual Surveillance System Based on the Variance of Image Information	562

	/Chien-Shiang Huang, Mei-Chun Kuo, Ming-You Shen and Yao-Zhu Yang	
29	Mobile Robot Localization by Dead Reckoning	565
	/Chih-Liang Chen and Yi-De Guo	
30	Using Odometry for Differential Wheeled Robots	569
	/Chih-Liang Chen and Jun-Hao Zhang	
31	Large-sized Seedling of <i>Anoectochilus Formosanus</i> Hayata by Combining CCFLs and LEDs as Light Sources	572
	/Hau-Chen Yen Po-Han Wu Guan-Fu Lin	
32	Design of Compact BPF with Controllable Multiple Transmission Zeros for WIMAX Applications	576
	/Hui-Hsiang Huang and Tzyy-Sheng Horng	
33	Lead-Lag Compensator Design Based on Greedy Particle Swarm Optimization	579
	/Huey Yang Horng	