

2nd *ENGE* 2012

International Conference on Electronic Materials
and Nanotechnology for Green Environment

Sep. 16 - Sep. 19, 2012, Jeju, Korea



- Hosted by  Korean Institute of Metals and Materials
- Organized by  Electronic Materials Research Association
- Sponsored by   
- Supported by        



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WELCOME MESSAGE

Dear Electronic Materials Researchers,

On behalf of staff members of ENGE preparation committee, it is my great pleasure to cordially welcome you to ENGE 2012.

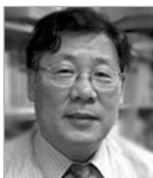
Following the first ENGE in 2010, where about 500 technical papers were presented, we are to meet about 900 papers at this second ENGE international conference contributed by delegates from 12 countries around the world. Especially, we proudly announce 10 topical symposiums at ENGE 2012, where more than 10 prominent researchers for each symposium are invited for an oral presentation of their new findings on the electronic materials.

History of a mankind has been grouped depending on the materials governed the corresponding era such as Stone age - New Stone age - Bronze age - Iron age and now it can be said we are living in Electronic materials age. The cutting edge technologies in electronic materials are advancing so fast that in the year of 2010, a certain number of professors in Korea felt it essential to build a ground, where new findings can be disclosed and exchanged among the researchers.

Research on electronic materials is so interdisciplinary that ENGE is not belonging to any specific academic society. Regardless of your academic background, Metallurgist, Ceramic engineer, Electrical engineer, Physicist, or Chemist, all are welcome to attend ENGE as far as you are interested in the electronic materials, where the newest studies in Energy, Display, Nano, and Semiconductor materials are to be highlighted and discussed.

Once again, I wish to express my warm welcome to you all and encourage you for active participation in ENGE 2012. Every one of you will be remembered and hosted.

Our staff members help you enjoy your stay in Jeju, the most beautiful island in Korea, and are looking forward to seeing you soon. Thank you very much.



Seung-Ki Joo

Professor of Seoul National University
Chairman of ENGE



COMMITTEE

Organizing Committee	General Chair	Seung-Ki Joo (Seoul National University)
	Vice General Chair	Young-Ho Kim (Hanyang University)
	General Secretary	Heon Lee (Korea University)
	Symposium Chair	Kyung-Ho Shin (Korea Institute of Science and Technology)
	Publication Chair	Byungwoo Park (Seoul National University)
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	EE	Wooyoung Lee (Yonsei University) Renkun Chen (UC San Diego)
	Organizer	Jang-Joo Kim (Seoul National University)
	DA	Jang Yeon Kwon (Yonsei University) Yong-Young Noh (Hanbat National University) Kiyohi Yase (Nat 'I Inst.of Advanced Industrial Science and Tech.) Kazuhiro Kudo (Chiba University)
	DB	Seong-Ju Park (Gwangju Institute of Science and Technology) Jong-Lam Lee (Pohang University of Science and Technology) Tae-Yeon Seong (Korea University) Chin-Chung Yang (National Taiwan University) Rong Zhang (Nanjing University) S. F. Chichibu (Tohoku University)
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	DD	Min Sun Kim (Korea Electronics Technology Institute) Chung Keun Song (Dong-A University)

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Program Committee

Nano Engineering

Organizer	Ji Beom Yoo (Sungkyunkwan University)
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NB	Seokwoo Jeon (Korea Advanced Inst. of Science and Tech.) Tae-Sik Yoon (Myoungji University) Shinji Matsui (University of Hyogo) Grace Ho (National University of Kaoshiung)
NC	Naeung Lee (Sungkyunkwan University) Raj Jammy (SEMATECH)
ND	Nong-Moon Hwang (Seoul National University) Youn Sang Kim (Seoul National University) Barbaros Ozyilmaz (National University of Singapore)

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MB	Young-Bae Park (Andong National University) Soo-Hyung Kim (Yeungnam University) Hajime Tomokage (Fukuoka University) Yutaka Tsukada (i-PACS) Jun-ichi Koike (Tohoku University) Chee Lip Gan (Nanyang Technological University)
MC	Joonyeon Chang (Korea Institute of Science and Technology) Deok-Kee Kim (Sejong University)
MD	Sang Yeol Lee (Cheongju University) CheolGi Kim (Chungnam National University) Toshio Kamiya (Tokyo Institute of Technology)
ME	Pyung Woo Jang (Cheongju University) Young Keun Kim (Korea University)

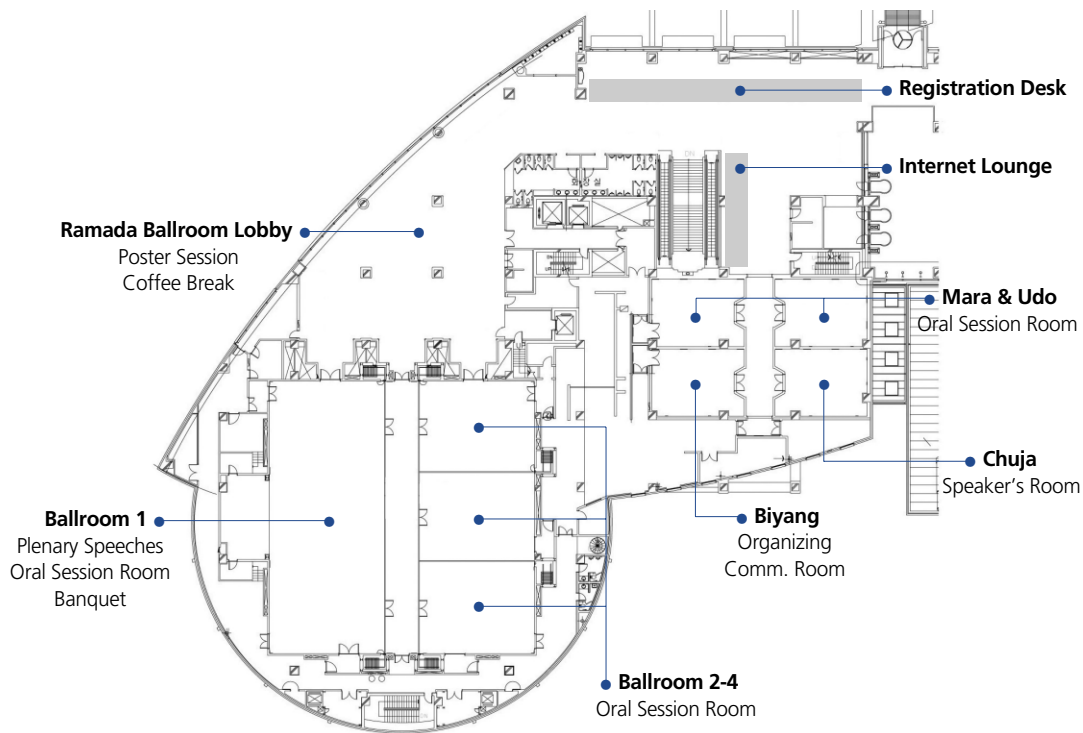
Topical Symposium Chair

TA	Donghwan Kim (Korea University)
TB	Jang-Joo Kim (Seoul National University)
TC	Jong-Lam Lee (Pohang University of Science and Technology)
TD	Sang Yeol Lee (Cheongju University)
TE	Hee Woong Lee (Korea Electrotechnology Research Institute)
TF	Ki-Bum Kim (Seoul National University)
TG	Ji Beom Yoo (Sungkyunkwan University)
TH	Jae-Gab Lee (Kookmin University)
TI	Woo Young Yoon (Korea University)
TJ	Young Keun Kim (Korea University)

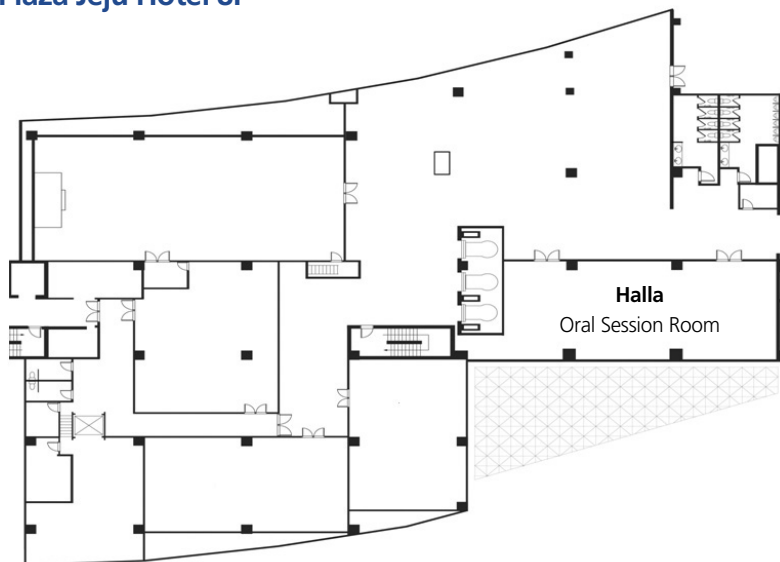


VENUE LAYOUT

Ramada Plaza Jeju Hotel 2F



Ramada Plaza Jeju Hotel 8F



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CONFERENCE INFORMATION

Registration

The registration desk will be operated during the conference according to the schedule below.

Registration Desk

Location	Conference Room Lobby 2F	
Operating Time	15:00-18:00	September 16 [Sun.]
	08:00-18:00	September 17-18 [Mon.-Tue.]
	08:00-16:00	September 19 [Wed.]

Registration Fee

Category	On-Site Registration	Registration Fee Includes
Regular	USD 650 KRW 715,000	Access to all sessions, Name badge, Conference bag (program book, abstract USB), Welcome reception, Banquet, Lunch, Coffee break
Student	USD 350 KRW 385,000	Same benefits to regular except banquet
Banquet	USD 100 KRW 110,000	All participants may purchase banquet tickets at the on-site registration desk.

Name Badge

For security purposes, participants must wear their name badges to access the conference. You will be given a name badge when you register. If your badge needs correction, please visit the information desk for a replacement.

Certificate of Attendance

A certificate of attendance will be issued upon request at the information desk after 3 p.m. during the conference.

Internet Lounge

Location	Conference Room Lobby 2F	
Operating Time	15:00-18:00	September 16 [Sun.]
	08:00-18:00	September 17-18 [Mon.-Tue.]
	08:00-16:00	September 19 [Wed.]

Free internet service is available at the internet lounge.

Speaker's Room

Location	Chuja Room 2F	
Operating Time	15:00-18:00	September 16 [Sun.]
	08:00-18:00	September 17-18 [Mon.-Tue.]
	08:00-16:00	September 19 [Wed.]

All speakers will be able to check their presentation files at the speaker's room.



Announcement & Message Board

Announcement and Message Board will be set up near the registration desk area so that participants can get useful information from the secretariat or other participants.

Secretariat

Location	Conference Room Lobby 2F	
Operating Time	15:00-18:00	September 16 [Sun.]
	08:00-18:00	September 17-18 [Mon.-Tue.]
	08:00-16:00	September 19 [Wed.]

Please feel free to visit the on-site secretariat office during the conference if you have any question or comments.

Coffee Break

Location	Ramada Ballroom Lobby 2F	
Operating Time	15:40-16:00	September 17-19 [Mon.-Wed.]
	10:20-10:40	September 18-19 [Tue.-Wed.]

Lunch

Location	Ramada Plaza Jeju Hotel 1F	
Operating Time	12:00-14:00	September 17-19 [Mon.-Wed.]

Please bring your lunch coupon with your name badge.

Social Programs

Category	Date & Time		Place
Welcome Reception	18:00-19:30	September 16 [Sun.]	Ramada Ballroom Lobby 2F

You will experience a warm welcome from the host of ENG2012. All registrants are very welcome and a light meal and a drink will be provided free of charge.

Banquet	18:00-20:00	September 18 [Tue.]	Ramada Ballroom 2F
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Please join us to share an unforgettable evening. A delicious dinner with a traditional Korean music show and group performances will be provided.

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(www.tour2korea.com)



TECHNICAL PROGRAM

Session Timetable

September 17 (Mon.)

	Oral Presentation						Poster Presentation	
	Ballroom 1	Ballroom 2	Ballroom 3	Ballroom 4	Mara	Udo	Halla	Ballroom Lobby
10:00-10:40	Plenary Speech 1 (Prof. Sumio Iijima) / Ballroom 1							
10:40-11:20	Plenary Speech 2 (Prof. Masafumi Yamaguchi) / Ballroom 1							
11:30-12:00		TB-Keynote	TJ-Keynote	TI-Keynote	TF-Keynote			
12:00-14:00	Lunch							
14:00-15:40	TA 1 Solar Cells	TB 1 Organic Photonics and Electronics	TJ 1 Magnetic Materials and Spintronics Devices	TI 1 Post Lithium ion Battery and Materials (14:00-15:20)	NC Carbon Nano Materials (14:00-15:30)	TF 1 Nanoscience for Biomolecular Detection and Manipulation (14:00-15:50)		EBP / NAP (14:00-15:20)
15:40-16:00	Coffee Break							
16:00-18:00	TA 2 continued (16:00-17:40)	TB 2 continued (16:00-17:40)	TJ 2 continued	TI 2 + EC TI continued + Lithium and Advanced Secondary Battery Materials	NA Nano Dot, Nano Wire and Nano Processes	TF 2 continued		EDP 1 / NCP (16:20-17:40)

**September 18 (Tue.)**

	Oral Presentation						Poster Presentation	
	Ballroom 1	Ballroom 2	Ballroom 3	Ballroom 4	Mara	Udo	Halla	Ballroom Lobby
09:00-09:40	Plenary Speech 3 (Prof. Jimmy Xu) / Ballroom 1							
09:40-10:20	Plenary Speech 4 (Prof. Eric Fullerton) / Ballroom 1							
10:20-10:40	Coffee Break							
10:40-12:10	TE-Keynote	DB 1 LED Materials and Devices	TD-Keynote	TG 1 Recent Progress in Nano Carbon Materials (10:40-12:00)	ND 1 Nano Devices and Structures	MA Non-Volatile Memory Materials and Processes	TH-Keynote	TH 1 Materials and Processes of Self-assembly (10:40-11:50)
	TE 1 Advanced Thermoelectric Materials		TD 1 Issues on the Performance of Oxide Thin Film Transistor					
12:00-14:00	Lunch							
14:00-15:40	TE 2 continued	DB 2 continued 14:00-15:00	TD 2 continued	TG 2 continued (14:00-14:40)	ND 2 continued (14:00-15:45)	MC Sensor (14:00-15:45)	TH 2 continued (15:00-15:40)	EAP 1 / ECP / DAP / MBP / THP (14:00-15:20)
				Magnetism and Magnetic Materials (14:50-15:50)				
15:40-16:00	Coffee Break							
16:00-17:40	TE 3 continued (16:00-16:40)	DA Flexible Displays and Printed Electronics (16:00-17:15)			MB Advanced Packaging and Interconnection (16:00-17:45)	TH 3 continued (16:00-18:00)	EAP 2 / DBP / NDP / MAP / MCP / MEP (16:20-17:40)	
18:00-20:00	Banquet / Ramada Ballroom							



TECHNICAL PROGRAM

PROGRAM

September 19 (Wed.)

Oral Presentation								Poster Presentation		
	Ballroom 1	Ballroom 2	Ballroom 3	Ballroom 4	Mara	Udo	Halla		Ballroom Lobby	
09:00-10:20	EE Thermoelectric Power Devices (09:00-10:15)	EA 1 Devices and Materials for Energy Harvesting and Storage (09:00-10:15)	MD 1 Oxide Semiconductor (09:00-10:15)	ED 1 Photovoltaic Engineering (09:00-10:15)	NB 1 Nano Patterning and Self-assembly (09:00-10:15)	DC OLED Materials and Devices (09:00-10:00)	TH 4 Materials and Processes of Self-assembly (09:00-10:10)			
10:20-10:40	Coffee Break									
10:40-12:00	TC 1 The Design of Solid State Lighting: Next Generation of Lighting (10:40-12:20)	EA 2 continued (10:40-11:55)	MD 2 continued (10:40-11:55)	ED 2 continued (10:40-11:55)	NB 2 continued (10:40-11:55)	DD1 TFT Materials and Devices (10:40-11:55)	TH 5 continued (10:40-11:50)		EEP / DCP (10:40-12:00)	
12:00-14:00	Lunch									
14:00-15:40	TC 2 continued (13:20-15:40)	EA 3 continued (14:00-15:15)				DD 2 continued (14:00-15:00)			EDP 2 / DDP / NBP / MDP (14:00-15:20)	
15:40-16:00						Coffee Break				

**Topic Abbreviation**

	Topic	Oral	Poster
Energy	A. Devices and Materials for Energy Harvesting and Storage	EA	EAP
	B. Novel Fuel-Cell		EBP
	C. Lithium and Advanced Secondary Battery Materials	EC	ECP
	D. Photovoltaic Engineering	ED	EDP
	E. Thermoelectric Power Devices	EE	EEP
Display	A. Flexible Displays and Printed Electronics	DA	DAP
	B. LED Materials and Devices	DB	DBP
	C. OLED Materials and Devices	DC	DCP
	D. TFT Materials and Devices	DD	DDP
Nano Engineering	A. Nano Dot, Nano Wire and Nano Processes	NA	NAP
	B. Nano Patterning and Self-assembly	NB	NBP
	C. Carbon Nano Materials	NC	NCP
	D. Nano Devices and Structures	ND	NDP
Electronic Materials and Processing	A. Non-Volatile Memory Materials and Processes	MA	MAP
	B. Advanced Packaging and Interconnection	MB	MBP
	C. Sensor	MC	MCP
	D. Oxide Semiconductor	MD	MDP
	E. Magnetism and Magnetic Materials	ME	MEP
Topical Symposium	A. Solar Cell	TA	
	B. Organic Photonics and Electronics	TB	
	C. The Design of Solid State Lighting: Next Generation of Lighting	TC	
	D. Issues on the Performance of Oxide Thin Film Transistor	TD	
	E. Advanced Thermoelectric Materials	TE	
	F. Nanoscience for Biomolecular Detection and Manipulation	TF	
	G. Recent Progress in Nano Carbon Materials: CNT and Graphene	TG	
	H. Materials and Processes of Self-assembly	TH	THP
	I. Post Lithium ion Battery and Materials	TI	
	J. Magnetic Materials and Spintronics Devices	TJ	

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TECHNICAL PROGRAM

Plenary Speakers

Plenary Speaker 1



10:00-10:40, September 17

Nano-Carbon Materials: Past, Present and Future

Prof. Sumio Iijima (Meijo University, Japan)

Plenary Speaker 2



10:40-11:20, September 17

Importance of Photovoltaics as One of Clean Energy

Prof. Masafumi Yamaguchi (Toyota Technological Institute, Japan)

Plenary Speaker 3



09:00-09:40, September 18

Plasmonic Conductive Oxides - good transparent electrodes, great meta-optics, and extraordinary thermal-conductors too?

Prof. Jimmy Xu (Brown University, USA)

Plenary Speaker 4



09:40-10:20, September 18

Magnetic Nanostructures for Advanced Storage and Memory Applications

Prof. Eric Fullerton (University of California, San Diego, USA)

Presentation Guidelines

Oral Presentation

Presentation Time

- Length of presentation material should be in accordance with your time assigned, i.e. 15 minutes, which includes Q&A.
 - ※ Keynote: 30 min. / Invited: 20 min.
- Due time is strongly encouraged.
- Presentation material is to be concise, succinct, and clearly understood.

Presentation File & Speaker's Autobiography

- Presentation file should be prepared in MS-PowerPoint format in English.
- If you use font other than standard Windows Office 2010, please bring the font files along with the presentation file.



- Please bring your PowerPoint presentation file on a CD or USB memory stick and submit it to the operator of each presentation room at least 20 minutes before each session starts. The operator will load the presentation file.
- Each presenter is also asked to submit his/her own short autobiography to the session chair at least 20 minutes before each session starts.

Speaker's Room

Location	Chuja Room 2F	
Operating Time	15:00-18:00	September 16 [Sun.]
	08:00-18:00	September 17 - 18 [Mon.-Tue.]
	08:00-16:00	September 19 [Wed.]

- Please visit the Speaker's Room to check your presentation file at least 3 hours before your session starts to ensure your presentation file is proper.
- If your presentation file contains animations or movies, please check any technical matters 6 hours prior to your session.

Audio Visual Equipment

- All presenters are required to use only venue facilities. Each session room will be equipped with the following facilities;
 - Laptop computer running MS-Office PowerPoint 2010 operated in Windows XP with compact disk reader (CD & DVD) and USB drive
 - Smart pointer and mouse
 - Beam projector (RGB Port)
 - Screen
- It is strongly discouraged to bring your own laptop computer (especially Apple laptop) unless your presentation requires any special software and/or hardware.

Poster Presentation

- Poster partition size is 1m (width) and 1.2m (height). It can be a single poster or a multiple of smaller posters.
- The poster text including the paper title should be printed and enlarged, so that it can be read from a distance of at least 2 meters.
- Poster presenters are required to prepare their own poster materials in advance and **post their presentations 30 minutes prior to the beginning of the session.**
- Please mount your presentation on the partition with the presentation title and poster number.
- Please **remove your poster within 20 minutes** after your session ends. All remaining posters will be removed.
- The materials such as magnets and tapes will be provided in the poster session place.



Oral Presentation

Solar Cells (TA)

Sep. 17, 2012 (Mon.)

TA 1 (Solar Cells 1)

Ballroom1

Organizer: Donghwan Kim (Korea Univ.) Chair: Sam S. Yoon (Korea Univ.)

14:00-15:40

TA 1149 Cost- and Performance-competitive CIGS Technologies

14:00-14:20 Shigeru Niki

Invited Speech AIST

TA 1136 Development of Earth-Abundant CZTS Thin Film Solar Cells

14:20-14:40 Jae Ho Yun, Jihye Gwak

Invited Speech Korea Institute of Energy Research

TA 1126 Sub-micron CIGS Thin Film Solar Cell

14:40-15:00 Jeha Kim¹, Yong-Duck Chung², Dae-Hyung Cho²

Invited Speech ¹Cheongju University, ²ETRI

TA 0917 Effect of Sulfurization during the Reactive Annealing of CuGaln Metal Precursors

15:00-15:20 Woo Kyoung Kim, Jaseok Koo

Invited Speech Yeungnam University

TA 0757 a-Si:H/c-Si Heterojunction Solar Cells by Simultaneous Deposition of Thin a-Si:H Layers Both on Front and Back Surface of Wafers

15:20-15:40 Jeong Chul Lee

Invited Speech Korea Institute of Energy Research

Sep. 17, 2012 (Mon.)

TA 2 (Solar Cells 2)

Ballroom1

Organizer: Donghwan Kim (Korea Univ.) Chair: Woo Kyoung Kim (Yeungnam Univ.)

16:00-17:40

TA 1143 Effect of Aluminum Back Surface Field on Wafer Resistivity Selection for Crystalline Silicon Solar Cells

16:00-16:20

Invited Speech Donghwan Kim, Sungeun Park, Young Do Kim, Sung Ju Tark
Korea University

TA 1132 Recent Progress in Record Efficiency 20% Industrial Crystalline Silicon Solar Cells

16:20-16:40 Hae-Seok Lee¹, Eun-Joo Lee²

Invited Speech ¹Susung Tech Co., Ltd., ²Shinsung Solar Energy Co., Ltd.

TA 0941 Two-step Metallization of Silicon Solar Cells by Inkjet Printing Process

16:40-17:00 Seong Gu Kang¹, Chang Wan Lee¹, Yoon Jang Chung¹, Jang Bo Shim¹, Seok Jong Jeong¹, Teak-Mo Chung¹, Chang-Gyoun Kim¹, Donghwan Kim², Young Kuk Lee¹

Invited Speech ¹KRICT, ²Korea University

TA 1010 The Analysis of Cell-crack Induced Degradation for Crystalline Si PV Module after 5 Years Operation

17:00-17:20

Invited Speech Nochang Park^{1,2}, Hyunwoo Kang¹, Donghwan Kim²
¹KETI(Korea Electronics Technology Institute), ²Korea University

TA 0759 Vacuumless Low-cost Spray Deposition for Solar Cell Applications

17:20-17:40 Sam S. Yoon

Invited Speech Korea University

**Organic Photonics and Electronics (TB)**

Sep. 17, 2012 (Mon.)

TB 1 (Organic Photonics and Electronics 1)

Ballroom2

Organizer: Jang-Joo Kim (Seoul Nat'l Univ.) **Chair:** Ken-Tsung Wong (Nat'l Taiwan Univ.)

11:30-15:40

TB 0987 Organic Light-Emitting Diodes Employing Efficient Reverse Intersystem Crossing Aimed for Ultimate EL Efficiency

11:30-12:00

Keynote Speech Chihaya Adachi
Kyushu University**TB 0996 Highly Transparent Organic-Light Emitting Devices**

14:00-14:20

Invited Speech Jang Hyuk Kwon
Kyung Hee University**TB 0913 Fullerene C60-based Organic Electronics: Application to High Speed Rectifier and Non-Volatile Memory**

14:20-14:40

Invited Speech Seunghyup Yoo, Han Ul Moon, Seungwon Lee
KAIST**TB 1001 Highly Efficient Flexible Organic Light-Emitting Diodes using Graphene Electrodes**

14:40-15:00

Invited Speech Tae-Hee Han¹, Youngbin Lee², Mi-Ri Choi¹, Seong-Hoon Woo¹, Sang-Hoon Bae², Byung-Hee Hong³, Jong-Hyun Ahn², Tae-Woo Lee¹
¹Pohang University of Science and Technology, ²Sungkyunkwan University, ³Seoul National University**TB 0125 Extremely Flexible Transparent Conductive Electrode for Organic Solar Cells and OLEDs Applications**

15:00-15:20

Invited Speech Jae-Wook Kang¹, Sunghoon Jung¹, Dae Sung You¹, Myungkwan Song¹, Sunghun Lee², Do-Geun Kim¹, Jong-Kuk Kim¹, Jang-Joo Kim²
¹Korea Institute of Materials Science(KIMS), ²Seoul National University**TB 1177 Inverted OLEDs on Platics**

15:20-15:40

Invited Speech Jeong-Hwan Lee¹, Sei-Yong Kim¹, Jang-Joo Kim¹, Po-Sheng Wang², Chih-I Wu²¹Seoul National University, ²National Taiwan University

Sep. 17, 2012 (Mon.)

TB 2 (Organic Photonics and Electronics 2)

Ballroom2

Organizer: Jang-Joo Kim (Seoul Nat'l Univ.) **Chair:** Chihaya Adachi (Kyushu Univ.)

16:00-17:40

TB 0065 Low Bandgap Polymers based on Diketopyrrolopyrrole for High Performance Polymer Solar Cells

16:00-16:20

Invited Speech Jae Woong Jung, Won Ho Jo
Seoul National University**TB 0851 Chemical Approach of Bipolar Universal Host Materials for Highly Efficient Electrophosphorescent Devices**

16:20-16:40

Invited Speech Ken-Tsung Wong
National Taiwan University**TB 0272 Development of Materials for High-performance and High Stable Organic Electronics**

16:40-17:00

Invited Speech Dong-Yu Kim, Jin-Mun Yun, Juhwan Kim, Jun-Seok Yeo

Gwangju Institute of Science and Technology

TB 0825 Development of New Organic Semiconducting Materials

17:00-17:20

Invited Speech Yun-Hi Kim, Soon-Ki Kwon
Gyeongsang National University

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- TB 0085** **Low-Voltage Operating All Solution-Processed High-Speed Polymer Complementary Integrated Circuits**
 17:20-17:40
 Invited Speech Yong-Young Noh
Hanbat National University

Magnetic Materials and Spintronics Devices (TJ)

Sep. 17, 2012 (Mon.)

TJ 1 (Magnetic Materials and Spintronics Devices 1)

Ballroom3

Organizer: Young Keun Kim (Korea Univ.) Chair: Myung-Hwa Jung (Sogang Univ.)

11:30-15:40

- TJ 1003** **High Frequency and ME Spintronics for Technical Innovations on Low-Power-Consumption Storage/Memory**
 11:30-12:00
 Keynote Speech Masashi Sahashi, Kousaku Miyake, Tomohiro Nozaki, Yohei Shiokawa
Tohoku University

- TJ 1049** **Magnetic Anisotropy of Fe/FeCo/Cu(001):Thickness and Temperature Dependence**
 14:00-14:20
 Invited Speech Chanyong Hwang
Korea Research Institute of Standards and Science

- TJ 0853** **On-Chip Tracking and Trapping of Microorganisms using Patterned Magnetic Pathways**
 14:20-14:40
 Invited Speech Byunghwa Lim, R. Venu, Zinghao Hu, Cheol Gi Kim
Chungnam National University

- TJ 0236** **Iron-oxide based Magnetic-photonic Core-shell Nanoparticles**
 14:40-15:00
 Invited Speech Jun Hua Wu¹, Hong Ling Liu², Ji Hyun Min¹, Young Keun Kim¹
¹Korea University, ²School of Chemistry and Chemical Engineering-Henan

- TJ 0550** **Fabrication of Mesoporous Ferrite Particles and Photocatalytic Application**
 15:00-15:20
 Invited Speech Jin-Seung Jung
Gangneung-Wonju National University

- TJ 1016** **Metallic Glass for Structural and Functional Applications**
 15:20-15:40
 Invited Speech Haein Yim
Sookmyung Women's University

Sep. 17, 2012 (Mon.)

TJ 2 (Magnetic Materials and Spintronics Devices 2)

Ballroom3

Organizer: Young Keun Kim (Korea Univ.) Chair: Haein Yim (Sookmyung Women's Univ.)

16:00-18:00

- TJ 1002** **Challenges to Realize Normally-Off Systems and Progresses on STT MRAM Technologies to Realize It**
 16:00-16:20
 Invited Speech Hiroaki Yoda
Toshiba Electronics Korea Corporation

- TJ 0879** **Magnetic Materials and Structures with Strong Perpendicular Anisotropy**
 16:20-16:40
 Invited Speech Sang Ho Lim
Korea University

- TJ 0824** **Magnetic and Magneto-transport Properties of Amorphous CoSiB/Pt Multilayers**
 16:40-17:00
 Invited Speech Taewan Kim
Sejong University

- TJ 1075** **Magnetic Properties and Microstructure of Constructively Patterned [Co/Pd] Superlattices**
 17:00-17:20
 Invited Speech Sanghoon Kim, Soogil Lee, Jungho Ko, Jangyup Son, Minseok Kim, Jongill Hong
Yonsei University



TJ 0744 **Current-induced Domain Wall Motion in the Presence of Spin-orbit Coupling**
 17:20-17:40 Kyung Jin Lee¹, Hyung-Woo Lee², Kyoung-Whan Kim², Soo-Man Seo¹, Jisu Ryu²
Invited Speech ¹Korea University, ²POSTECH

TJ 1030 **Perpendicular Magnetic Anisotropy of [CoSiB/Pt]_n Multilayers**
 17:40-18:00 T. W. Kim¹, E. H. M. Van Der Heijden², H. J. M. Swagten², K. J. Lee³, M. H. Jung³
Invited Speech ¹Sejong University, ²Eindhoven University of Technology, ³Sogang University

Post Lithium ion Battery and Materials (TI)

Sep. 17, 2012 (Mon.)

TI 1 (Post Lithium ion Battery and Materials 1)

Ballroom4

Organizer: Wooyoung Yoon (Korea Univ.) **Chair:** Kisuk Kang (Seoul Nat'l Univ.)

11:30-15:20

TI 0097 **Rational Design of 3D Dendritic TiO₂ Nanostructures with Favorable Architectures for Use as Anode in Li-battery**
 11:30-12:00 Jung Ho Kim¹, Ziqi Sun¹, Yong-Mook Kang²
Keynote Speech ¹University of Wollongong, ²Dongguk University

TI 0053 **Strategic Design for Oxide-based Electrode Materials and the Dependence of their Electrochemical Properties on Morphology and Architecture**
 14:00-14:20 Yong-Mook Kang
Invited Speech Dongguk University

TI 0715 **Electrochemical Behavior and Passivation of Current Collectors in Lithium-Ion Batteries**
 14:20-14:40 Seung-Taek Myung, Sun-Jae Kim
Invited Speech Sejong University

TI 0981 **Atomic Layer Deposition of Thin Film for Lithium Ion Batteries**
 14:40-15:00 Won-Jun Lee, Byeol Han, Young Jin Eun, Sung Ju Woo
Invited Speech Sejong University

TI 0287 **Electrochemical Behavior of Diamond like Carbon-Coated LiV₃O₈ Cathode in Li Ion Battery**
 15:00-15:20 Jaeha Lee, Junkyu Lee, Wooyoung Yoon
Invited Speech Korea University

Sep. 17, 2012 (Mon.)

TI 2 (Post Lithium ion Battery and Materials 2) EC (Lithium and Advanced Secondary Battery Materials)

Ballroom4

Organizer: Wooyoung Yoon (Korea Univ.) **Chair:** Yongmook Kang (Dongguk Univ.)

16:00-18:00

TI 0128 **Na-Ion Batteries as 'Post Li-Ion'**
 16:00-16:30 Shinichi Komaba, Naoaki Yabuuchi, Yoshiteru Kawabe
Keynote Speech Tokyo University of Science

TI 0039 **The Electrochemical Properties of Lithium/Sulfur Batteries**
 16:30-16:50 Hyo-Jun Ahn
Invited Speech Gyeongsang National University

TI 0862 **Effects of Dopant on Sub-micron Li₄+x[Ti₅-x-yZr_y]O₁₂ based Anode Materials for Lithium Ion Batteries Prepared by a Spray Drying Method**
 16:50-17:10 Hyoung-Shin Ko, Su-Bong Choi
Invited Speech POSCO ES Materials

TI 0746 **Catalytic Activity in Li-O₂ Batteries using a Carbonate-based Electrolyte**
 17:10-17:30 Hee-Dae Lim, Kisuk Kang
Invited Speech Seoul National University



EC 0753 The Effect of Particle Size on Phase Stability of Olivine LiMnPO₄ Cathode Material for Li Rechargeable Batteries

17:30-17:45

Jongsoo Kim¹, Kyu-young Park¹, Inchul Park¹, Jung-Keun Yoo², Dong-Hwa Seo¹, Sung-Wook Kim¹, Kisuk Kang¹
¹Seoul National University, ²KAIST

EC 0333 Flexible Inorganic Thin Film Battery

17:45-18:00

Min Koo¹, Kwi-Il Park¹, Seung Hyun Lee¹, Min Won Suh¹, Duk Young Jeon¹, Jang Wook Choi¹, Kisuk Kang², Sang Chul Nam³, Keon Jae Lee¹
¹KAIST, ²SNU, ³GS Nanotech Co. Ltd.

Carbon Nano Materials (NC)

Sep. 17, 2012 (Mon.)

NC (Carbon Nano Materials)

Mara

Chair: Jongill Hong (Yonsei Univ.), Won Il Park (Hanyang Univ.)

14:00-15:30

NC 1124 Influence of Carbon Nanotubes on the Thermoelectric Properties of Bi₂Te₃ Matrix Nanocomposites

14:00-14:15

Kyung Tae Kim¹, Gook Hyun Ha¹, Gil-Geun Lee²
¹Korea Institute of Materials Science, ²Pukyong National University

NC 0741 Super Growth of Carbon Nanotubes using Water Assisted Chemical Vapor Deposition

14:15-14:30

Shashikant P. Patole, Ji Beom Yoo
Sungkyunkwan University

NC 0666 Diameter-Controlled Carbon Nanotubes from Metal Catalyst Nanoparticles with Different Sizes

14:30-14:45

Wei Zhao, Ik Jin Kim
Hanseu University

NC 0504 Synthesis of Epitaxial Graphene using Pulsed Laser Annealing

14:45-15:00

Insung Choi, Sung-Yool Choi, Keon Jae Lee
KAIST

NC 0278 Formation of Carbon Nanotube Network through Secondary Growth

15:00-15:15

Okhyoung Lee, Quanli Hu, Yoon-Jae Baek, Yun-Soo Lim, Tae-Sik Yoon
Myongji University

NC 0045 Highly Efficient Individual Dispersion of Single-Walled Carbon Nanotubes using a Biocompatible Dispersant

15:15-15:30

Choolakadavil Khalid Najeeb¹, Jae-Hyeok Lee², Jae-Ho Kim², Duckjong Kim¹
¹Korea Institute of Machinery and Materials, ²Ajou University

Nano Dot, Nano Wire and Nano Processes (NA)

Sep. 17, 2012 (Mon.)

NA (Nano Dot, Nano Wire and Nano Processes)

Mara

Chair: Jongill Hong (Yonsei Univ.), Won Il Park (Hanyang Univ.)

16:00-18:00

NA 1152 Piezoelectric Nanogenerator using PZT Nanorod Arrays

16:00-16:15

Won Hee Lee¹, Byeong Kwon Ju², Chong Yun Kang¹, Seok Jin Yoon¹
¹Korea Institute of Science and Technology, ²Korea University

NA 1097 Size Effect of Ultra-strong and Ductile Behavior of Single Crystalline Metal Nanowire

16:15-16:30

Jong Hyun Seo¹, Bongsoo Kim², Jae-Pyoung Ahn¹, In-Suk Choi¹
¹Korea Institute of Science and Technology, ²Korea Advanced Institute of Science and Technology



- NA 1045** **Dielectrophoretic Force-induced Positioning of GaN-Based Nanowire Light-Emitting Diodes with Mult-Quantum-wells**
16:30-16:45
Hyun Ik Park, Byung Jae Kim, Ji Hyun Kim
Korea University
- NA 0927** **Naturally Controlled Growth of ZnO Nanowire Superlattice and Stoichiometry Engineering of Metal-Insulator Transition VO₂ Nanobeams**
16:45-17:00
Woong-Ki Hong, Jong Bae Park, Song-i Kim
Korea Basic Science Institute
- NA 0556** **Si Nanowire Arrays for Transparent Electronics Applications and their Optical Characteristics**
17:00-17:15
Dong Hyun Lee, Jung Min Lee, Fan Xia, Won Il Park
Hanyang University
- NA 0190** **Formation of Charged ZnO Nanowires in the Gas Phase during Carbothermal Reduction**
17:15-17:30
Seonghan Park, Jinwoo Park, Juseop Hong, Chansoo Kim, Nongmoon Hwang
Seoul National University
- NA 0109** **Generation of Charged Nanoparticles and their Contribution to Growth of Silicon Nanowires in the Chemical Vapor Deposition Process**
17:30-17:45
Woong-Kyu Youn, Jae-Young Lee, Chan-Soo Kim, Nong-Moon Hwang
Seoul National University
- NA 0096** **In-Situ Measurements of Size Distribution of Charged Nanoparticles during the Chemical Vapor Deposition Process**
17:45-18:00
Sung-Soo Lee, Yong-Bin Chung, Woong-Kyu Youn, Chan-Soo Kim, Nong-Moon Hwang
Seoul National University

Nanoscience for Biomolecular Detection and Manipulation (TF)

Sep. 17, 2012 (Mon.)

TF 1 (Nanoscience for Biomolecular Detection and Manipulation 1)

Udo

Organizer: Ki-Bum Kim (Seoul Nat'l Univ.) Chair: Ki Tae Nam (Seoul Nat'l Univ.)

11:30-15:50

- TF 0450** **Localized Control of Single Protein Unfolding using a Solid-State Nanopore: Detecting and Quantifying Stability**
11:30-12:00
Keynote Speech Kevin Freedman, Minjun Kim
Drexel University
- TG 0982** **Carbon Nanotube Networks and Graphene for Electronic Devices**
14:00-14:30
Keynote Speech Zhenan Bao
Stanford University
- TF 0762** **Bioinspiration toward Inorganic Protein Clusters**
14:30-14:50
Invited Speech Ki Tae Nam
Seoul National University
- TF 0135** **Nanopores for Probing Nucleic Acids in Single Molecule Level and the Potential as a Next Generation Sequencing Technology**
14:50-15:10
Invited Speech Young-Rok Kim¹, Min-Cheol Lim¹, Tae-Joon Jeon², Ki-Bum Kim³
¹Kyung Hee University, ²Inha University, ³Seoul National University
- TF 0585** **Viral Platforms Providing Nanostructured Interfaces for Molecular Recognition, Assembly, and Synthesis**
15:10-15:30
Invited Speech Mi Hwa Oh, Insu Kim, Jae Yoon Park, Yoon Sung Nam
Korea Advanced Institute of Science and Technology



TF 0699 Dynamics Problems in Nanopore Sequencing

15:30-15:50

Invited Speech

Sangyoun Lee

Korea Institute of Science and Technology

Sep. 17, 2012 (Mon.)

TF 2 (Nanoscience for Biomolecular Detection and Manipulation 2)

Udo

Organizer: Ki-Bum Kim (Seoul Nat'l Univ.) Chair: Young-Rok Kim (Kyung Hee Univ.)

16:00-18:00

TF 0876 Solid-State Nanopore for Single Molecule Detection

16:00-16:20

Invited Speech

Ki-Bum Kim

Seoul National University

TF 0044 Flexible and Stretchable Electronics and Applications for Biomedical Devices

16:20-16:40

Invited Speech

Dae-Hyeong Kim

Seoul National University

TF 0238 Directed Self-Assembly of Peptides: Towards Tailor-made Bioactive Nanostructures & Bionanomachines

16:40-17:00

Invited Speech

Yong-beom Lim, Sung-ju Choi, Woo-jin Jeong, Sang-heon Han, So-hee Han, Bo-ram Kim

Yonsei University

TF 0089 Interfacing Graphene with Biological Systems for Biosensors and Drug Discovery

17:00-17:20

Invited Speech

Dal-Hee Min

Seoul National University

TF 0734 Artificial Spores: Cytocompatible Encapsulation of Individual Living-Cells

17:20-17:40

Invited Speech

Insung Choi

KAIST

TF 1131 Nanogapped Interdigitated Electrodes for Biomolecular Detection

17:40-18:00

Invited Speech

Wan Soo Yun

Sungkyunkwan University(SKKU)

**Advanced Thermoelectric Materials (TE)***Sep. 18, 2012 (Tue.)***TE 1 (Advanced Thermoelectric Materials 1)**

Ballroom1

Organizer: Hee Woong Lee (KERI) **Chair:** Jong-Soo Rhyee (Kyung Hee Univ.)

10:40-12:10

TE 0896 Thermoelectric Nanostructures: From Chemical Synthesis towards Physical Model Systems

10:40-11:10 Kornelius Nielsch

Keynote Speech University of Hamburg**TE 0857 How to Make That Breakthrough in Nano Thermoelectricity**

11:10-11:30 Wooyoung Lee

Invited Speech Yonsei University**TE 1133 Electrochemical Process for Thermoelectric Nanowires Fabrication: Challenges and Opportunities**

11:30-11:50 C. Boulanger, N. Stein

Invited Speech Université de Lorraine**TE 0621 Improvement of Thermoelectric Figure of Merit in Bulk BiSbTe by Synthesis with Nanoscale Materials**

11:50-12:10

Invited Speech Bongyoung Yoo¹, Sungho Seo¹, Sanghyun Jin¹, Kyungseok Lee², Youngkeun Jeong²
¹Hanyang University, ²Pusan National University*Sep. 18, 2012 (Tue.)***TE 2 (Advanced Thermoelectric Materials 2)**

Ballroom1

Organizer: Hee Woong Lee (KERI) **Chair:** Kornelius Nielsch (Univ. of Hamburg)

14:00-15:40

TE 0999 Novel Evaluation Techniques for Thermoelectric Materials and Devices

14:00-14:20 Atsushi Yamamoto

Invited Speech National Institute of Advanced Industrial Science and Technology**TE 1183 Effects of Meta-state by Nano-architecture in Telluride System**

14:20-14:40 Su Dong Park, Jae Kee Lee, Ji Hee Son, Min Wook Oh, Bong Seo Kim, Bok Kee Min, Hee Woong Lee

Invited Speech Korea Electrotechnology Research Institute**TE 0087 Dimensionality of Charge Density Wave and Thermoelectric Performance**14:40-15:00 Jong-Soo Rhyee¹, Kyung Eun Lee², Ji Hoon Shim³, Byeong Hun Min⁴, Yong Seung Kwon⁴*Invited Speech* ¹Kyung Hee University, ²Sungkyunkwan University, ³Pohang University of Science and Technology, ⁴Daegu Gyeongbuk Institute of Science and Technology**TE 0509 Nanostructure Formation in Bi_{0.5}Sb_{1.5}Te₃: Approaches to Minimize Lattice Thermal Conductivity**

15:00-15:20 Kyu Hyoung Lee, Sang Il Kim, Sungwoo Hwang, Kyunghan Ahn, Jongwook Roh, Daejin Yang, Hyun-Sik Kim, Sangmook Lee

Invited Speech Samsung Advanced Institute of Technology**TE 0959 Thermal Transport in Nanostructured Materials**

15:20-15:40 Woochul Kim

Invited Speech Yonsei University*Sep. 18, 2012 (Tue.)***TE 3 (Advanced Thermoelectric Materials 3)**

Ballroom1

Organizer: Hee Woong Lee (KERI) **Chair:** Woochul Kim (Yonsei Univ.)

16:00-16:40

TE 0732 Identification of Abnormal Temperature and Carrier Concentration Dependence of Thermopower of GeTe by Computational Studies

16:00-16:20

Invited Speech Min Wook Oh, B. S. Kim, S. D. Park, B. K. Min, H. W. Lee
Korea Electrotechnology Research Institute

PROGRAM

ORAL
PRESENTATION
SEP. 17 (MON.)ORAL
PRESENTATION
SEP. 18 (TUE.)ORAL
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PRESENTATION
SEP. 19 (WED.)

AUTHOR INDEX



TE 0691

16:20-16:40

Invited Speech

Energy Harvesters using Thermoelectric Thin Films

Seungwoo Han¹, Kwang Eun Lee¹, Dae Ho Kim², Jung Yup Kim¹
¹KIMM, ²UST

Sep. 18, 2012 (Tue.)

DB 1 (LED Materials and Devices 1)

Ballroom2

Chair: Seong-Ju Park (GIST), Okhyun Nam (Korea Polytechnic Univ.)

10:40-12:10

DB 1078

10:40-10:55

Improved Crystal Quality of Semipolar (11-22) GaN using Self-organized Masks

Yongwoo Ryu, Joocheol Jeong, Daehong Min, Geunho Yoo, Seunghwan Moon, Jongjin Jang, Okhyun Nam
Korea Polytechnic University

DB 1068

10:55-11:10

Solution for Thermal Degradation of Ti/Al Ohmic Contacts to N-face n-GaN

Buem Joon Kim, Yang Hee Song, Chul Jong Yoo, Kyeong Jun Kim, Gyeong Min Go, Jong-Lam Lee
POSTECH

DB 1066

11:10-11:25

Design Rule of Surface Patterning for Enhancement of Light Extraction Efficiency in Vertical Light Emitting Diodes

Gyeong Min Go, Yang Hee Song, Buem Joon Kim, Chul Jong Ryu, Kyeong Jun Kim, Ki Soo Kim, Jong Lam Lee
POSTECH

DB 1063

11:25-11:40

Surface Plasmon Effect on Emission Efficiency of InGaN/GaN Light Emitting Diodes by Line and Hole-arrayed Ag Nanoparticles

Kyoung Su Lee, Seon Pil Kim, Eun Kyu Kim
Hanyang University

DB 1050

11:40-11:55

Design Rule of Double-Side Patterning for Enhancement of Light Extraction Efficiency in Light Emitting Diodes

Kyeong Jun Kim, Hwan Keon Lee, Gyeong Min Go, Buem Joon Kim, Yang Hee Song, Kisoo Kim, Jong-Lam Lee
POSTECH

DB 1048

11:55-12:10

Implementation of Nano-pyramids Structure by Nanoimprint Method: Enhancement of Light Extraction Efficiency in GaN based LEDs

Chul Jong Yoo, Yang Hee Song, Gyeong Min Go, Buem Joon Kim, Kyeong Jun Kim, Ki Soo Kim, Jong-Lam Lee
POSTECH

Sep. 18, 2012 (Tue.)

DB 2 (LED Materials and Devices 2)

Ballroom2

Chair: Seong-Ju Park (GIST), Okhyun Nam (Korea Polytechnic Univ.)

14:00-15:00

DB 0816

14:00-14:15

The Transferring Method of GaN Light-Emitting Diodes Grown on a Sapphire Substrate for Flexible Devices by using Laser Lift-off Process

Jaeyi Chun, Yong-Seok Choi, Seong-Ju Park
Gwangju Institute of Science and Technology

DB 0570

14:15-14:30

Effect of Al Composition on Nonpolar AZO Grown on m-plane Sapphire by using Atomic Layer Deposition

Ki-Wook Kim, Hyo-Soo Son, Nak-Jung Choi, Sung-Nam Lee
Korea Polytechnic University

**DB 0401 High-power and High-efficiency Blue Light-Emitting Diode with 3.3 W Output Power Achieved in a Single-Chip Package**

14:30-14:45

Jeong Tak¹, Jong Hyeob Baek¹, Ki Chang Jeong², Jun-Seok Ha², Han-Youl Ryu³¹Korean Photonics Technology Institute, ²Chonnam National University, ³Inha University**DB 0288 Improved Performance of (11-22) Semi-polar InGaN/GaN Light Emitting Diode Grown using Hemispherically Patterned SiO₂ Mask**

14:45-15:00

Daehong Min, Geunho Yoo, Yongwoo Ryu, Seunghwan Moon, Okhyun Nam

Korea Polytechnic University

Issues on the Performance of Oxide Thin Film Transistor (TD)

Sep. 18, 2012 (Tue.)

TD 1 (Issues on the Performance of Oxide Thin Film Transistor 1)

Ballroom3

Organizer: Sang Yeol Lee (Cheongju Univ.) **Chair:** Sang-Woo Kim (Sungkyunkwan Univ.)

10:40-12:10

TD 1138 Amorphous Oxide Thin-Film Transistor: History and Future Applications

10:40-11:10

Toshio Kamiya, Kenji Nomura, Hideo Hosono

Keynote Speech Tokyo Institute of Technology

TD 0458 Effect of Fabrication Conditions on the Electrical and Optical Performances of the Cu₂O-based p-type Oxide Thin-Film Transistors

11:10-11:30

Invited Speech Joonsung Shon¹, Dong-Woo Nam², Jong-Ho Lee², Hyuck-In Kwon¹¹Chung-Ang University, ²Seoul National University**TD 1121 Low-Temperature Fabrication of Solution-Processed Oxide Thin-Film Transistors for Flexible and Transparent Electronics**

11:30-11:50

Invited Speech Yong-Hoon Kim¹, Jae-Sang Heo², Tae-Hyeong Kim¹, Jiwan Kim¹, Min Suk Oh¹, Sung Kyu Park²¹Korea Electronics Technology Institute, ²Chung-Ang University**TD 1012 Role of Si on Si-Zn-Sn-O Thin Film Transistor**

11:50-12:10

Invited Speech Sang Yeol Lee

Cheongju University

Sep. 18, 2012 (Tue.)

TD 2 (Issues on the Performance of Oxide Thin Film Transistor 2)

Ballroom3

Organizer: Sang Yeol Lee (Cheongju Univ.) **Chair:** Toshio Kamiya (Tokyo Inst. of Tech.)

14:00-15:40

TD 1141 Transparent Indium Oxide Films Doped with High Lewis Acid Strength Ge Dopant for OLEDs and OPVs

14:00-14:20

Invited Speech Han-Ki Kim

Kyung Hee University

TD 1135 Polymer-Hybridized Piezoelectric Oxide Semiconductor-Based Flexible Power Generators

14:20-14:40

Invited Speech Sang-Woo Kim

Sungkyunkwan University

TD 0712 Recent Progresses on Oxide Semiconductor Thin Film Transistors

14:40-15:00

Invited Speech Jin-Seong Park

Dankook University

TD 1130 Trap States of an Oxide Thin Film Transistors

15:00-15:20

Invited Speech Byung Seong Bae

Hoseo University



TD 1054

15:20-15:40

Invited Speech

Reliability of Oxide Thin Film Transistor

Min Ki Ryu, Sang-Hee Park, Chi-Sun Hwang, Himchan Oh, In Yong Eom, Jong Woo Kim, Jae-Eun Pi, Byoung Gon Yu

ETRI

Sep. 18, 2012 (Tue.)

TG 1 (Recent Progress in Nano Carbon Materials: CNT and Graphene 1)

Ballroom4

Organizer: Ji-Beom Yoo (Sungkyunkwan Univ.) Chair: Hyeon Suk Shin (UNIST)

10:40-12:00

TG 0739

10:40-11:00

Invited Speech

Plasma Treatments of Graphene for Electro-Optical Application

Won Jong Yoo

Sungkyunkwan University

TG 0031

11:00-11:20

Invited Speech

Methods to Generate Non-oxidized Graphen Flakes and Its Applications

Gwanghyun Park, Sungho Song, Bo-Hyun Kim, Seokwoo Jeon

KAIST

TG 1140

11:20-11:40

Invited Speech

Electrochemical Characterization and Morphology of Thin Graphene Layer made by Electrodeposition of Doped Graphene

Youngkwan Lee

Sungkyunkwan University

TG 0947

11:40-12:00

Invited Speech

Improvement of Environmental Stability of Graphene Films by Polymer Thin Film Coating

Jong-Hyun Ahn

Sungkyunkwan University

Sep. 18, 2012 (Tue.)

TG 2 (Recent Progress in Nano Carbon Materials: CNT and Graphene 2)

Ballroom4

Organizer: Ji-Beom Yoo (Sungkyunkwan Univ.) Chair: Jong-Hyun Ahn (Sungkyunkwan Univ.)

14:00-14:40

TG 0840

14:00-14:20

Invited Speech

Preparation and Applications of Functionalized Graphene

Hyeon Suk Shin

UNIST

TG 0698

14:20-14:40

Invited Speech

Raman Spectroscopic Studies of 2-Dim Materials

Sunmin Ryu

Kyung Hee University

Magnetism and Magnetic Materials (ME)

Sep. 18, 2012 (Tue.)

ME (Magnetism and Magnetic Materials)

Ballroom4

Chair: Eric Fullerton (Univ. of California, San Diego), Byong Sun Chun (KRISS)

14:50-15:50

ME 1107

14:50-15:05

Exchange Bias in Post-annealed Cr2O3/ferromagnetic Bilayer System for Low Energy Consumption Spintronic Devices

Tomohiro Nozaki, Naoki Shimomura, Takuya Ashida, Yuji Sato, Masashi Sahashi

Tohoku University

ME 1101

15:05-15:20

Quantitative Evaluation of Oxygen Impurity Effect on NCMR with the Film Resistivity and Bulk Scattering Spin Asymmetry for [FeCo/Natural Oxidation] Multi-Layers

Yohei Shiokawa, Jin Won Jung, Kohei Kishi, Homare Watanabe, Zhong Zheng, Masashi Sahashi

Tohoku University

**ME 0965** **Enhanced Magneto-Transport Properties of (Mn_{0.8}Zn_{0.2})Fe₂O₄ Ferrites Doped with Al₂O₃ and Ga₂O₃**

15:20-15:35

Sang-Im Yoo, Hyojin Kim
*Seoul National University***ME 0194** **Microstructural Changes of Epitaxial Fe/MgO Layers Grown on InAs(001) Substrates**

15:35-15:50

Kyoung-Ho Kim¹, Hyung-jun Kim¹, Young Keun Kim², Joonyeon Chang¹
¹KIST, ²Korea University**Nano Devices and Structures (ND)**

Sep. 18, 2012 (Tue.)

ND 1 (Nano Devices and Structures 1)

Mara

Chair: Hyungjun Kim (Yonsei Univ.), Ho Won Jang (Seoul Nat'l Univ.)

10:40-12:10

ND 1128 **Effects of Fabrication Errors on the Sensitivity of Nano-replicated Guided Mode Resonance Protein Sensors**

10:40-10:55

Eikhyun Cho, Hokwan Kim, Taekyung Kim, Ryung Shin, Youra Heo, Shinill Kang
*Yonsei University***ND 0974** **Electrical Properties of Metal/Graphene/Metal Stack Devices**

10:55-11:10

Chang-Ho Ra, Tian-Zi Shen, Dae-Yeong Lee, Hua-Min Li, Won Jong Yoo
*Sungkyunkwan University***ND 0920** **Threshold Voltage Instability of ZnO Nanowire FET Influenced by Gate Dielectrics**

11:10-11:25

Minhyeok Choe¹, Woojin Park¹, Jang-Won Kang¹, Se Hee Jeong¹, Byoung Hun Lee¹, Seong-Ju Park¹, Takhee Lee²
¹Gwangju Institute of Science and Technology, ²Seoul National University**ND 0898** **Optimization of Ferroelectric P(VDF-TrFE) Film to Maximize the Remanent Polarization**

11:25-11:40

Soo Cheol Kang, Jin Ho Yang, Eun Jeong Paek, Hyeon Jun Hwang, Byoung Hun Lee
*GIST***ND 0897** **Fabrication of Suspended Graphene Cantilever using Top Down Process**

11:40-11:55

Hee Sung Shin, Hyeon Jun Hwang, Jinwoo Noh, Young Gon Lee, Chunhum Cho, Sung Kwan Lim, Byoung Hun Lee
*Gwangju Institute of Science and Technology***ND 0882** **Electrical Stress Induced Device Performance of MoS₂ Field Effect Transistors**

11:55-12:10

Seung Hwan Lee, Min Sup Choi, Dae Yeong Lee, Tian-Zi Shen, Chang Ho Ra, Won Jong Yoo
Sungkyunkwan University

Sep. 18, 2012 (Tue.)

ND 2 (Nano Devices and Structures 2)

Mara

Chair: Hyungjun Kim (Yonsei Univ.), Ho Won Jang (Seoul Nat'l Univ.)

14:00-15:45

ND 0850 **The Study on Tunneling Behavior of h-BN for Electronics of 2-dimensional Materials**

14:00-14:15

Min Sup Choi¹, Gwan-Hyoung Lee², Inyong Moon¹, Seung Hwan Lee¹, James Hone², Won Jong Yoo¹
¹Sungkyunkwan University, ²Columbia University**ND 0821** **Fabrication of a 80 nm Pitch Bi-Layer Wire Grid Polarizer using UV-Nanoreplication Process**

14:15-14:30

Yunah Han¹, Euihyeon Byeon¹, Chang Kwon Hwangbo², Seok-min Kim¹
¹Chung-Ang University, ²Inha University**ND 0665** **3D Compositional and Structural Characterization of Nanostructures Investigated by Atom Probe Tomography and STEM Tomography**

14:30-14:45

J. H. Lee¹, B. H. Lee², J. J. Kim³, S. Y. Lee³, C. G. Park¹
¹Pohang University of Science and Technology, ²National Center for Nanomaterials Technology, ³Samsung Electronics

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ND 0561 Memristive Behavior of Sputtered Titania Thin Films with Different Metal Electrode

14:45-15:00
Aznilinda Zainuddin, Raudah Abu Bakar, Sukreen Hana Herman, Mohamad Rusop Mahmood
Universiti Teknologi MARA (UiTM)

ND 0517 Flexible NFGM with Bi-Nanocrystals in Bi₂Mg₂/3Nb₄/3O₇ (BMN) Pyrochlore Thin Films Grown at Room Temperature

15:00-15:15
Hyun-June Jung, Hyung-Jin Choi, Soon-Gil Yoon
Chungnam National University

ND 0453 The Effect of Nitrogen Doping on the Device Performance of Coreshell ZnO/Si Nanowire Photodiode Prepared by Atomic Layer Deposition

15:15-15:30
Kyung Yong Ko, Hyungjun Kim
Yonsei University

ND 0090 Generation of Charged Nanoparticles and their Deposition into Films or Nanowires in the CVD Process

15:30-15:45
Nong-Moon Hwang
Seoul National University

Flexible Displays and Printed Electronics (DA)

Sep. 18, 2012 (Tue.)

DA (Flexible Displays and Printed Electronics)

Mara

Chair: Chung Kun Song (Dong-A Univ.), Han-Ki Kim (Kyung Hee Univ.)

16:00-17:15

DA 1112 Advanced Materials and Devices for Flexible & Printable High-Performance Organic Solar Cells

16:00-16:15
Seok-In Na
Chonbuk National University

DA 1079 Scalable Approach for Printing Oxides TFTs on Flexible Substrate

16:15-16:30
Bhupendra Kumar Sharma¹, Bong Kyun Jang², Sang-Hoon Bae¹, Jeong Eun Lee¹, Jong-Hyun Ahn¹, Hak-Joo Lee², Jae-Hyun Kim², Tae Woong Kim³, Young Ki Hong³
¹Sungkyunkwan University, ²Korea Institute of Machinery & Materials, ³Samsung Mobile Display

DA 0978 Cyclic Loading Behavior of Conductive Nanopaste Screen-printed on Elastomeric Substrate

16:30-16:45
Kwang-Seok Kim, Jae-Oh Bang, Seung-Boo Jung
Sungkyunkwan University

DA 0446 Printed OTFT-Backplane and Its Application to AMOLED Display

16:45-17:00
Gi Seong Ryu, Dong Hoon Kwon, Jae Seon Kim, Seung Hyeon Jeong, Chung Kun Song
Dong-A University

DA 0369 Permeation Barrier Performance of Silicon Oxide Coating on Flexible Polymers: Correlation with Interfacial Adhesion

17:00-17:15
Jungheum Yun
Korea Institute of Materials Science

**Non-Volatile Memory Materials and Processes (MA)**

Sep. 18, 2012 (Tue.)

MA (Non-Volatile Memory Materials and Processes)

Udo

Chair: Tae-Sik Yoon (Myongji Univ.), Keehong Um (Hansei Univ.)

10:40-12:10

MA 0680 Tailored Magnetic Properties of Adatoms (Fe, Co, Mn, Ni) on Graphene by Perpendicular Electric Field

10:40-10:55

Kyung-Han Yun¹, Heechae Choi², Yong-Chae Chung¹¹Hanyang University, ²Korea Institute of Science and Technology**MA 0436 Fully Functionally Flexible 1T-1R & 1D-1R RRAM on Plastic Substrates**

10:55-11:10

Hyeon Gyun Yoo, Seungjun Kim, Keon Jae Lee

Korea Advanced Institute of Science and Technology

MA 0424 Self-assembled Local Switching Nanostructures for Low-power Phase Change Random Access Memories

11:10-11:25

Beom Ho Mun, Keon Jae Lee

KAIST(Korea Advanced Institute of Science and Technology)

MA 0259 One-step Synthesis of Pt-Fe₂O₃ Core-shell Nanoparticles and their Resistive Switching Characteristics

11:25-11:40

Tae-Sik Yoon, Yoon-Jae Baek, Quanli Hu, Hyung Jun Kim, Jin Yong Lee

Myongji University

MA 0226 Characterization of Phase Transformation of the Carbon Doped In-Sb-Te through the Interface Reaction between InTe-C and InSb

11:40-11:55

Hyunsoo Kim¹, Yongtae Kim², Jaihyung Won³, Manyoung Sung¹¹Korea University, ²Korea Institute of Science and Technology(KIST), ³Samsung Electronics**MA 0213 Resistive Switching of γ -Fe₂O₃ Nanoparticles in Patterned Array Structure on Pt Electrodes on Flexible Substrate**

11:55-12:10

Jae Woo Yoo, Tae-Sik Yoon

Myongji University

Sensor (MC)

Sep. 18, 2012 (Tue.)

MC (Sensor)

Udo

Chair: Tae-Sik Yoon (Myongji Univ.), Keehong Um (Hansei Univ.)

14:00-15:45

MC 1161 Fabrication of Projected Capacitive-type Window-unified 15" Touch Sensor

14:00-14:15

Woo-Seok Cheong¹, Kyung-Hyun Kim¹, Rae-Man Park¹, Chan-Hwa Hong¹, Bosul Kim¹, Jae-Heon Shin¹, Sang-Duk Jung², Dong-Ho Kang³¹ETRI, ²Melfas Inc., ³Novatech Co., Ltd**MC 1100 Plasma Monitoring using a Laser-induced Dheath Dtructure**

14:15-14:30

Byungwhan Kim, Donghwa Jung

Sejong University

MC 1019 Physical Properties of Nano-Structured Carbon Nitride Film for Integrated Humidity Sensors

14:30-14:45

Jaehun Jung, Sung Pil Lee

Kyungnam University

MC 0623 Characterization of Electroplated Multilayered Nanoporous Platinum Films for Electrochemical Sensor Applications

14:45-15:00

Yi Jae Lee, Jae Yeong Park

Kwangwoon University

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MC 0432

15:00-15:15

Flexible GaN LED for the Future Consumer Electronics

Seung Hyun Lee, So Young Park, Min Koo, Keon Jae Lee
Korea Advanced Institute of Science and Technology(KAIST)

MC 0029

15:15-15:30

Optimization of Gas Sensing Capabilities in Networked SnO₂ Nanowires Functionalized by Metal Nanoparticles

Sun-Woo Choi, Sang Sub Kim
Inha University

MC 0559

15:30-15:45

Highly Selective and Sensitive Gas Sensors based on Au Nanoparticles Functionalized WO₃ Hollow Hemispheres

Young-Seok Shim^{1,2}, Seok-Jin Yoon¹, Young Soo Yoon², Ho Won Jang³
¹Korea Institute of Science and Technology(KIST), ²Yonsei University, ³Seoul National University

Advanced Packaging and Interconnection (MB)

Sep. 18, 2012 (Tue.)

MB (Advanced Packaging and Interconnection)

Udo

Chair: Young-Bae Park (Andong Nat'l Univ.), Chong-Yun Kang (KIST)

16:00-17:45

MB 0863

16:00-16:15

Adhesion between Electroless Ni or Electroless Cu Seed Layers and Build-up Dielectric Film Substrates

Jiang-Yan Sun¹, Do-Hyeong Hong¹, Se-Hoon Park², Ji-Yeon Park², Young-Ho Kim¹
¹Hanyang University, ²Korea Electronics Technology Institute

MB 0794

16:15-16:30

The Effects of Solder Deformation on Wetting Characteristics and Interfacial Reaction of Sn-3.5Ag Solders on Cu Substrates

Jeong Hwan Lee¹, Sung Woo Ma¹, Young Min Kim¹, Jin Su Lee², Ki Bum Kim², Jae Myun Kim², Jae Sung Oh², Namseog Kim², Young-Ho Kim¹
¹Hanyang University, ²SK Hynix Inc.

MB 0676

16:30-16:45

Characterization of Low Speed Shear Test Reliability of Sn-1.0Ag-XCe/ENEPIG Solder Joint

Quoc Vu Bui, Seung-Boo Jung
Sungkyunkwan University

MB 0202

16:45-17:00

Effects of Surface Finishes on the Electrical and Mechanical Reliability of Sn-0.7Cu and Sn-3.5Ag Solder Bump

Sung-hyuk Kim¹, Jae-Myeong Kim¹, Sehoon Yoo², Young-Bae Park¹
¹Andong National University, ²KITECH

MB 0183

17:00-17:15

Effect of Pattern Density on Interfacial Adhesion Energy of Direct Cu-Cu Bond

Jong-Myeong Park¹, Yeong-Rea Kim², Eun-Kyung Kim², Sung-Dong Kim², Young-Bae Park¹
¹Andong National University, ²Seoul National University of Science and Technology(SNUT), Seoul Technopark

MB 0159

17:15-17:30

Post Annealing Effect on Interfacial Adhesion Energy of the ALD Ru-AlO Thin Film

Jeong-Kyu Kim¹, Seung-Min Yeo², Ji-Yoon Park², Soo-Hyun Kim², Young-Bae Park¹
¹Andong National University, ²Yeungnam University

MB 0081

17:30-17:45

Ba_{0.6}Sr_{0.4}TiO₃ Thin Film Chip Capacitors for Embedded Passives Application

Rheza Rahayu, Min-Gyu Kang, Young-Ho Do, Chong-Yun Kang, Seok-Jin Yoon
Korea Institute of Science and Technology

**Materials and Processes of Self-assembly (TH)***Sep. 18, 2012 (Tue.)***TH 1 (Materials and Processes of Self-assembly 1)**

Halla

Organizer: Jae-Gab Lee (Kookmin Univ.)

10:40-11:50

TH 0877 Rethinking Manufacturing; Nanomaterials based Nanomanufacturing for Electronics, Energy and Biotechnology Applications

10:40-11:10

Keynote Speech Ahmed Busnaina, W. L. Smith
*Northeastern University***TH 0736 High-throughput Nanolithography with sub-10 nm Resolution: Materials and Processing Strategies for Directed Self-assembly**

11:10-11:30

Invited Speech Yeon Sik Jung
*Korea Advanced Institute of Science and Technology(KAIST)***TH 0581 Charge Transport in High Performance Ambipolar Organic Transistors**

11:30-11:50

Invited Speech Mijung Lee
*Kookmin University**Sep. 18, 2012 (Tue.)***TH 2 (Materials and Processes of Self-assembly 2)**

Halla

Organizer: Jae-Gab Lee (Kookmin Univ.) **Chair:** Yung Joon Jung (Northeastern Univ.)

15:00-15:40

TH 0030 Extremely Large Area 3D Nanofabrication through Proximity Field Nanopatterning

15:00-15:20

Invited Speech Junyong Park, Changui Ahn, Jerome Kartham Hyun, SeokwooJeon
*KAIST***TH 0051 DNA Origami Nanopatterning on Chemically Modified Graphene**

15:20-15:40

Invited Speech Sang Ouk Kim
*KAIST**Sep. 18, 2012 (Tue.)***TH 3 (Materials and Processes of Self-assembly 3)**

Halla

Organizer: Jae-Gab Lee (Kookmin Univ.) **Chair:** Sang Ouk Kim (KAIST)

16:00-18:00

TH 1005 Functional Nanohybrids based on the Combination of Top-Down and Bottom-Up Approaches

16:00-16:30

Invited Speech Kookheon Char
*Seoul National University***TH 0059 Self-assembled Nanostructure of Cyanostilbene Derivatives with Peculiar Optoelectrical Properties**

16:30-17:00

Invited Speech Soo Young Park
*Seoul National University***TH 0782 Self-assembled Nanostructures for Fully Functional Low Power Flexible Memories**

17:00-17:20

Invited Speech Keon Jae Lee
*KAIST***TH 0049 Macroporous Structure for Energy Devices**

17:20-17:40

Invited Speech Hyunjung Lee
*Kookmin University***TH 0292 Biologically-templated Self-assembled Nanocomposite Electrodes**

17:40-18:00

Invited Speech Hyunjung Yi
Korea Institute of Science and Technology(KIST)

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Thermoelectric Power Devices (EE)

Sep. 19, 2012 (Wed.)

EE (Thermoelectric Power Devices)

Ballroom 1

Chair: Su-Dong Park (KERI), Seungwoo Han (KIMM)

09:00-10:15

EE 0834 Thermoelectric Properties of Bi-Te Core/Shell Nanowires Grown by On-Film Formation of Nanowires

09:00-09:15

Jeongmin Kim, Joohoon Kang, Seunghyun Lee, Wooyoung Lee
Yonsei University

EE 0481 Enhancing the Thermoelectric Properties of n-type Bulk Bi-Te-Se Alloy by Modulating Chemical Potentials

09:15-09:30

Sungwoo Hwang, Byungki Ryu, Sang Il Kim, Kyunghan Ahn, Jong Wook Roh, Dae-Jin Yang, Sang Mock Lee, Kyu Hyoung Lee
SAIT

EE 0143 Enhanced Thermoelectric Properties of Individual Single-crystalline Bi Nanowires

09:30-09:45

Seunghyun Lee¹, Jeongmin Kim¹, Joohoon Kang¹, Yuri Zuev², Philip Kim², Wooyoung Lee¹
¹Yonsei University, ²Columbia University

EE 0112 Seebeck Coefficient Characterization with Various Doping Concentration in Silicon Nanowire Fabricated by CMOS Process

09:45-10:00

Jaehyeon Kim^{1,2}, Younghoon Hyun¹, Youngsam Park¹, Wonchul Choi^{1,3}, Soojung Kim^{1,2}, Hyojin Jeon^{1,2}, Taehyoung Zyung¹, Moongyu Jang^{1,2}
¹ETRI, ²UST, ³KAIST

EE 0111 Thermoelectric Properties of Silicide/Silicon Hetero-junction Structure

10:00-10:15

Wonchul Choi^{1,2}, Young Sam Park², Younghoon Hyun², Taehyoung Zyung², Jaehyun Kim², Soojung Kim^{2,3}, Hyojin Jeon^{2,3}, Mincheol Shin¹, Moongyu Jang^{2,3}
¹KAIST, ²ETRI, ³UST

The Design of Solid State Lighting: Next Generation of Lighting (TC)

Sep. 19, 2012 (Wed.)

TC 1 (The Design of Solid State Lighting: Next Generation of Lighting 1)

Ballroom 1

Organizer: Jong-Lam Lee (POSTECH) Chair: Jr-Hau He (Nat'l Taiwan Univ.)

10:40-12:20

TC 1008 Nitride-based Light-Emitting Diodes with High Light Extraction Efficiency

10:40-11:00

Invited Speech Shouu-Jinn Chang
National Cheng Kung University

TC 1009 Multi-chip High-power LEDs with Cup-shaped Copper Heat Spreader for General Lighting Applications

11:00-11:20

Invited Speech Ray-Hua Horng
National Chung Hsing University

TC 0565 Application of Ion Implantation Process in Fabrication of InGaN LEDs

11:20-11:40

Invited Speech Joon Seop Kwak
Suncheon National University

TC 1095 Key Factors for Enhancing Light Extraction Efficiency in Vertical Light-Emitting Diodes

11:40-12:00

Invited Speech Buem Joon Kim¹, Jeong Min Baik², Jong-Lam Lee¹
¹POSTECH, ²UNIST

TC 1007 Improved Performance of Semi-polar InGaN/GaN Light Emitting Diodes Grown on m-sapphire using Defect Reduction Techniques

12:00-12:20

Invited Speech Okhyun Nam
Korea Polytechnic University



Sep. 19, 2012 (Wed.)

TC 2 (The Design of Solid State Lighting: Next Generation of Lighting 2)

Ballroom1

Organizer: Jong-Lam Lee (POSTECH) **Chair:** Shouu-Jinn Chang (Nat'l Cheng Kung Univ.)

13:20-15:40

TC 1185 InGaN Multiple Quantum Well Devices Employing Nanotechnology for Photon Management

13:20-13:40

Invited Speech

Der-Hsien Lien, Jr-Hau He

*Institute of Photonics and Optoelectronics, National Taiwan University***TC 0842 High-Current Loss Mechanisms in GaN-based Light-Emitting Diodes and Solutions**

13:40-14:00

Invited Speech

Jong Kyu Kim, Sunyong Hwang, Jun Hyuk Park, Dong Yeong Kim

*POSTECH***TC 0800 Enhancing Light Emission of Nanostructured Vertical Light-Emitting Diodes by Minimizing Total Internal Reflection**

14:00-14:20

Invited Speech

Jeong Min Baik¹, Byeong-Uk Ye¹, Buem Joon Kim², Yang Hee Song², Jong-Lam Lee²¹Ulsan National Institute of Science and Technology, ²Pohang University of Science and Technology**TC 0708 Improvement of Light Extraction Efficiency of GaN-based LEDs using Artificial Oxide Nanostructures**

14:20-14:40

Invited Speech

Ho Won Jang

*Seoul National University***TC 1201 Vertical Thin-GaN LED Technology**

14:40-15:00

Invited Speech

Cheng-Yi Liu, Yen-Shuo Liu, Y. R. Wu, C. I. Hsieh

*National Central University***TC 1202 The Design of Solid State Lighting: Next Generation of Lighting**

15:00-15:20

Invited Speech

Kyoung-Jin Choi

*UNIST***TC 0885 GaN-based Light-Emitting Diodes: Role of p- and n-electrodes**

15:20-15:40

Invited Speech

Tae-Yeon Seong

*Korea University***Devices and Materials for Energy Harvesting and Storage (EA)**

Sep. 19, 2012 (Wed.)

EA 1 (Devices and Materials for Energy Harvesting and Storage 1)

Ballroom2

Chair: Hee Chul Lee (Korea Polytechnic Univ.), Hyoun Woo Kim (Hanyang Univ.)

09:00-10:15

EA 0968 Energy Harvesting Characteristics from Water Flow by Piezoelectric Energy Harvester Device using Cr/Nb doped PZT Bimorph Cantilever

09:00-09:15

Kyoung-bum Kim, Chang-il Kim, Young Hun Jeong, Young-jin Lee, Jeong-ho Cho, Jong-hoo Paik

*Korea Institute of Ceramic Engineering & Technology***EA 0954 Fabrication of Flexible Piezoelectric Energy Harvester by Excimer Laser Annealing**

09:15-09:30

Min Gyu Kang¹, Rheza Rahayu¹, Young-Ho Do¹, Chong-Yun Kang¹, Sahn Nahm², Seok-Jin Yoon¹¹Korea Institute of Science and Technology, ²Korea University**EA 0934 Study on Electrical Properties of Piezoelectric Device for Efficient Impedance Matching**

09:30-09:45

Min Sik Woo, Chan Ho Yang, Seong Kwang Hong, Ki Hwan Baek, Daniel Song, Tae Hyun Sung

*Hanyang University***EA 0866 Optimization Study of Hitting Stick for Piezoelectric Energy Harvesting System**

09:45-10:00

Jeong Hun Kim, Daniel Song, Tae Hyun Sung

Hanyang University



- EA 0856 Study on Effective Area of Piezoelectrics for Hitting Type Piezoelectric Energy Harvesting System**
10:00-10:15 Hyun-Jun Jung, Daniel Song, Tae Hyun Sung
Hanyang University

Sep. 19, 2012 (Wed.)

EA 2 (Devices and Materials for Energy Harvesting and Storage 2)

Ballroom2

Chair: Hee Chul Lee (Korea Polytechnic Univ.), Hyoun Woo Kim (Hanyang Univ.)

10:40-11:55

- EA 0785 Power Generation from PZT Nanotubes Fabricated by the Template-assisted Method**
10:40-10:55 Woo Suk Jung, Chong Yun Kang
KIST

- EA 0701 Electrochemical Study of Hydrocarbon-derived Electrolytes for Supercapacitor**
10:55-11:10 Zulkarnain A. Noorden, S. Matsumoto
Shibaura Institute of Technology

- EA 0664 Microstructure and Flux Pinning in Single Domain GdBa₂Cu₃O_{7-δ} Bulk Grown with the Additions of Gd₂Ba₄CuFeO_y**
11:10-11:25 Y. F. Zhang¹, M. Izumi², M. Murakami³, Y. Xu¹, T. Gao¹, Y. S. Liu¹
¹Shanghai University of Electric Power, ²Tokyo University of Marine Science and Technology, ³Shibaura Institute of Technology

- EA 0619 A Bulk Micromachined PZT Cantilever Energy Harvester with Inter-digital IrOx Electrodes**
11:25-11:40 Jong Cheol Park, Jae Yeong Park
Kwangju University

- EA 0606 Flexible Nanocomposite Generator Made of BaTiO₃ Nanoparticles and Graphitic Carbons**
11:40-11:55 Kwi-Il Park, Geon-Tae Hwang, Keon Jae Lee
Korea Advanced Institute of Science and Technology(KAIST)

Sep. 19, 2012 (Wed.)

EA 3 (Devices and Materials for Energy Harvesting and Storage 3)

Ballroom2

Chair: Soon Gil Yoon (Chungnam Nat'l Univ.), Caroline Sunyong Lee (Hanyang Univ.)

14:00-15:15

- EA 0533 A Study on Electrical Characteristics Enhancement of Power MOSFET with Multiple Floating Islands**
14:00-14:15 Yu Seup Cho, Eun Sik Jung, Reum Oh, Man Young Sung
Korea University

- EA 0524 Thermoelectric Properties of p-type Sb₂Te₃ and n-type Bi₂Te₃ Thick Films Deposited by Screen-Printing Technique**
14:15-14:30 Sun Jin Kim¹, Ju Hyung We¹, Gyung Soo Kim², Byung Jin Cho¹
¹KAIST, ²Phoenix Materials Inc.

- EA 0507 Efficiency Enhancement of Dye-sensitized Solar Cell using SnO₂ Deposited onto FTO/glass as Transparency Conductive Film for Working Electrode**
14:30-14:45 Duong Thanh Tung, Soon Gil Yoon
Chungnam National University

- EA 0502 Fabrication and Compositional/Optoelectronic Properties of CIS Thin Films**
14:45-15:00 Jung Eun Lee, Mubarak Ali, Chinho Park
Yeungnam University

- EA 0525 Effects of Intrinsic Layer In Hit-Si Solar Cells from Numerical Analysis**
15:00-15:15 Nurul Huda Abdul Razak¹, Mukter Zaman¹, Gunawan Witjaksono², Nowshad Amin¹
¹Universiti Kebangsaan Malaysia, ²MIMOS Berhad

**Oxide Semiconductor (MD)**

Sep. 19, 2012 (Wed.)

MD 1 (Oxide Semiconductor 1)

Ballroom3

Chair: Duck Kyun Choi (Hanyang Univ.), Young Kuk Lee (KRICT)

09:00-10:15

MD 0937 Local Doping of Oxide Semiconductor Thin Films for Functionality Tuning in Electronic Devices

09:00-09:15

Yoon Jang Chung, Seong Gu Kang, Chang Wan Lee, Ki-Seok An, Jong Sun Lim, Sun Sook Lee, Young Kuk Lee
*Korea Research Institute of Chemical Technology***MD 0557 Spatially and Spectrally Resolved Cathodoluminescent Characterization of Hydrothermally Grown ZnO hexagonal Rod Arrays**

09:15-09:30

Won Woo Lee, Seong Been Kim, Sungeun Kim, Won Il Park
*Hanyang University***MD 0466 The Non-Volatile Control of 2DEG Conductance at Oxide Interfaces**

09:30-09:45

Shin Ik Kim^{1,2}, Seon-Young Moon¹, Yoonjung Kim¹, Ho-Won Jang³, Suyoun Lee¹, Seung Hyub Baek^{1,2}, Jin-Sang Kim¹
¹*Korea Institute of Science and Technology*, ²*University of Science and Technology*, ³*Seoul National University***MD 0459 Flexible High Performance Nano Integrated Circuits in Live Body**

09:45-10:00

Geon-tae Hwang¹, Donggu Im¹, Sung Eun Lee², Kwiro Lee¹, Sung June Kim², Keon Jae Lee¹
¹*KAIST*, ²*Seoul National University***MD 0447 Solution-processed Amorphous InGaZnO Semiconductor Thin Films and Thin Film Transistors**

10:00-10:15

Chien-Yie Tsay, Tzu-Yi Yan
Feng Chia University

Sep. 19, 2012 (Wed.)

MD 2 (Oxide Semiconductor 2)

Ballroom3

Chair: Duck Kyun Choi (Hanyang Univ.), Young Kuk Lee (KRICT)

10:40-11:55

MD 0325 Effects of Ga Doping on the Characteristic Properties of Amorphous Zinc Tin Oxide Thin Films

10:40-10:55

Dong-Ho Kim, Gun-Hwan Lee
*KIMS***MD 0155 Nanocrystal Floating Gate Memory with Indium Gallium Zinc Oxide (IGZO) Channel and Pt-Fe2O3 Core-shell Nanocrystals**

10:55-11:10

Tae-Sik Yoon, Quanli Hu, Seung Chang Lee
*Myongji University***MD 0121 Phase Pure Anatase TiO2 Nanocrystalline Powder for Applications in Dye-sensitized Solar Cell and Sonocatalysis**

11:10-11:25

Jhasaketan Nayak¹, Heeje Kim¹, J. W. Park², S. J. Kwon²
¹*Pusan National University*, ²*Daerim Enterprises Co. Ltd.***MD 0002 Photochemically Highly N-Doped InGaZnO and ZnO Semiconductors via Electronically Mediated Surface-OH Reaction**

11:25-11:40

Hyungtak Seo¹, Jin-Hyeong Park², Jinwoo Kim³, Jin-Seo Kim¹, Duck-Kyun Choi²
¹*Ajou University*, ²*Hanyang University*, ³*North Carolina State University***MD 0963 Tuning Conductivity at Oxide Heterointerfaces by Octahedral Rotations**

11:40-11:55

Seon Young Moon^{1,2}, Dai-Hong Kim³, Hye Jung Chang¹, Jong Kwon Choi¹, Chong-Yun Kang¹, HeonJin Choi², Seong-Hyeon Hong³, Seung-Hyub Baek¹, Jin-Sang Kim¹, Ho-Won Jang^{1,3}
¹*Korea Institute of Science and Technology(KIST)*, ²*Yonsei University*, ³*Seoul National University*

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Photovoltaic Engineering (ED)

Sep. 19, 2012 (Wed.)

ED 1 (Photovoltaic Engineering 1)

Ballroom4

Chair: Myeongkyu Lee (Yonsei Univ.), Joo-Youl Huh (Korea Univ.)

09:00-10:15

ED 1117 A Strong Intermolecular pi-pi Stacking of PPVT:PCBM Packing Structure for High-Efficiency Organic Photovoltaic Cells

09:00-09:15

Kyung-Geun Lim¹, Jun-Mo Park², Tae-Lim Choi², Tae-Woo Lee¹

¹POSTECH, ²SNU

ED 1034 Atom Probe Tomography Study of Cu(In,Ga)Se₂ Thin-Film Solar Cells

09:15-09:30

Pyuck-Pa Choi¹, Oana Cojocaru-Miredin¹, Torsten Schwarz¹, Roland Wuerz², Dierk Raabe¹

¹Max-Planck-Institute for Iron Research, ²ZSW Baden-Wuerttemberg

ED 0799 Structural Analysis of Bandgap Engineered Bismuth Titanate

09:30-09:45

Chung Wung Bark¹, Nam-Soo Shin²

¹Gachon University, ²Pohang Accelerator Laboratory

ED 0693 Spray Deposited Ag-ZnO and Au-ZnO Thin Films for Solar Cells

09:45-10:00

N. L. Tarwal¹, T. Premkumar¹, H. S. Shim¹, J. H. Wi¹, P. S. Patil², J. H. Jang¹

¹Gwangju Institute of Science and Technology, ²Shivaji University

ED 0558 Semiconductor Nanocrystals with Surface Passivation and Surface Plasmon for Luminescence and Solar-Cell Applications

10:00-10:15

Byungwoo Park, Jongmin Kim, Changwoo Nahm, Hongsik Choi, Seunghoon Nam, Chohui Kim

Seoul National University

Sep. 19, 2012 (Wed.)

ED 2 (Photovoltaic Engineering 2)

Ballroom4

Chair: Myeongkyu Lee (Yonsei Univ.), Joo-Youl Huh (Korea Univ.)

10:40-11:55

ED 0309 Synthesis of ZnO-decorated TiO₂ Nanotubes for Dye-sensitized Solar Cell

10:40-10:55

Kang Min Lee¹, You Chan Jung¹, Ki Ryong Shin¹, Young Gun Ko², Bongyoung Yoo¹, Dong Hyuk Shin¹

¹Hanyang University, ²Yeungnam University

ED 0086 Fabrication of Dye-Sensitized Solar Cell on Plastic Substrate by Laser-Transfer Technique

10:55-11:10

Choonghoe Kim, Myeongkyu Lee

Yonsei University

ED 0035 Characteristics of the Organic Thin Film Solar Cell Added with High Boiling Point Organic Solvent into PTB7:PC71BM Composite

11:10-11:25

Shogo Imamura¹, Palanisamy Kumar¹, Kannappan Santhakuma¹, Paik-Kyun Shin², Shizuyasu Ochiai¹

¹Aichi Institute of Technology, ²Inha University

ED 0033 Examining the Effect of Additives and Thicknesses of Hole Transport Layer for Efficient Organic Solar Cell Devices

11:25-11:40

Shizuyasu Ochiai¹, Palanisamy Kumar¹, Kannappan Santhakumar¹, Paik-Kyun Shin²

¹Aichi Institute of Technology, ²Inha University

ED 0282 Self-Cleaning Antireflection Coatings Glass for High Performance Solar Cells

11:40-11:55

Hyo Jin Gwon^{1,2}, Seok-Jin Yoon¹, Ho Won Jang³

¹KIST, ²Korea University, ³Seoul National University

**Nano Patterning and Self-assembly (NB)**

Sep. 19, 2012 (Wed.)

NB 1 (Nano Patterning and Self-assembly 1)

Mara

Chair: Hyoun Woo Kim (Hanyang Univ.), Yeon Sik Jung (KAIST)

09:00-10:15

NB 1163 Size and Arrangement Effect on Moth Eye Mimicking Antireflective & Transparent Substrates

09:00-09:15

Seungmuk Ji¹, Binh Thanh Nguyen², Hyuneui Lim¹¹Korea Institute of Machinery and Materials, ²University of Science & Technology**NB 0899 Effect of Processing Parameters on the Formation of Large Area Self-assembled Monolayer of Polystyrene Beads by a Convective Self-assembly Method**

09:15-09:30

Ji Hwan Choi¹, Joo Youl Huh¹, Won Mok Kim², Kyeong Seok Lee²¹Korea University, ²Korea Inst. of Science and Technology**NB 0750 Transfer Printed Block Copolymer Patterns with Sub-10 nm Resolution**

09:30-09:45

Jae Won Jeong, Woon Ik Park, Yeon Sik Jung

KAIST

NB 0672 Fabrication of 2D TiO₂ Nanoparticles PCLs by Vacuum Nano-Imprint Lithography and Atomic Layer Deposition Method

09:45-10:00

Kikang Kim, Kiyoun Ko, Jinho Ahn

Hanyang University

NB 0630 Actinic Inspection of EUV Mask using Coherent Scattering Microscope

10:00-10:15

Jae Uk Lee¹, Sangsul Lee¹, Jonggul Doh², Seong Chul Hong¹, Seung Min Lee¹, Jinho Ahn¹¹Hanyang University, ²Samsung Electronics Co.

Sep. 19, 2012 (Wed.)

NB 2 (Nano Patterning and Self-assembly 2)

Mara

Chair: Hyoun Woo Kim (Hanyang Univ.), Yeon Sik Jung (KAIST)

10:40-11:55

NB 0567 Sub-30 nm Graphene Nanoribbons (GNRs) Array Patterning by using Electro-hydrodynamic Lithography

10:40-10:55

Suok Lee¹, Hana Kim², A-Rang Jang³, Jae Jong Lee², Dae Joon Kang¹¹Sungkyunkwan University, ²Korea Institute of Machinery and Materials, ³SKKU Advanced Institute of Nanotechnology**NB 0461 An Electric Field Assembler System for the Directed Assembly of Nanocomponents in Macroscopic Devices and Materials "Synergy of Top-Down and Bottom-Up Technologies"**

10:55-11:10

Youngjun Song, Michael J. Heller

University of California at San Diego

NB 0423 Highly Sensitive Semiconductor Biosensor by Self-assembly Nanotechnology

11:10-11:25

Chang Kyu Jeong, Hyeon Gyun Yoo, Keon Jae Lee

Korea Advanced Institute of Science and Technology (KAIST)

NB 0367 Coarsening of Au Nanoparticles Trapped in Lipid Membrane

11:25-11:40

Seung Jae Lee, Hyeun Hwan An, Won Bae Han, Hee Soo Kim, Chong Seung Yoon

Hanyang University

NB 0362 Antireflective Silica Nanoparticles Synthesized Directly on Polymer Substrates by Vacuum Coating

11:40-11:55

Jungheum Yun

Korea Institute of Materials Science

PROGRAM

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PRESENTATION
SEP. 18 (TUE.)ORAL
PRESENTATION
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AUTHOR INDEX



OLED Materials and Devices (DC)

Sep. 19, 2012 (Wed.)

DC (OLED Materials and Devices)

Udo

Chair: Yong-young Noh (Hanbat Nat'l Univ.), Jong Kyu Kim (POSTECH)

09:00-10:00

DC 1119 Enhance Efficiency of Blue and White Organic Light Emitting Diodes with Mixed Host Emitting Layer using TCTA and 3TPYMB

09:00-09:15

Teh Chao Liao^{1,2}, Hsueh Tao Chou², Fuh Shyang Juang¹, Yu Sheng Tsai¹, Lin Ann Hong¹, Yu Yu Ho¹
¹National Formosa University, ²National Yunlin University

DC 1116 Hexaazatriphenylene-Hexanitrile Buffer Layer for High Performance Transparent Inverted Organic Light Emitting Diodes

09:15-09:30

Jeong-Hwan Lee, Sunghun Lee, Jung-Bum Kim, Junhyuk Jang, Jang-Joo Kim
Seoul National University

DC 1084 Air-stable, Inverted PLEDs(Polymer Light-Emitting Diodes) on Flexible Metal Substrate

09:30-09:45

Young-Hoon Kim, Kyung-Guen Lim, Tae-Woo Lee
POSTECH

DC 1051 InP Multishell Quantum Dots as Green Alternative to CdSe in Color-Saturated Quantum Dot Light-Emitting Devices

09:45-10:00

Christian Ippen
Fraunhofer Institute for Applied Polymer Research

TFT Materials and Devices (DD)

Sep. 19, 2012 (Wed.)

DD 1 (TFT Materials and Devices 1)

Udo

Chair: Sung-Jin Kim (Chungbuk Nat'l Univ.), Caroline Sunyong Lee (Hanyang Univ.)

10:40-11:55

DD 1122 Stability of n-type Small-Molecule Organic based Transistor: Probing the Interfacial Trap Density-of-State

10:40-10:55

Ji Hoon Park, Seongil Im
Yonsei University

DD 1087 The Effect of Illumination under the Bias Stress of Transparent Thin Film Transistors

10:55-11:10

Suk Yang, Ho-Joong Kim, Jang-Yeon Kwon
Yonsei University

DD 1076 Effect of Post-annealing on the Electrical and Optical Properties of Transparent Amorphous Mn:SnO₂ Thin-Film Transistor

11:10-11:25

Chil-Hyoung Lee¹, Young-Soo No¹, Won-Kook Choi¹, Doo-Jin Choi², Jeon-Kook Lee¹, Young-Jei Oh¹
¹Korea Institute of Science and Technology, ²Yonsei University

DD 1061 Graphene based Flexible Inverters using Ion Gel Gate Dielectric

11:25-11:40

S. M. Humayun Kabir¹, Seoung-Ki Lee¹, Bhupendra K. Sharma¹, Beom Joon Kim², Jeong Ho Cho¹, Jong-Hyun Ahn¹
¹Sungkyunkwan University, ²Soongsil University

DD 1042 Characterization of Graphene Transistor using Thermally-treated Exfoliation

11:40-11:55

Sung-Jin Kim
Chungbuk National University



Sep. 19, 2012 (Wed.)

DD 2 (TFT Materials and Devices 2)

Udo

Chair: Sung-Jin Kim (Chungbuk Nat'l Univ.), Caroline Sunyong Lee (Hanyang Univ.)

14:00-15:00

DD 0119 High Performance Thin Film Transistor with HfSiO_x Dielectric Fabricated by Room Temperature Rf-magnetron Sputtering

14:00-14:15

Dong-kyu Cho, Jung-il Yang, Sang-hyun Woo, Dong-hee Lee, Sung-min Park, Yoo-sung Lim, Dae-kuk Kim, Moon-suk Yi

*Pusan National University***DD 0118 Real Time Measurements of Charged Nanoparticles Generated in the Gas Phase during Hot Wire Chemical Vapor Deposition of Silicon Thin Films using Particle Beam Mass Spectrometer**

14:15-14:30

Ju-Seop Hong¹, Chan-Soo Kim¹, Seung-Wan Yoo¹, Seong-Han Park¹, Nong-Moon Hwang¹, Hoo-Mi Choi², Dong-Bin Kim², Tae-Sung Kim²¹Seoul National University, ²Sungkyunkwan University**DD 0114 Investigation on the Temperature of Solution Processed Si-Zn-Sn Oxide Thin Film Transistor**

14:30-14:45

Jun Young Choi¹, Sang Yeol Lee²¹Korea University, ²Cheongju University**DD 0110 Effect of the Delay Time in Deposition on the Microstructural and Electrical Properties of Crystalline Silicon Films by Hot-wire Chemical Vapor Deposition**

14:45-15:00

Sang-Hoon Lee, Jae-Soo Jung, Yung-Bin Chung, Nong-Moon Hwang

*Seoul National University***Materials and Processes of Self-assembly (TH)**

Sep. 19, 2012 (Wed.)

TH 4 (Materials and Processes of Self-assembly 4)

Halla

Organizer: Jae-Gab Lee (Kookmin Univ.) Chair: Ho-Seok Nam (Kookmin Univ.)

09:00-10:10

TH 0923 Surface Plasmon Resonance (SPR) Assisted Photo-Electric Energy Conversion Devices with Well-Engineered TiO₂ Nanotubular Structures

09:00-09:30

Invited Speech

Hyunjun Yoo, Hyunuchul Kim, Myungjun Kim, Seonhee Lee, Yunjeong Yang, Hyunjung Shin

*Kookmin University***TH 1158 Suspended Single-Walled Carbon Nanotube Microstructures on Patterned Flexible Polymer Substrates for Flexible Sensors**

09:30-09:50

Invited Speech

Bo Li, Ji Hao, Xin Wang, Hyun Young Jung, Kai-Tak Wan, Yung Joon Jung

*Northeastern University***TH 0075 Bacterium Soft Template: A Bacillus Subtilis-directed Metal Oxide Nanostructured Anodes for Li-Ion Batteries**

09:50-10:10

Invited Speech

Hyun-Woo Shim, Ah-Hyeon Lim, Dong-Wan Kim

Ajou University

Sep. 19, 2012 (Wed.)

TH 5 (Materials and Processes of Self-assembly 5)

Halla

Organizer: Jae-Gab Lee (Kookmin Univ.) Chair: Mijung Lee (Kookmin Univ.)

10:40-11:50

TH 0791 Impacts of the Atomic Defects on the Doping in Nanowires: Theoretical Study

10:40-11:10

Invited Speech

Ki-Ha Hong¹, Jung Hyun Kim¹, Jongseob Kim²¹Hanbat National University, ²Samsung Advanced Institute of Technology

**TH 0344**

11:10-11:30

Invited Speech

Prediction of the Structure of Pt-based Bimetallic Nanoparticles

Ho-Seok Nam

*Kookmin University***TH 0674**

11:30-11:50

Invited Speech

Computational Lithography of Spacer Double Patterning Process

Sang-kon Kim

Hongik University



Poster Presentation

Novel Fuel-Cell (EB)

Sep. 17, 2012 (Mon.)

EBP (Novel Fuel-Cell)

Ballroom Lobby

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- EBP 1069 Optimization on Process Parameters for Constrained Sintering of YSZ Film by Electrostatic Spray Deposition**
Jinyi Choi, Byeongseok Kim, Dongwook Shin
Hanyang University
- EBP 1021 Microstructure Refinement of Pulsed Laser Deposited La_{0.6}Sr_{0.4}CoO_{3-δ} Thin-film Cathodes for Solid Oxide Fuel Cell**
Jaeyeon Hwang^{1,2}, Heon Lee², Hae-Weon Lee¹, Jong-Ho Lee¹, Ji-Won Son¹
¹Korea Institute of Science and Technology, ²Korea University
- EBP 0859 Novel Bimetallic Porous Nanoplates with Electrocatalytic Activity**
Kang Yeol Lee, Wooyoung Lee
Yonsei University
- EBP 0826 Analysis on the Oxygen Ion Conductivity in La_{1-x}AxInO_{3-0.5x} (A=Ba²⁺ and Sr²⁺) : A Molecular Dynamics Study**
Seong-Min Jeong¹, Kuk-Jin Hwang¹, Mi-Young Yoon², Hae-Jin Hwang²
¹Korea Institute of Ceramic Engineering and Technology, ²Inha University
- EBP 0719 Investigation of X-ray Photoelectron Spectroscopy and Electrical Conductivity Properties of Layered Perovskite, LnBaCo₂O_{5+d} (Ln=Pr, Nd, Sm and Gd), for Intermediate Temperature-operating Solid Oxide Fuel Cell**
Jung Hyun Kim
Hanbat National University
- EBP 0642 The Electrocatalytic Properties of the Sputtered Cobalt on Carbon Nanotube for Polymer Electrolyte Membrane Fuel Cells**
Ki-seong Lee, Dong Min Kim
Hongik University
- EBP 0635 The Catalyst Activity of the Sputtered Iron on Carbon Paper for Polymer Electrolyte Membrane Fuel Cells**
Ki-seong Lee, Dong Min Kim
Hongik University
- EBP 0521 Effect of Fe-dopant Addition on the Properties of BaCe_{1-x}Fe_xO_{3-δ} as a SOFC Electrolyte**
Seung Hwan Lee¹, Sung Gap Lee², Hyun Ju Kim¹, Seung Hyun Kim¹, Young Hie Lee¹
¹Kwangwoon University, ²Gyeongsang National University
- EBP 0383 Anion Conductive Aromatic Ionomers Containing 1,2-Dibenzoylbenzene Moiety for Alkaline Fuel Cell Application**
Md. Awlad Hossain, Young-Don Lim, Ho-Hyoun Jang, Md. Monirul Islam, Young-Tae Jeon, Whan-Gi Kim
Konkuk University
- EBP 0382 Synthesis and Properties of Sulfonated Poly(ether sulfone)s Containing a Mixture of Cis and Trans Tetrabenzonaphthalene Moiety using Bis(4-hydroxyphenyl)-1,2-diphenylethylene for PEMFC**
Young-Don Lim¹, Dong-Wan Seo², Soon-Ho Lee¹, Seong-Young Choi¹, Sang-Young Lee¹, Whan-Gi Kim¹
¹Konkuk University, ²Korea Research Institute of Chemical Technology



EBP 0381 Evaluation of Ca Doped Ce_{0.8}Gd_{0.2}O_{1.9} SOFCs Electrolyte by Electron Beam Deposition Method

Sun-Ho Yang, Seong-Gwan Shin, Hyung-Wook Choi
Gachon University

EBP 0117 Mesoporous Gadolinium-doped Ceria Impregnated Ni Anode for Intermediate Temperature Solid Oxide Fuel Cells

Seunghyun Ahn¹, Sung-Hwan Bae¹, Ikwhang Jang¹, Suk Won Cha¹, Young-sung Yoo², Chan Park¹
¹Seoul National University, ²Korea Electric Power Research Institute

EBP 0095 Fabrication and Characterization of Metal Electrocatalysts for Bio Fuel Cells

Ji-Eun Lim, Soo-Kil Kim
Chung-Ang University

EBP 0069 Polyol-free Synthesis of Pt/Graphene Oxide Catalyst for PEM Fuel Cells

Tae Kyu Lee, Seung Hyun Hur
University of Ulsan

EBP 0038 Ceramic and Glass Composite Interconnects for Solid Oxide Fuel Cells

Seung-Bok Lee¹, Seuk-Hoon Park², Jong-Won Lee¹, Tak-Hyoung Lim¹, Seok-Joo Park¹, Rak-Hyun Song¹, Dong-Ryul Shin¹
¹KIER, ²KAIST

EBP 0037 Development of Anode-supported Flat-tube SOFC Stack Having a New IC Design

Seung-Bok Lee, Jong-Won Lee, Tak-Hyoung Lim, Seok-Joo Park, Rak-Hyun Song
KIER

Nano Dot, Nano Wire and Nano Processes (NA)

Sep. 17, 2012 (Mon.)

NAP (Nano Dot, Nano Wire and Nano Processes)

Ballroom Lobby

14:00-15:20

NAP 1192 Micro- and Nano-Energetic Oxidizers for Tuning the Explosive Reactivity of High-Energy Al/CuO Composite Pellets

Ji Young Ahn, Soo Hyung Kim, Ji Hoon Kim
Pusan National University

NAP 1186 Preparation of Single Phase Na-A Zeolite from Coal Gangue by Melting-Hydrothermal Method

Tingting Qian, Jinhong Li, Lingxin Tong
China University of Geoscience

NAP 1184 Nano-sized Precipitated Silica Powder Prepared from Oil Shale Ash

Jinhong Li
China University of Geosciences

NAP 1092 Fabrication of ZnO/TiO₂ Thin Film with Photocatalyst by using Chemical Bath Deposition Method

Ji Sun Lee¹, Jong Hee Hwang¹, Tae Young Lim¹, Mi Jai Lee¹, Sei Ki Kim¹, Soong Keun Hyun², Jin Ho Kim¹
¹KICET, ²Inha University

NAP 0953 Sonochemical Synthesis and Silica Encapsulation of Iron Oxide Nanoparticles

Md. Nazrul Islam, Cheol Gi Kim
Chungnam National University

NAP 0916 Conversion of CdTe Nanoparticles into Nanowires via Self-Assembly

Wan-Kyu Kang, Seung-Min Lee, Jung-Won Kang, Ki-Sub Kim
Korea National University of Transportation

**NAP 0906 Characteristic and Fabrication of Pt Nanoparticles Dispersed in SiO₂ Support by Spray Pyrolysis Process**Jaechol Yoon^{1,2}, Jin Ho Choi^{1,2}, Hye Young Koo¹, Jung-Yeul Yun¹¹Korea Institute of Materials Science(KIMS), ²Pusan National University**NAP 0878 Preparation of Nano Mullite Powders from Kaolin via Open Hydrothermal Technology**

Jinhong Li, Lingxin Tong

China University of Geosciences

NAP 0868 Spectroscopic and Microscopic Characterization of Single Crystal Vanadium Oxide Nanowires

Jong Bae Park, Byoungchul Son, Song-I Kim, Jouhahn Lee, Woong-ki Hong

Korea Basic Science Institute

NAP 0833 Synthesis of ZnSe Quantum Dot Nanocrystals using Paraffin Liquid

Hee Song Moon, Jae Ho Kim, Sang Ho Sohn

Kyungpook National University

NAP 0828 Experiment and Analysis for the Growth of SiC Nanofiber from an Exfoliated Graphite and Amorphous SilicaSeong-Min Jeong¹, Hae-Jin Hwang²¹Korea Institute of Ceramic Engineering and Technology, ²Inha University**NAP 0802 Strain-induced Wrinkling of ZnO Nano/Microwires and their Strain Effects**

Song-i Kim, Jongbae Park, Woong-Ki Hong

Korea Basic Science Institute

NAP 0726 Structure and Optoelectronic Properties of CdSe Tetrapods Nanocrystal for Bulk Hetero-junction Solar Cells Application

Nguyen Tam Nguyen Truong, Thao Phuong Ngoc Nguyen, Chinho Park

Yeungnam University

NAP 0688 Bio-inspired Synthesis of Metal Nanostructures on Electrospun Nanofibers

Ho Yeon Son, Ji Hyun Ryu, Insu Kim, Hyung Seok Choi, Haeshin Lee, Yoon Sung Nam

Korea Advanced Institute of Science and Technology

NAP 0668 Planarization of Metal Substrate by Multi-nano Layer Coating ProcessRock-Kil Ko¹, Boo-Min Kang¹, Dong-Woo Ha¹, Myung-Hwan Sohn¹, Chan Chan²¹Korea Electrotechnology Research Institute, ²Seoul National University**NAP 0638 Plasma Irradiation Effects on Optical and Structural Properties of ZnO Nanorods**Geon Joon Lee¹, Jin Young Lee¹, Byoungchoo Park¹, Han Sup Uhm¹, Eun Ha Choi¹, Eun-Kyung Kim², Sung-Hwan Han²¹Kwangwoon University, ²Hanyang University**NAP 0627 ZnO Nanorod Array on Polymer by Hydrothermal Process**

Seung Rok Lee, Si Nae Heo, Geun Woo Kim, Keun Young Park, Bon Heun Koo

Changwon National University

NAP 0622 A Comparative Study on Structure of Nanoparticles Synthesized by Pulsed Wire Explosion Process in Cu SolutionDong Woo Joh¹, Taek Kyun Jung², Hyo Soo Lee², Do Hyang Kim¹¹Yonsei University, ²Korea Institute of Industrial Technology**NAP 0617 Effect of Oxide Electron Transfer Layer on Quantum Dots Light-Emitting Diodes with Organic/Inorganic Hybrid Structure**Jiwan Kim¹, Yohan Kim¹, Se Min Kim¹, Yu Jin Park², Jeong In Han², Yong-Hoon Kim¹, Chul Jong Han¹, Min Suk Oh¹¹Korea Electronics Technology Institute, ²Dongguk University



NAP 0616 **Effect of Ga-doped ZnO Seed Layer on Structural Properties of ZnO Nanowire Arrays**
In-Hyung Yer¹, Ji-Hong Kim¹, Ji-Hyung Roh¹, Kyung-Ju Lee¹, Jae-Ho Park¹, Sang-Mo Koo², Byung-Moo Moon¹
¹Korea University, ²Kwangwoon University

NAP 0614 **Silica Nanoparticle Coating of the NaYF₄: (Yb³⁺, Er³⁺) Upconversion Phosphor**
Maeng Jun Kim, Sang Ho Sohn
Kyungpook National University

NAP 0607 **Gold Nanowires Array Electrode for Amplified Electrochemical Detection of Mycobacterium Tuberculosis**
Sri Ramulu Torati¹, Venu Reddy¹, Brajalal Sinha¹, Seok Soo Yoon², Cheol Gi Kim¹
¹Chungnam National University, ²Andong National University

NAP 0596 **Photoluminescence Property of ZnO QDs/ SiO₂ Multilayer on Si Substrate**
Taehun Park, Semi Oh, Hyunjun Choi, Hodol Yoo, Woong Jang, Dalma Gwon, Seunggho Yang, Kyoung-Kook Kim
Korea Polytechnic University

NAP 0584 **Characteristics of Electrical, Optical and Structural Properties of Spin-coated Indium Zinc Titanium Oxide Film using Solution Nanoparticle Ink**
Chenhao Jin, Han-Ki Kim
Kyunghee University

NAP 0576 **Interface Characterization and Evaluation of Reactive Preclean Process for the Removal of Cu oxide in Cu Nano Interconnect Process**
Sung Gyu Pyo, Eunmi Choi, Hyunjin Park, Lee Seul Oh, Areum Kim
Chungang University

NAP 0568 **Measurement of Adhesion and Bonding Strength Studies in 3D Interconnect Structures using Atomic Force Microscopy**
Sung Gyu Pyo, Eunmi Choi, Jae Bin Kim, Sun Jae Lee, Chang Hyun Kim, Soo Won Kim
Chungang University

NAP 0490 **Electroplating of TiO₂ Nanoparticles Dispersed Ni Composite Coating**
So-Yeon Park, Jae-Ho Lee
Hongik University

NAP 0428 **AFM-assited Local Oxidation Characteristics on AlGaIn/GaN**
Jung-Ho Lee, Ik-Ju Kim, Min-Seok Kang, Sang-Mo Koo
Kwangwoon University

NAP 0373 **Silicon Nanocrystals In-situ Grown in Silicon-Carbide-based Films**
Tae-Youb Kim¹, Cheol-Jong Choi², Chul Huh¹, Rae-Man Park¹, Hojun Ryu¹, Maki Suemitsu³
¹Electronics and Telecommunications Research Institute, ²Chonbuk National University, ³Tohoku University

NAP 0298 **Effects of ZnTe Capping Layer Thickness on Carrier Dynamics and Activation Energy of CdTe/ZnTe Quantum Dots**
Hong Seok Lee
Jeju National University

NAP 0295 **Solution-based Synthesis of ZnO Nanowires as a Template of a Polyimide Membrane**
Boo Hyun An, Bong Gun Kim, Woong Kim, Young Keun Kim
Korea University

NAP 0277 **Effect of Hydrothermal Temperature on Synthesis of ZnO Nanorods**
Si Nae Heo, Geun Woo Kim, Keun Young Park, Ho Je Cho, Byung Hyun Ahn, Dong Gun Lee, Bon Heun Koo
Changwon National University

NAP 0252 **Electroluminescence Enhancement in Organic LED by Introduction of Nanodot Arrays**
Chul-Hyun Kim, Dae-Geun Choi, Jun-ho Jeong, Eung-sug Lee, Jun-hyuk Choi
Korea Institute of Machinery & Materials



- NAP 0219 Development of 80 kW RF Thermal Plasma Torch System for Nano Powder**
Byungkoo Son^{1,2}, Moonwon Lee², Byunghoon Kim², Myungsun Shin², Sunyong Choi², Seokkyun Song², Steven Kim²
¹Seoul National University of Science & Technology, ²Cheorwon Plasma Research Institute
- NAP 0209 Preparation of Alumina Rod from ASB/PVP Blended Solution by Electrospinning**
Jinho Choi, Byounggon Lee, Jihoon Jung
Kyonggi University
- NAP 0208 Shape Control of Alumina Needle Prepared by Hydrothermal Synthesis**
Yongho Yoon¹, Onyu Jung², Eungsoo Kim¹, Jihoon Jung¹
¹Kyonggi University, ²Korea Minjok Leadership Academy
- NAP 0201 Production of Silicon Nano Powder using the RF Thermal Plasma Torch**
Sunyong Choi¹, Kyuhang Lee¹, Myungsun Shin¹, Byungkoo Son², Seokkyun Song¹, Steven Kim¹
¹Cheorwon Plasma Research Institute, ²Seoul National University of Science & Technology
- NAP 0195 Investigation into Ultrashort-Pulse Laser Heating of Nanoscale Au Film using Dual-Phase-Lag Model**
C. Y. Ho, Y. H. Tsai
Hwa Hsia Institute of Technology
- NAP 0153 Synthesis and Fluorescent Properties of Hot-injection-based InZnP/ZnS Quantum Dots using a Phosphorus Source of Tris(dimethylamino)phosphine**
Eun-Pyo Jang, Ju Chul Lee, Ki-Heon Lee, Jeong-Hoon Lee, Jong-Hoon Kim, Hye-Seung Lee, Heesun Yang
Hongik University
- NAP 0152 Solvothermal Preparation of Yellow-Emitting CuInS₂/ZnS Quantum Dots and their Application to White Light-Emitting Diodes**
Woo-Seuk Song, Heesun Yang
Hongik University
- NAP 0148 The Thermal Behavior of the Synthesis of Cu-BTA Composite Nanoparticles by Thermal Decomposition**
Mu-Jung Kao, Fu-Chun Hsu, Jia-Bin Guo
NTUT
- NAP 0106 Mobility Improvement of P3HT Thin Film by High-voltage Electrostatic Field-assisted Crystallization**
Junhyuk Choi, Soon-Won Lee, Dae-Geun Choi, Ji-Hye Lee, Jun-Ho Jeong
KIMM
- NAP 0105 Initial Porous Film Growth in 0.4 M Phosphoric Acid Electrolyte after Anodizing in Molten Bisulphate Melts**
Seong Ho Han
KITECH
- NAP 0104 A Study of Barrier Film Growth in 0.1 M Ammonium Tartrate Electrolyte after Anodizing in Molten Melts**
Seong Ho Han
KITECH
- NAP 0084 Formation and Characteristics of Si Quantum Dot by Hyperthermal Neutral Beam**
Kyoung Suk Oh, Jong Bae Park, Jongsik Kim, Deachul Kim, Seung Pyo Hong, Young-Woo Kim, Suk Jae Yoo
National Fusion Research Institute
- NAP 0032 Unraveling Unique Phase Transformation of Ni-Au Metallic Nanowires**
Youngmin Shin^{1,2}, Prasad Raghupatruni², Intak Jeon¹, Joonho Lee¹, Youngkeun Kim¹, Insuk Choi²
¹Korea University, ²Korea Institute of Science and Technology



NAP 0021 Enhanced NO₂ Gas Sensing Properties of ZnGa₂O₄-core/TiO₂-shell Nanowires
 Sunghoon Park, Soyeon An, Hyunsu Kim, Chongmu Lee
Inha University

NAP 0019 Time-resolved Photoluminescence in Self-assembled CdTe/ZnTe Quantum Dots
 Hong Seok Lee¹, Sang-Youp Yim²
¹Jeju National University, ²Gwangju Institute of Science and Technology

Photovoltaic Engineering (ED)

Sep. 17, 2012 (Mon.)

EDP 1 (Photovoltaic Engineering)

Ballroom Lobby

16:20-17:40

EDP 1193 Effect of Diameter and Length of TiO₂ Nanowires on the Photovoltaic Properties of Dye-Sensitized Solar Cells
 Kook Joo Moon, Ji Young Ahn, Soo Hyung Kim
Pusan National University

EDP 1150 Influence of Surface Texturing Conditions on Crystalline Silicon Solar Cell Performance
 Hyunho Kim, Sungeun Park, Soo Min Kim, Seongtak Kim, Young Do Kim, Sung Ju Tark, Donghwan Kim
Korea University

EDP 1145 Scanning Probe Study on the Photovoltaic Characteristics of a Poly-Si Solar Cell by using Kelvin Force Microscopy (KFM) and Photoconductive Atomic Force Microscopy (PC-AFM)
 Jinhee Heo¹, Won Seok Choi², Youngmok Rhyim¹
¹Korea Institute of Materials Science(KIMS), ²Hanbat National University

EDP 1125 Study of Single Crystal Silicon Solar Cell Doped by using Atmospheric Pressure Plasma
 I Hyun Cho, Myoung Soo Yun, Chan Hee Son, Tae Hoon Jo, Dong Hea Kim, Il Won Seo, Jun Hyoung Roh, Bu Il Jeon, Gi Chung Kwon
Kwangju University

EDP 1118 Properties of ZnO Nanorod Photoelectrode for Dye-Sensitized Solar Cell
 Yu Sup Jung, Hyung Wook Choi, Kyung Hwan Kim
Gachon University

EDP 1114 Spray Deposition of Cu₂ZnGeSe₄ Thin Film
 Dhruba Khadka, Jun Ho Kim
University of Incheon

EDP 1113 Fabrication of CZTSe Solar Cell using Spray Pyrolysis
 Seong Yeon Kim, Soo Min Song, JunHo Kim
University of Incheon

EDP 1109 High Efficiency and High Photo-Stability Zinc-Phthalocyanine based Planar Heterojunction Solar Cells with a Double Interfacial Layer
 Tae-Min Kim, Ji Whan Kim, Hyun Sub Shim, Jang-Joo Kim
Seoul National University

EDP 1094 Improvement of Efficiency for Si Solar Cells with Nano/Micro Combined Pattern by Means of Nanoimprint Lithography
 Jaejong Lee¹, Mira Jeong¹, Hyung Jun Lim¹, Sooyeon Park²
¹Korea Institute of Machinery & Materials, ²University of Science and Technology

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Juho Chung, Wooyoung Yoon

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Soochang Jeong, Junghwan Hwang, Jaewon Lee, Hyonkwang Choi, Minhyon Jeon

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Sung-Hwa Eo, Dae-Seon Kim, Ho-Jung Jeong, Jae-Hyung Jang

GIST

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Kyungsung University

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Yeungnam University



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Moonsuk Choi, Dongjun Yoo, Chulwon Chung, Seungchan Heo, Dohyoung Kim, Changhwan Choi
Hanyang University

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Dong-Hoon Oh¹, Seung-Tae Kim¹, Gwi-Yeol Kim¹, Jong-Yeol Shin², Tae-Wan Kim³, Jin-Woong Hong¹
¹Kwangwoon University, ²Sahmyook University, ³Hongik University

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Hyosang Lee, Hyungmin Lee, Chinho Park
Yeungnam University

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Hyung Soo Kim¹, Se Yong Park¹, Jung Wook Lim², Sun Jin Yun², Hee Chul Lee¹
¹Korea Polytechnic University, ²Electronics and Telecommunications Research Institute

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Chang Bong Yeon¹, Yoo Jeong Lee¹, Jung Wook Lim², Sun Jin Yun²
¹University of Science and Technology, ²Electronics and Telecommunications Research Institute

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Sejong University

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Dong Ho Kim, Seon Kyu Min, Soo Hong Lee
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University of Incheon

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Korea Institute of Science and Technology

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Korea University



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Eun Jin Jung¹, Byung Moon Moon², Dong Joon Min¹
¹Yonsei University, ²Korea Institute of Industrial Technology
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Electronics and Telecommunications Research Institute
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Tae-Sik Cho¹, Chul-Sik Cho²
¹Kyungpook National University, ²Sanko Korea
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Min-Seung Choi^{1,2}, Sung-Gyu Park¹, Jung-Heum Yun¹, Yongsoo Jeong¹, Dong-Ho Kim¹
¹KIMS, ²PNU
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In Jun Hwang¹, Ki Ryong Shin¹, Young Gun Ko², Bongyoung Yoo¹, Dong Hyuk Shin¹
¹Hanyang University, ²Yeungnam University
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Sunghoon Jung, Myungkwan Song, Dae Sung You, Su Jin Park, Chang Su Kim, Jae-Wook Kang
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¹Catholic University of Daegu, ²Gumi Electronics and Information Technology Research Institute, ³Yeungnam University, ⁴Kyungpook National University
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Jinjoo Park¹, Youngkuk Kim², S. M. Iftiqar¹, Junhee Jung¹, Junsin Yi¹
¹Sungkyunkwan University, ²Hanwha Chemical



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Jinjoo Park, Sunwha Lee, Vinh Ai Dao, Chonghoon Shin, Minbum Kim, Juyeon Jang, Junhee Jung, Junsin Yi
Sungkyunkwan University

EDP 0615 Angle Dependence of Quantum Efficiency in Hit Solar Cell and Conventional Solar Cell

Il Won Seo¹, Chan Hee Son¹, Myung Soo Yoo¹, Tae Hoon Jo¹, Dong Hae Kim¹, Jun Hyoung Roh¹, Jin Hyuk Yoo²,
Guang Sep Cho¹, Gi Chung Kwon¹
¹Kwangwoon University, ²Jusung Engineering Co., Ltd.

EDP 0610 Crystalline Silicon Solar Cell with Selective Emitter using Phosphorus Paste by One-step Diffusion Process

Kyung Taek Jeong¹, Tae Hyeon Baek², Gwon Jong Yu³, Jeong Chul Lee³, Hee Eun Song³, O Bong Yang¹
¹Chonbuk National University, ²Chungbuk National University, ³Korea Institute of Energy Research

EDP 0601 Enhancement of the Surface Smoothness of Photovoltaic Ribbon

Tae-Sik Cho¹, Chul-Sik Cho²
¹Kyungpook National University, ²Sanko Korea

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Eung Seok Lee¹, Sang Il Yoon¹, Young Gun Ko², Bongyoung Yoo¹, Dong Hyuk Shin¹
¹Hanyang University, ²Yeungnam University

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Kyung Hee University

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Jaewoo Choi, Vinh Ai Dao, Minkyu Ju, Cheolmin Park, Kyungyul Ryu, Bonggi Kim, Kyuwan Song, Junsin Yi
Sungkyunkwan University

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Chungang University

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Sung-Ku Kwon¹, Won-Kook Choi²
¹Kunsan National University, ²KIST

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**Carbon Nano Materials (NC)**

Sep. 17, 2012 (Mon.)

NCP (Carbon Nano Materials)

Ballroom Lobby

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Pusan National University
- NCP 1168 Biomineralized N-Doped CNT/TiO₂ Core/Shell Nanowires for Visible Light Photocatalysis**
Won Jun Lee, Ju Min Lee, Gil Yong Lee, Sang Ouk Kim
KAIST
- NCP 1080 Material and Thickness Dependence of Doping Effect in Graphene-Metal-Graphene Sandwich Structure**
Hye-In Kim, Youngkun Ahn, Young-Hwan Kim, Seong-Il Kim
Korea Institute of Science and Technology
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Hanbat National University
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Sang Joon Lee¹, Hyunil Kang¹, Won Seok Choi¹, Yeonho Jung¹, Hyunsuk Hwang²
¹Hanbat National University, ²Seoil University
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Korea Institute of Science and Technology
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Yong Seob Park¹, Wonseok Choi², Junsin Yi³, Jaehyeong Lee³
¹Chosun College of Science and Technology, ²Hanbat National University, ³Sungkyunkwan University
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Yonsei University
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Sejong University

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Sang Hoon Cho, Ki-Sub Kim, Jeong Won Kang
Korea National University of Transportation

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¹KIST, ²Chungnam National University

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Devices and Materials for Energy Harvesting and Storage (EA)

Sep. 18, 2012 (Tue.)

EAP 1 (Devices and Materials for Energy Harvesting and Storage)

Ballroom Lobby

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Joonwon Lim¹, Dong Sung Choi¹, Sun Hwa Lee², Sang Ouk Kim¹
¹KAIST, ²MIT

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Min-Soo Kim, Sung-Chan Lee, Sin-Woong Kim, Soon-Jong Jeong, In-Sung Kim, Jae-Sung Song
 Korea Electrotechnology Research Institute

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Yong Tek Ju¹, Sun Min Park², Sung-Hyeon Beack¹, Han Joo Kim³, Young Jae Yuk³, Kwang Chul Roh²
¹Inha University, ²Korea Institute of Ceramic Engineering & Technology, ³PureEChem

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Kyoung Soo Lee, Jung-Hyuk Koh
 Kwangwoon University

EAP 0902 Design of a Cylinder Type Piezoelectric Generator to Apply in the Shock Absorber of Vehicle

Na Lee Kim, Hong Seok Lee, Seong Su Jeong, Jong Kyu Park, Tae Gone Park
 Changwon National University

EAP 0893 Generating Characteristics of a θ -Type Piezoelectric Generator Depending on the Ceramic Thickness and Angle of the Elastic Bodies

Seong Kyu Cheon, Jung Hoon Lim, Ho Ik Jun, Seong Su Jeong, Tae Gone Park, Myong Ho Kim
 Changwon National University

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Sung Il Han, Sang Hui Kim, Sung Min Kwak, Jeong Hoon Lee
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EAP 0789 The Electrical Characteristics of GFRP for HTS Bushing

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 Gyeongsang National University, ERI

EAP 0787 Various Electrical Characteristics of PPLP for HTS HVDC Cable

Woo Jin Kim¹, Sang Hyun Kim¹, Hae Jong Kim²
¹Gyeongsang National University, ERI, ²Korea Electrotechnology Research Institute

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Jang Bo Shim, Young Kuk Lee, Chang Gyoung Kim, Dong Ju Jeon, Taek-Mo Chung, Ki-Seok An, Sun Suk Lee, Jong Sun Lim, Seok Jong Jeong, Bo Keun Park
 Korea Research Institute of Chemical Technology

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C. Justin Raj, S. N. Karthick, K. V. Hemalatha, Hee-Je Kim, K. Prabakar
 Pusan National University

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Na-Ri Lee¹, Soo-Sun Lee¹, Kyeong-Il Kim¹, Miewon Jung², Tae-Whan Hong¹
¹Korea National University of Transportation, ²Sungshin Women's University



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¹Korea National University of Transportation, ²Sungshin Women's University
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Jin Woo Cho¹, Sung Hyun Kim¹, Young Keun Kim²
¹Korea Electronics Technology Institute, ²Korea University
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Young Rock Kim, Hyo Jung Heo, Mi Ran Jung, Jae Hong Kim
Yeungnam University
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Soo Hee Kim, Jin-Ho Kang, Jung Jae Seo, Mohamed Ebaid Abdrabouh, Sang-Wan Ryu
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Mi Ran Jung, Dae Young Jung, Young Rock Kim, Jae Hong Kim
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Sun Kyung Lim, Hee Chul Lee
Korea Polytechnic University



EAP 0451 Influence of Citric Acid on the Properties of BaCe_{0.85}Sm_{0.2}O_{3-δ} Nanopowders via Citric-nitrate Synthesis

Inyu Park, Jeongin Kim, Hunhyeong Lee, Dongwook Shin
Hanyang University

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M. AminullIslam, M. Sharafat Hossain, M. Mannir Aliyu, Yusoff Sulaiman, Kamaruzzaman Sopian, Nowshad Amin
The National University of Malaysia

EAP 0528 Influence of Anneal Temperature on the Optical and Electrical Properties of ITO Films Grown by RF Magnetron Sputtering

Mohammed M. Aliyu¹, Md. Sharafat Hossain¹, Mahmud Abdul Matin², Kamaruzzaman Sopian¹, Nowshad Amin¹
¹*The National University of Malaysia*, ²*Chittagong University of Engineering and Technology*

EAP 0890 Domain Size Contributions to the Local d33 of Tetragonal (K_{0.45}Na_{0.53}Li_{0.02})(Nb_{0.8}Ta_{0.2})O₃ Ceramics

Duc-Thang Le, So-Jung Kwon, Na-Ri Yeom, Young-Jin Lee, Young-Hun Jeong, Myoung-Pyo Chun, Joong-Hee Nam, Jong-Hoo Paik, Byung-Ik Kim, Jeong-Ho Cho
Korea Institute of Ceramic Engineering and Technology

EAP 0547 Fabrication and Characterization of Single Crystalline β-Na_{0.33}V₂O₅ Nanowires based Energy Storage Devices

Nguyen Thi Hong Trang, Imran Shakir, Dae Joon Kang
Sungkyunkwan University

EAP 0082 Synthesis of High-performance Li₄Ti₅O₁₂ and Its Application to the Asymmetric Hybrid Capacitor

Byunggwan Lee, J. R. Yoon
Samwha Capacitor, Korea

Lithium and Advanced Secondary Battery Materials (EC)

Sep. 18, 2012 (Tue.)

ECP (Lithium and Advanced Secondary Battery Materials)

Ballroom Lobby

14:00-15:20

ECP 1106 Olivine Cathodes Templated on the Two Dimensional Conducting Framework for Lithium Ion Battery

Sung Hoon Ha, Yo Sub Jung, Yun Jung Lee
Hanyang University

ECP 1105 Novel Metal/Reduced Graphene Oxide Hybrid for Lithium-Air Battery Cathodes

Yo Sub Jeong, Hun-Gi Jung, Yang Kook Sun, Yun Jung Lee
Hanyang University

ECP 0950 Electrochemical Evaluation of Sodium and Tin Oxides as Near Future Battery System

Jinsoo Park, Ki-Young Lee, Sang-Won Lee, Ho-Suk Ryu, Ki-Won Kim, Jou-Hyeon Ahn, Hyo-Jun Ahn
Gyeongsang National University

ECP 0875 Layered NaFeO₂ as Positive Electrode in Na-Ion Batteries

Hiroaki Yoshida, Naoaki Yabuuchi, Masaya Yano, Masataka Kajiyama, Shinichi Komaba
Tokyo University of Science

ECP 0852 Reversible Capacity Evaluation of TiO₂(B) Nanobelt by Ball-Milling for Lithium-Ion Battery Anode

Bo-ra Kim¹, Kang-Seop Yun¹, Hyo-Keun Ahn¹, Hyo-Jin Oh¹, Wooseung Kang², Sun-Jae Kim¹
¹*Sejong University*, ²*Inha Technical College*



- ECP 0849 Electrochemical Behavior of Lithium Powder/GPE/LVO Rechargeable Battery**
Rae Hwan Jo¹, Jae Ha Lee¹, Bok Ki Kim², Woo Young Yoon¹
¹Korea University, ²Kwangwoon University
- ECP 0804 Effect of Heat Treatment on Tensile Properties of Copper-Nickel Clad Films Prepared by Surface Activation Bonding**
Taek-Kyun Jung, Kyung-Hoon Kim, Hyo-Soo Lee, Sung-Chul Lim, Hyouk-Chon Kwon
Korea Institute of Industrial Technology
- ECP 0761 Lithium-Ion Battery Application of Silicon Nanotubes Synthesized by Surface Sol-Gel Reaction**
Jung-Keun Yoo¹, Jongsoo Kim², Kisuk Kang², Yeon Sik Jung¹
¹KAIST, ²Seoul National University
- ECP 0755 Electrochemical Properties of LiFePO₄/Mesoporous Carbon Composite by Microwave Heating**
Ho Jun Lee¹, Jun-Il Kim², Jae-Won Lee³, Sun-Min Park², Sung-Hyeon Baek¹, Kwang Chul Roh²
¹Inha University, ²Korea Institute of Ceramic Engineering and Technology, ³Dankook University
- ECP 0748 Synthesis of Mesoporous TiO₂ and Application to Hybrid Supercapacitor**
Min Young Cho¹, Sun-Min Park², Kwang-Bum Kim¹, Jung-Rag Yoon³, Kyung-Min Lee³, Byung-Gwan Lee³, Kwang Chul Roh²
¹Yonsei University, ²Korea Institute of Ceramic Engineering & Technology, ³Samwha Capacitor
- ECP 0747 Electrochemical Properties of Li_{0.33}MnO₂ Nanorods as Positive Electrode Material for Lithium Batteries**
Mok-Hwa Kim¹, Sun-Min Park¹, Kwang-Bum Kim², Kwang Chul Roh¹
¹Korea Institute of Ceramic Engineering & Technology, ²Yonsei University
- ECP 0743 The Study of 3 V Lithium-Ion Battery with LiNi_{0.5}Mn_{1.5}O₄ as a Cathode and Li₄Ti₅O₁₂ Anode Material**
Ji Su Chae¹, Jun Soo Park¹, Haewoong Park¹, Jae-Won Lee², Sun-Min Park¹, Kwang Chul Roh¹
¹Korea Institute of Ceramic Engineering & Technology, ²Dankook University
- ECP 0713 Development and Operation of Lithium Polymer Battery for Series Hybrid Vehicle**
Kang Won Lee, Dong Hoe Koo
KRII
- ECP 0587 Electrochemical Properties of Si-Mn Alloy Anodes for Lithium-ion Batteries Prepared by Rapid Solidification Process**
Jin Jae Jeong, Won-Wook Park, Keun Yong Sohn
Inje University
- ECP 0477 Capacity Fading Behaviors of Amorphous Lithium Trivanadate Cathode Cell with Lithium Powder Anode in Lithium-Ion Batteries**
Jung Min Seo, Woo Young Yoon
Korea University
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Young-In Lee¹, Dae-Hwan Jang¹, Seil Kim¹, Eun-Sil Park¹, Kahee Kim², Yong-Ho Choa¹
¹Hanyang University, ²Korea Advanced Nano Fab Center
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- ECP 0395 Protection Effect of ZrO₂ Coating Layer on LiCoO₂ Thin Film Fabricated by DC Magnetron Sputtering**
Ki-Taek Jung, Tae-Hoon Kwon, Min-Sun Jang, Jung-Pil Noh, Gyu-bong Cho, Tae-Hyun Nam, Ki-Won Kim
Gyeongsang National University



PROGRAM

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Hyun-Ju Kim, Bong-Soo Jin, Hyun-Soo Kim
Korea Electrotechnology Research Institute

ECP 0268 Poly(hydroxyethyl methacrylate)-based Networked Solid Polymer Electrolyte

A-Ran Lee, Young-Deok Kim, Nam-Ju Jo
Pusan National University

ECP 0267 Preparation of Si/Carbon Nano-composite by Insignificant Thermal Decomposition as Anode for Li Ion Batteries

Jeapyeong Jung¹, Kyeongse Song², Yong-Mook Kang²
¹Kongju National University, ²Dongguk University

ECP 0220 Modified Spherical Activated Carbon by Microwave-assisted for Supercapacitor

Sumi Kim¹, Sahn Nahm¹, Sun-Min Park², Kwang Chul Roh²
¹Korea University, ²Korea Institute of Ceramic Engineering & Technology

ECP 0218 Nano-porous Si/C Composites for Anode Material of Lithium-Ion Batteries

Jun-Soo Park¹, Sun-Min Park², Jae-Won Lee³, Kwang Chul Roh²
¹Hanyang University, ²KICET, ³Dankook University

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Junkyu Lee, Wooyoung Yoon
Korea Univirsity

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Gui Fu Yang, Jae Sun Song, Seung Ki Joo
Seoul National University

ECP 0092 Lithium Metal Polymer Batteries Assembled with Composite Gel Polymer Electrolytes

Yoon-Sung Lee¹, Ji-Ae Choi¹, Woo Young Yoon², Dong-Won Kim¹
¹Hanyang University, ²Korea University

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Jae-Chan Kim, Seung-Deok Seo, Dong-Wan Kim
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Tae Gyu Woo, Il Song Park, Man Hyung Lee, Kyeong Won Seol
Chonbuk National University

Flexible Displays and Printed Electronics (DA)

Sep. 18, 2012 (Tue.)

DAP (Flexible Displays and Printed Electronics)

Ballroom Lobby

14:00-15:20

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Jong-Woong Kim, Soo-Yeon Kim, Sung-Jei Hong
Korea Electronics Technology Institute

DAP 1041 An Electrostrictive High Dielectric Constant Fluorinated Terpolymer Layer Fabricated by a Unconventional Printing Process

Sung-Jin Kim¹, John Kymissis²
¹Chungbuk National University, ²Columbia University

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Chaewon Kim, Sunjung Lee, Mijung Lee
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- DAP 0864 Preparation of Conductive Cu Thin Film by the Reaction of Cu Nitrate with Polymers**
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¹ETRI, ²Korea University
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Young-In Lee¹, Yun-Gu Hwang¹, Jae-Eun Lee¹, Dong Hwan Kim¹, Ki-Hun Seong¹, Joong-Do Kim², Yong-Ho Choa¹
¹Hanyang University, ²Samsung Techwin R&D Center

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Chang-Min Keum, Min-Hoi Kim, Hea-Lim Park, Sin-Doo Lee
 Seoul National University

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Jinhyeong Kwon¹, Hye-Mi So², Suk-Jun Hong¹, Ha-Beom Lee¹, Geonwoong Kim¹, Won-Seok Chang², Seung Hwan Ko¹
¹Korea Advanced Institute of Science and Technology(KAIST), ²Korea Institute of Machinery and Materials(KIMM)

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Hyeok Kim¹, Jin-Hyuk Bae², Gilles Horowitz¹, Yoonseuk Choi³
¹Universite Paris Diderot-Paris 7, ²Kyungpook National University, ³Hanbat National University

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Jin-Hyuk Bae¹, Chang-Min Keum², Sin-Doo Lee²
¹Kyungpook National University, ²Seoul National University

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Jun-Seok Lee, Woon-Seop Choi
 Hoseo University

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Kyunghee Lee, Joohee Kim, Kyusoon Shin, Youn Sang Kim
 Seoul National University

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Bin Kim¹, Seung Wook Suh², Byung Ki Park¹
¹Korea Research Institute of Chemical Technology, ²adixen Vacuum Technology Korea



Advanced Packaging and Interconnection (MB)

Sep. 18, 2012 (Tue.)

MBP (Advanced Packaging and Interconnection)

Ballroom Lobby

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Hanyang University
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- MBP 0773 Electrical Characteristics and Microstructure of Cu filled TSV Prepared by Laser Drilling**
Il Ho Jeong¹, Do Huun Jung¹, Ku Sik Shin¹, Dong Sik Shin², Jae Pil Jung¹
¹The University of Seoul, ²Korea Institute of Machinery & Materials
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Ho Sun Lim, Seung-Nam Kim, Seong-Dae Park
Korea Electronics Technology Institute
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Yeonghyeon Hwang¹, Won-Ju Cho², Yongtate Kim¹
¹Korea Institute of Science and Technology, ²Kwangju University
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Ki-Tae Kim¹, Myung-Won Jung¹, Ho-Kyung Eum², Tai-Hong Yim², Jae-Ho Lee¹
¹Hongik University, ²KITECH
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Hanyang University
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University of Science and Technology Beijing
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Min-Sik Han, Jong-Hyun Lee
Seoul National University of Science & Technology

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Jung-Yeol Choi¹, Myung-Rae Roh¹, Yong Ki Son², Guilherme Vaccaro³, Tae-Sung Oh¹
¹Hongik University, ²Electronics and Telecommunications Research Institute, ³Unisinos University

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Jun Bum Kim, Sung Hyuk Kim, Jong Myeong Park, Young Bae Park
Andong National University

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Seunghyun Kim¹, Yongjin Park², Young Chang Joo², Youngbae Park¹
¹Andong National University, ²Seoul National University

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Jong-In Ryu, Se-Hoon Park, Dongsu Kim, Jong Chul Park
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Seoul National University of Science and Technology

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Se-hoon Park¹, Young-Ho Kim², Jong Chul Park¹
¹KETI, ²Hanyang University

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Sinae Jo, Seunggu Kang
Kyonggi University

Materials and Processes of Self-assembly (TH)

Sep. 18, 2012 (Tue.)

THP (Materials and Processes of Self-assembly)

Ballroom Lobby

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THP 1067 Resistive Switching Memory Properties of Layer-by-Layer Assembled Protein Multilayer Films

Yongmin Ko, Younhoon Kim, Jinhan Cho
Korea University

THP 1047 Computer Simulation for Microstructure Evolution during Film Growth of Phase Separation Alloys

Dong-Uk Kim¹, Ji-Young Byun², Pil-Ryung Cha¹
¹Kookmin University, ²Korea Institute of Science and Technology

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Jin-Yeol Kim, Jong-Won Yang, Soul-Gi Kim
Kookmin University



- THP 1039 Conducting Polymer Based-Flexible Transparent Electrode Films: Hybridization with CNT and Au NPs**
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¹Kookmin University, ²Nanoenics INC
- THP 1038 Characteristics of Silver Nanowires Synthesized in High Pressure through Polyol Processing**
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Kookmin University
- THP 1035 Solvent-free Silver and Quantum Dot Nanoparticle Fluids based on Thiol-functionalized Imidazolium-type Ionic Liquid**
Younghoon Kim, Donghee Kim, Jinhan Cho
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Chiyong Lee¹, Heejung Park¹, Seunghee Go¹, Hoseok Nam¹, Jong-Kwon Lee², Jaegab Lee¹
¹Kookmin University, ²Soonchunhyang University
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Seok Jin Ham, Jeong Heon Kim, Kyeong-Sik Min
Kookmin University
- THP 0926 Observation of Charge Separation by Kelvin Probe Force Microscopy**
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Kookmin University
- THP 0752 Self-assembled Silicon Oxide Memristive Nanostructures for High-Density Resistive Memories**
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Korea Advanced Institute of Science and Technology
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Jong Hyun Seo¹, Han Sung Kim¹, Hoon Kwon², Jae-Pyoung Ahn³, Kon Bae Lee²
¹Korea University, ²Kookmin University, ³Korea Institute of Science and Technology
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Kyunghoon Jeong¹, Teak-Kyung Lee¹, Injae Byun², Dong-Gil Kim², Do-Soon Jung², Jaegab Lee¹
¹Kookmin University, ²Charm Engineering Co.
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Young Woong Moon, Hyeon Min Kwon, Duck Kyun Choi
Hanyang University
- THP 0280 ITO-free Flexible Organic Solar Cells with Au Grid - poly(3,4 ethylenedioxythiophene): p-toluene Sulfonate Hybrid Anodes**
Ki Yeul Yang, Md. Maniruzzaman, Teak-Kyoung Lee, Chaehwi Lim, Chiyong Lee, Jaegab Lee
Kookmin University



THP 0275 Fabrication of Resistive Switching Random Access Memory (ReRAM) using Nano-imprinting Process[†]

Chiyoung Lee¹, Kyunghoon Jeong¹, Jaegab Lee¹, Kyeong-Sik Min¹, Jinhan Cho²

¹Kookmin University, ²Korea University

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Kayoung Yun, Jihye Cha, Sun Heo, Pil-Ryung Cha, Ho-Seok Nam

Kookmin University

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Young Kyu Lee, Chiyoung Lee, Rahim Abdur, Jaegab Lee

Kookmin University

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Chaehwi Lim, Jeungeun Lim, Chiyoung Lee, Jaegab Lee

Kookmin University

THP 0185 Reliability of Transparent a-IZGO TFT Adopting ITO Enhanced-Mobility Current Path

Jin Hyeong Park, Myeong Ho Kim, Duck Kyun Choi

Hanyang University

Devices and Materials for Energy Harvesting and Storage (EA)

Sep. 18, 2012 (Tue.)

EAP 2 (Devices and Materials for Energy Harvesting and Storage)

Ballroom Lobby

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Sungshin Womens University

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Hansei University

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Boyoung Sohn, Miewon Jung

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Chang-Yeon Kim, Ji Hyun Lee, Jae-Won Shin, Seok-Hoon Lee, Eun-Mee Kim, Jin-Gyu Kim

Korea Basic Science Institute

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Kwanghee Jung, Jong-Young Kim, Soon-Mok Choi, Won-Seon Seo

Korea Institute of Ceramic Engineering & Technology

EAP 0345 The Structural and Electrical Properties of (1-x)(PMN-PZT)-BT Ceramics for Energy Harvester Applications

Moon-Soon Chae, Jung-Hyuk Koh

Kwangwoon University



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¹KIST, ²Chungnam National University
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Hanyang University
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Young Soo Yun, Hyun Ho Park, Hyoung-Joon Jin
Inha University
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Sungho Park, Manso Han, Jaegoo Jung, Seunghun Kim, Won-Seok Chae
Daejin University
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Jangyeul Tak^{1,2}, Soon-Mok Choi¹, Won-Seon Seo¹, Hyungkoun Cho²
¹Korea Institute of Ceramic Engineering and Technology(KICET), ²Sungkyunkwan University
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Minseok Song^{1,2}, Soon-Mok Choi¹, Won-Seon Seo¹, Kyungwook Jang³, Jooho Moon²
¹Korea Institute of Ceramic Engineering and Technology(KICET), ²Yonsei University, ³Hanseo University
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Dae Hoon Lee¹, Woo Seok Kang¹, Jae Hyun Kim¹, Liu Dawei², Brian Sheldon²
¹Korea Institute of Machinery and Materials, ²Brown University
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- EAP 0123** **Optical and Electrical Properties of Randomly Textured Glass Substrates for for Efficiency Improvement of Solar Cell**
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Sungkyunkwan University
- EAP 0122** **Sputter Deposited BaTiO3 Films for High Energy Density Capacitor**
Sangshik Park
Kyungpook National University
- EAP 0116** **Thermoelectric Properties of Spark Plasma Sintered Al-doped ZnO Nanocomposite**
Bo Bae Kim^{1,2}, Woo Hyun Nam³, Young Soo Lim¹, Won-Seon Seo¹, Hyung-Ho Park²
¹Korea Institute of Ceramic Engineering and Technology, ²Yonsei University, ³KAIST
- EAP 0115** **Thermoelectric Properties of Non-stoichiometric Titanium Oxide at High Temperature**
Seul Gi Seo¹, Ja Young Cho¹, Young Soo Lim¹, Won-Seon Seo¹, Yong Soo Cho²
¹Korea Institute of Ceramic Engineering and Technology, ²Yonsei University
- EAP 0102** **Amorphous Silicon (a-Si) Thin Films Deposition by Magnetron Sputtering for Solar Cell Application**
M. Ikbal Kabir, Zahari Ibarahim, Kamaruzzaman Sopian, Nowshad Amin
The National University of Malaysia
- EAP 0064** **Preparation and Characterization of CuS Nanowhiskers Thin Films**
K. Prabakar, C. Justinraj, Heeje Kim
Pusan National University



EAP 0022 High Quality ZnxCd1-xS Thin Film Growth by RF Magnetron Sputtering

M. Sharafat Hossain, M. Aminul Islam, Mohammed M. Aliyu, Takhir Razykov, Kamaruzzaman Sopian, Nowshad Amin
The National University of Malaysia

LED Materials and Devices (DB)

Sep. 18, 2012 (Tue.)

DBP (LED Materials and Devices)

Ballroom Lobby

16:20-17:40

DBP 1085 Developing Daisy Chain Receivers for Light-Emitting Diode Illumination Adopting the Digital Multiplex-512 Protocol

Keehong Um
Hansei University

DBP 1064 Structural Properties of Indium Tin Oxide Thin Films by Glancing Angle Deposition Method

Gyujin Oh, Seon Pil Kim, Kyoung Su Lee, Eun Kyu Kim
Hanyang University

DBP 1055 Efficiency Enhancement of White Light-Emitting Diodes via Surface-textured Silicone Encapsulant

Yong-Suk Kim¹, Sung-Kwon Wi¹, Sang-Mook Kim²
¹Samsung Electro-mechanics Co., LTD, ²Korea Photonics Technology Institute

DBP 1032 Estimation of the Junction Temperature of Each Chip in Multi-chip LED Package

Young-Tae Bang, Cheol-Hee Moon
Hoseo University

DBP 1022 Growth and Characterization of Double Quantum Well Structure of (11-22) Semipolar Ingan Light Emitting Diodes

Jongjin Jang, Joocheol Jeong, Chilsung Jung, Jinwan Kim, Kyungjae Lee, Seung-A Lee, Kyuseung Lee, Okhyun Nam
Korea Polytechnic University

DBP 1013 Optical and Electrical Characterization of Al-doped ZnO Films with Different Al Concentration Grown by Atomic Layer Deposition

Hyo-Soo Son, Ki-Wook Kim, Nak-Jung Choi, Ki-Ryong Song, Sung-Nam Lee
Korea Polytechnic University

DBP 0991 Corrosion Endurance Evaluation of Lead Frame for High Power LED Package Application

Sung Soon Choi, Wooyoung Lee, Byungjin Ma, Kwan Hoon Lee
Korea Electronics Technology Institute

DBP 0918 GaN Growth on Si Substrate using Metal Nitride Interlayer with AlN Buffer Layer

Seong Jin Bak, Jun Seok Ha
Chonnam National University

DBP 0889 Growth and Characterization of Semipolar (11-22) GaN Grown on m-plane Patterned Sapphire Substrate

Duck-Hwan Oh, Ki-Ryong Song, Sung-Nam Lee
Korea Polytechnic University

DBP 0869 Novel Ba-Y-Si-Oxynitride Phosphor for White LEDs

Hyun Cho¹, Jong Cheon Park¹, Jeong Ho Ryu², Tae Gyu Kim¹, Jin Kon Kim¹
¹Pusan National University, ²Chungju National University



- DBP 0831 The Study on the Surface Properties of Al7075 Aluminum Alloy by Plasma Nitriding**
Junghyo Kim¹, Keunhak Lee¹, Taejoon Byun¹, Byungchul Cha¹, Keunyoung Son²
¹Korea Institute of Industrial Technology, ²Inje University
- DBP 0754 Correlation between Morphology of Anodic Aluminum Oxide Layer on Aluminum Sheet and its Peel Strength**
Hyeong Won Shin^{1,2}, Hyo Soo Lee¹, Seung Boo Jung²
¹Korea Institute of Industrial Technology(KITECH), ²Sungkyunkwan University
- DBP 0717 Thermal Properties and Lifetime Comparison of Various Ceramic-package Light-Emitting Diodes**
Byungjin Ma¹, Yungjun Ahn², Jemin Kim¹, Sungsun Choi¹, Kwanhoon Lee¹
¹Korea Electronics Technology Institute, ²AMOLEDs, Inc
- DBP 0683 Output Power Improvement in Vertical Type Light Emitting Diodes by Application of SiO₂ and SiNx on n-type GaN Surface**
K. C. Jung¹, S. H. Kim², J. S. Ha¹, Y. B. Moon³, T. S. Oh⁴, Tak Jeong²
¹Chonnam National University, ²Korean Photonics Technology Institute, ³THELEDs, ⁴Hongik University
- DBP 0682 Formation of Thermal Vias and Characterization of Their Effect on Heat Dissipation of High-Power LED Packages**
Byung-Kyu Yu¹, Min-Young Kim¹, Tak Jeong², Jun Seok Ha³, Tae-Sung Oh¹
¹Hongik University, ²Photonics Technology Institute, ³Chonnam National University
- DBP 0681 Comparison with Effect of Epoxy and Silicone Adhesive on the Lifetime of Plastic LED Package**
Jemin Kim, Inho Park, Byungjin Ma, Kwanhun Lee
Korea Electronics Technology Institute(KETI)
- DBP 0663 Luminescence Properties of GdVO₄ Blue Phosphors Doped with Tb³⁺ Ions**
Shinho Cho
Silla University
- DBP 0611 Improved Moisture Resistance of the Light-Emitting Diode with CaS-based Red Phosphor Coated with Nanoscale Alumina Layer**
So-Ra Gang, Deok Gi Kim, Kwang-Cheol Lee
Korea Photonics Technology Institute
- DBP 0598 Fabrication of Integrated-Micro LED using Double-Structure Electrode**
Hodol Yoo, Semi Oh, Taehun Park, Woong Jang, Hyunjun Choi, Rowoon Lee, Kyoung-Kook Kim
Korea Polytechnic University
- DBP 0593 Electrical, Optical and Structural Characteristics of Ohmic Contacts between p-GaN and ITO Deposited by DC- and RF-based Magnetron Sputtering Methods**
Jun-hyuk Choi, Ja-soon Jang
Yeungnam University
- DBP 0588 Ag/ZnO:Al Ohmic Contact to p-GaN using RF Magnetron Sputtering**
Hyunjun Choi¹, Hodol Yoo¹, Semi Oh¹, Yonghoon Han¹, Seunggho Yang², Kyoung-Kook Kim¹
¹Korea Polytechnic University, ²Heesung Metal LTD
- DBP 0586 Epitaxial Lateral Overgrowth of Semipolar (11-22) GaN Grown on m-plane Sapphire with the Different Sizes and Thicknesses of SiO₂ Mask**
Hye-Rin Yi, Ki-Ryong Song, Min-Jae Shin, Sang-Hyun Han, Jae-Hwan Lee, Sung-Nam Lee
Korea Polytechnic University
- DBP 0578 Effect of Optical and Crystal Properties on Semipolar (11-22) GaN-based Green Light Emitting Diodes with Different Si Doping Concentrations**
Jae-hwan Lee, Ki-Ryong Song, Sang-Hyun Han, Min-Jae Shin, Sung-Nam Lee
Korea Polytechnic University



DBP 0569 Influence of Die-Adhesive Materials on Device Performance and Thermal Flow Characteristics of Light-Emitting Diode Packaging

Hyun-Ki Lee, Jong-Won Park, Seon-Ho Jang, Ja-Soon Jang
Yeungnam University

DBP 0560 Light Extraction Enhancement in InGaN Light-Emitting Diodes by using Self-assembled Nanoscale Patterning of p-type GaN

Min Joo Park¹, Kyoung Jin Choi², Joon Seop Kwak¹
¹Sunchon National University, ²UNIST

DBP 0499 Enhancement of Light Output Power of GaN based Vertical Light Emitting Diode with Different Fabrication Method of Current Blocking Layer

Hyeuk Seo¹, Joon Seop Kwak², Tak Jeong¹
¹Korea Photonics Technology Institute, ²Sunchon University

DBP 0411 Preparation and Characterization of Nano-Sized Y3Al5O12:Ce3+ Phosphor by High Energy Beads Milling Process

Hee Jo Song¹, Jun Hong Noh², Dong Hoe Kim¹, Hee-Suk Roh¹, Dong-Wan Kim³, Kug Sun Hong¹
¹Seoul National University, ²Korea Research Institute of Chemical Technology, ³Ajou University

DBP 0408 Effect of Anti-reflective Nano-patterns on LED Package

Ju-Hyeon Shin¹, Hak-Jong Choi¹, Kang-Soo Han¹, Seunghyun Ra², Heon Lee¹
¹Korea University, ²Samsung Electro-Mechanics

DBP 0394 Influence of Borosilicate Glass Addition on the Thermal Properties of the Cordieritev /Alumina Composites

Sinae Jo, Seunggu Kang
Kyonggi University

DBP 0390 Effect of Al2O3 Addition on Thermal Properties of CaO-Al2O3-SiO2 based Glass-Ceramics for LTCC Application

Seung Gu Kang, Ji Whan Won
Kyonggi University

DBP 0307 Properties of Semipolar (11-22) GaN Films Grown on Oxide Patterned m-plane (1-100) Sapphire Substrates

Doo Soo Kim¹, Yong Gon Seo², Jihoon Kim², Kwang Hyeon Baik³, Deuk Young Kim¹, Sung Min Hwang², Doo Soo Kim²
¹Dongguk University, ²Korea Electronics Technology Institute, ³Hongik University

DBP 0285 Comparison of Structural and Electrical Properties of Si Doped a-plane (11-20) GaN Layers Grown on r-sapphire Substrates

Chilsung Jung, Junghwan Hwang, Geunho Yoo, Hyungjin Lim, Yongwoo Ryu, Okhyun Nam
Korea Polytechnic University

DBP 0276 Extraction Efficiency Enhancement of GaN based LED with Sidewall Texturing by Various Wet Etching Techniques

Yong-woo Lee, Joon-Woo Jeon, Tae-Yeon Seong
Korea University

DBP 0246 Improvement in p-GaN Ohmic Contact Characteristics of 450nm-light Emitting Diodes by Surface Treatment

Hyo Kun Son¹, June Key Lee¹, Seung Bae Yang¹, Sang Muk Kim²
¹Chonnam National University, ²Korea Photonics Technology Institute

DBP 0233 Photoluminescence and Physical Properties of the Nano Zn2SiO4:Mn Phosphor Powder under the Different Atmosphere Treatment

Chien Min Cheng¹, Kai Huang Chen², Fann Wei Yang¹, Jen Hwan Tsai³
¹Southern Taiwan University, ²Tung-Fang Design University, ³Chinese Air Force Academy



- DBP 0186** **Enhancement of the Light Output Power of GaN-based Light-Emitting Diodes with SiO₂ Cone Array**
Chang-Hyeong Lee, Se-Yeon Jung, Tae-Yeon Seong
Korea University
- DBP 0164** **Enhanced Output Power of Near-UV Flip-chip Light Emitting Diodes with Rh-Zn Solid Solution/Ag Ohmic Contact to p-type GaN**
Woong-Sun Yum, Tae-Yeon Seong, Seong-Han Park
Korea University
- DBP 0094** **Improvement in Performance of 380nm Ultra Violet Light Emitting Diodes Employing Nano-scale SiO₂ Patterned n-type GaN Substrate**
Minsung Jo¹, Hyowon Seo¹, Wael Z. Tawfik¹, Seungbae Yang¹, Tak Jeong², Seongran Jeon², Jayeon Kim², Junekey Lee¹
¹*Chonnam National University*, ²*Korea Photonics Technology Institute*
- DBP 0077** **Low-temperature Synthesis and Luminescence Properties of Alkaline-earth Stannates LLPs Prepared by Chemical Solution Process**
Young-Sun Jeon¹, Seung-Dai Kim¹, Seung Hwangbo², Young-Hwan Lee³, Ju-Hyun Jeong⁴, Tai-Il Choi⁵, Jin-Tae Kim⁶, Kyu-Seog Hwang¹
¹*Nambu University*, ²*Honam University*, ³*Chunnam Techno College*, ⁴*Konyang University*, ⁵*Kwangju Womens University*, ⁶*Chosun University*
- DBP 0072** **Fabrication of the Air Void Embedded SiO₂ Mask Template for the High Efficiency InGaN Light-Emitting Diodes**
Sang-Mook Kim, Kwang Cheol Lee, Su Chang Ahn, Eunmi You, Jong Hyeob Baek
KOPTI
- DBP 0061** **Recovery of O₂ Plasma Damage by Electron Beam Irradiation on AlGaIn/GaN HEMTs**
Seung Kyu Oh¹, Chi Gyun Song¹, Taehoon Jang², Kwang-Choong Kim², Young Jae Jo², Joon Seop Kwak¹
¹*Sunchon National University*, ²*LG Electronics*
- DBP 0048** **Preparation and Characteristics of Diffusers for LED Backlight Unit using Melt-Extrusion Process**
Hyo Jin Kim, Dong Won Kim, Seong Woo Kim
Kyonggi University
- DBP 0017** **Green Upconversion Luminescence of BaMoO₄:Yb,Er Phosphor**
Jun Ho Chung¹, Jeong Ho Ryu², Hyun Cho³
¹*Hanyang University*, ²*Korea National University of Transportation*, ³*Pusan National University*
- DBP 0009** **Transparent Conducting ZnO Nanorods for Reverse Tunnel Junction GaN Light Emitting Diode Applications**
Sung Jin An
Kumoh National Institute of Technology
- DBP 0397** **Study on the Fabrication and Crystallization Behavior of Diopside/Cordierite Composites for LED Packages**
Yongsung Kim, Seunggu Kang
Kyonggi University

Nano Devices and Structures (ND)

Sep. 18, 2012 (Tue.)

NDP (Nano Devices and Structures)

Ballroom Lobby

16:20-17:40

- NDP 1093** **Fabrication of MoS₂ Film-based Transistors with Graphene Electrodes**
Sung-Ik Park¹, Jinnil Choi², Dawn Jeong^{1,3}, Seong-Il Kim¹, Young-Hwan Kim¹
¹*Korea Institute of Science and Technology*, ²*Hanbat National University*, ³*Korea University*



NDP 1074 Metal-Germanium Contacts with Graphene Interfacial Layer
Yu Jin Seo, Joong Gun Oh, Suk-Won Lee, Taek Yong Kim, Byung Jin Cho, Seok-Hee Lee
KAIST

NDP 1057 Comparison of Ultrashort-Laser-Pulse Nanoscale Ablation between Aluminum Nitride and Oxide Ceramics
Y. H. Tsai
Hwa Hsia Institute of Technology

NDP 1018 Photovoltaic Devices Using Cu@Cu₂O Nanostructures
Gyu Cheol Yoon, Hye Jeong Park, Kyung Sik Shin, Hyun Kyu Park, Brijesh Kumar, Sang Woo Kim
Sungkyunkwan University(SKKU)

NDP 1006 Characteristics of Organic-Inorganic Hybrid Sols from Colloidal Silica and Multifunctional Organoalkoxysilanes
Hyeon Hwa Lee, Hoy Yul Park, Dong Jun Kang
Korea Electrotechnology Research Institute

NDP 0997 Nanogap Plasmonic Biosensor based on Perfect Absorber
Joo-Yun Jung, Hyung Jun Lim, Jun-Hyuk Choi
Korea Institute of Machinery & Materials

NDP 0988 The Synthesis and Characteristics of Silver Nanoflowers as Chitosan-based Active SERS Film
Sang Wha Lee, Nhung Tran
Gachon University

NDP 0971 The Effect of Source/Drain Length on Channel Strain of Recessed Source/Drain Si_{1-x}C_x Structures
Dae-Hong Ko¹, Sun-Wook Kim¹, Dae-Seop Byeon¹, Sangmo Koo¹, Yihwan Kim², Hoo-Jeong Lee³
¹Yonsei University, ²Applied Materials Inc., ³Sungkyunkwan University

NDP 0960 Enhancement of Figure of Merit for Nano Cross Plasmonic Sensor based on Perfect Absorber
Joo-Yun Jung, Han-Jung Kim, Jun-Ho Jeong, Eung-Sug Lee
Korea Institute of Machinery & Materials

NDP 0952 Effect of Surface Free Energy of Substrate on the Contact Angel of Grain Formation for Ultrathin Layer
Dong-Yong Kim, Eun-Wook Jeong, Se-Hun Kwon, Young-Rae Cho
Pusan National University

NDP 0931 Hydrothermal Preparation of Doped ZnO Nanowires with n-p-n Structure
Yung-Kuan Tseng, Meng-Chun Hung, Shun-Lung Su, Meng-Long Huang
National Yunlin University of Science & Technology

NDP 0930 A Facile Route to Recover Intrinsic Graphene over Large Scale
Dong-Wook Shin¹, Seong Man Yu¹, Kwang-Soo Lim¹, Min-Kyu Kim¹, Sang Woo Kim¹, Jae-Hee Han², Rodney S. Ruoff³, Ji-Beom Yoo¹
¹Sungkyunkwan University, ²Gachon University, ³The University of Texas at Austin

NDP 0929 Direct Raman Analysis of Graphene FET on Si₃N₄/Si Substrate
Dong-Wook Shin, Min-Kyu Kim, Jung-Hun Lee, Sang Woo Kim, Ji-Beom Yoo
Sungkyunkwan University

NDP 0905 Optimizing Surface-enhanced Raman Scattering Active Substrate-AgcoreAushell Nanoparticles when Detecting Dopamine
Yanru Bu, Sangwha Lee
Gachon University

**NDP 0880 Synthesis of Nanorod Metal Oxide Films for High Efficient Electrochemical Luminescence Application**

Youl Moon Sung, Min Woo Park, Byung Ho Moon
Kyungshung University

NDP 0874 Silicon Micro- or Nanostructures by a Single-step Wet Etching on Lithographically Patterned Silicon Substrate

Han-Jung Kim, Dae-Geun Choi, Jihye Lee, Jun-Hyuk Choi, Jun-Ho Jeong, Sarah Kim, Joo-Yun Jung
Korea Institute of Machinery and Materials

NDP 0867 Visible Light Photocatalytic Activity of N-Ion Implantation Thin Films Prepared by Oblique Incident Electron-beam Evaporation Method

Sung Hong Hahn, Dae-Hwang Yoo, Eui Jung Kim, Sung-don Hwang, Soon Wook Kim, Woo Young Kim, Young Min Kim, Hong-Gi Kim
Ulsan University

NDP 0830 Enhancement of Photocurrent Generation in Layer-by-Layer Graphene Stack Photodetector

Hua-Min Li, Tian-Zi Shen, Dae-Yeong Lee, Min-Sup Choi, Chang-Ho Ra, Won Jong Yoo
Sungkyunkwan University

NDP 0819 Design and Fabrication of Anti-reflective Optical Layer using Nanoreplication Process with Anodic Aluminum Oxide Nanostamp

Euihyeon Byeon¹, Yunah Han¹, Kyoung Je Cha², Dong Sung Kim², Seok-min Kim¹
¹Chung-Ang University, ²Pohang University of Science and Technology

NDP 0781 Effect of Gallium Concentration on Morphologies and Photoluminescence Properties of Flower-like ZnO Nanostructure

Fan Zhang¹, Hong Seung Kim¹, Chang Hoi Kim¹, Won Jae Lee²
¹Korea Maritime University, ²Dong Eui University

NDP 0729 Study on Large-Scale Hexagonal-Boron Nitride on Various Metal Catalyst using Atmospheric Pressure Chemical Vapor Deposition

Han Sol Kim¹, Kang Hyuck Lee¹, Hyeon-jin Shin², Sang-woo Kim¹
¹Sungkyunkwan University, ²Samsung Advanced Institute of Technology

NDP 0660 Voltage-Induced Metal-Insulator Transition (MIT) on VO₂ Nanowire Grown by PLD

Bong-Jun Kim¹, Giwan Seo², Jeongyong Choi¹, Seong Hyun Kim¹, Yong Wook Lee³, Hyun-Tak Kim¹
¹ETRI, ²University of Science and Technology, ³Pukyong National University

NDP 0648 The Study of Potassium Sodium Niobate based Silicate Glass System

Ploypailin Yongsiri, Kamonpan Pengpat
Chiang Mai University

NDP 0602 Electrical Characterization and Nanoscale Surface Morphology of Ohmic Contact for AlGaIn/GaN HEMT on SiC Substrate

Cong Wang, Sung-Jin Cho, Nam-Young Kim
Kwangju University

NDP 0554 Controlled Synthesis and Characterizations of ZnO Nanocrystalline Networks

Jaeseok Yi, Keon Tae Park, Sun Sang Kwon, Won Il Park
Hanyang University

NDP 0552 Power Dependent Structural, Morphological and Electrical Properties of e-beam Evaporated Tantalum Films

Nishat Arshi, Junqing Lu, Chan Gyu Lee, Bon Heun Koo, Faheem Ahmed
Changwon National University



NDP 0522 Improved Reliability of Ti/ZrN/Pt Resistive Switching Memory Cells due to a N₂-H₂ Post-annealing Treatment

Hee-Dong Kim, Seok Man Hong, Ho-Myoung An, Kyeong Heon Kim, Yujeong Seo, Minyeong Song, Dongming Li, Tea Geun Kim
Korea University

NDP 0457 Nano Electrooptic Devices using Langmuir-Blodgett Films

Chisup Jung, Pwungwoo Jang, Kwangho Kim, Seomoon Kyu, Hyunkyu Park
Cheongju University

NDP 0425 Top-Down Fabrication of AlGa_N/Ga_N Nanowire

Min-Seok Kang¹, Jung-ho Lee¹, Hyung-seok Lee², Sang-Hwa Lee¹, Sung-Soo Kim¹, Sang-Mo Koo¹
¹Kwangwoon University, ²Massachusetts Institute of Technology

NDP 0356 Effects of Electrolytes Variation on Formation of Oxide Layers of Al7075 Alloys by Electrolytic Plasma Processing (EPP)

Dong Gun Lee, Geun Woo Kim, Byung Hyun Ahn, Si Nae Heo, Bon Heun Koo
Changwon National University

NDP 0351 Electrolytic Plasma Process of AZ31 Magnesium Alloy in Silicate Containing Electrolyte

Byung Hyun Ahn, Geun Woo Kim, Dong Gun Lee, Si Nae Heo, Bon Heun Koo
Changwon National University

NDP 0337 Photopatternable and Refractive Index Tunable Sol-Gel Derived Silica-titania Nanohybrid Materials

Dong Jun Kang, Go Un Park, Hyeon Hwa Lee, Hoy Yul Park
Korea Electrotechnology Research Institute(KERI)

NDP 0334 Ultraviolet/Visible Tip-Enhanced Raman Spectroscopy for Characterizing Nano-Materials

Kyoung-Duck Park¹, Yong Hwan Kim², Jin Ho Park¹, Young Hee Lee², Mun Seok Jeong¹
¹Gwangju Institute of Science and Technology, ²Sungkyunkwan University

NDP 0225 Properties of Organic/Inorganic NanoHybrid Materials Synthesized of Epoxy Resin and SiO₂ Sol

Young Taec Kang¹, Dong Pil Kang¹, Dong Jun Kang¹, Ildoo Chung²
¹Korea Electrotechnology Research Institute, ²Pusan National University

NDP 0196 Carbon Nanomaterials-Based Field-Effect Transistors for Flexible Electronics

Hye-Mi So¹, Jin Woo Sim², Jinhyeong Kwon³, Won Seok Chang¹
¹KIMM, ²Advanced Nano Technology Ltd., ³Korea Advanced Institute of Science and Technology

NDP 0160 Synthesis of Diethylstilbestrol Imprinted Silica Particle

Byung Mun Jung, Jea Uk Lee, Wonoh Lee, Joon-hyung Byun
Korea Institute of Materials Science

NDP 0147 The Tribological Properties of the Synthesis of Cu-BTA Composite Nanoparticles by the Thermal Decomposition Application in Lubricant

Mu-Jung Kao¹, Fu-Chun Hsu¹, Jia-Bin Guo¹, Kuan-Dar Huang², De-Xing Peng³
¹NTUT, ²TPCU, ³Army Academy

NDP 0066 Structural Studies on Superconducting Flux Flow Transistors with Nano-scale Channel Fabricated by Electron Beam Lithography

Seokcheol Ko
Kongju National University

NDP 0015 Fabrication and Characterization of an Inductance-gate Type Superconducting Flux Flow Transistor using an AFM

Seokcheol Ko, Euysik Jeon
Kongju National University



Non-Volatile Memory Materials and Processes (MA)

Sep. 18, 2012 (Tue.)

MAP (Non-Volatile Memory Materials and Processes)

Ballroom Lobby

16:20-17:40

- MAP 1160 Organic Memory TFTs Embedded by Nanoparticles with Biological Binding**
Hungsang Jung, Sewook Oh, Hyun Ho Lee
Myongji University
- MAP 0904 Fabrication of Nonvolatile Memory Device Elements using Self-assembled Nanotemplates**
Ji-Min Song, Hyunyoung Hong, Young Dae Seo, Mijung Lee, Jang-Sik Lee
Kookmin University
- MAP 0861 Phase Transition and Dielectric Behaviour of New Lead-free BaGex(Fe0.5Nb0.5)1-xO3 Ceramic**
Puripat Kantha¹, Nuttapon Pisitpipathsin¹, Kamonpan Pengpat¹, Amar Bhalla²
¹*Chiang Mai University*, ²*University of Texas at San Antonio*
- MAP 0735 Phase and Electrical Properties of PZT Thin Films Embedded with CuO Nano-particles by a Hybrid Sol-Gel Route**
Tharathip Sreesattabud¹, Brady J. Gibbons², Anucha Watcharapason¹, Sukanda Jiansirisomboon¹
¹*Chiang Mai University*, ²*Oregon State University*
- MAP 0686 Investigation on the Volatile Electrical Switching Characteristics of Amorphous GeAs Thin Films**
Myunggi An¹, Suyoun Lee², Doo Seok Jeong², Hyung-Woo Ahn³, Su Dong Kim², Sang-Yeol Shin², Byung-ki Cheong²
¹*University of Science and Technology*, ²*Korea Institute of Science and Technology*, ³*Korea University*
- MAP 0677 Effects of Nitrogen Addition on the Threshold Wwitching Characteristics of Amorphous GeSe Films**
Hyung-Woo Ahn¹, Doo Seok Jeong², Suyoun Lee², Myunggi An², Su Dong Kim², Sang-Yeol Shin², Donghwan Kim¹, Byung-ki Cheong²
¹*Korea University*, ²*Korea Institute of Science and Technology*
- MAP 0675 Effect of Electrode Materials on the Switching Properties of GeSbTe Phase Change Memory Device**
Han-Byeol Jo, Jae-Hong Choi, Heon Lee
Korea University
- MAP 0486 Resistive Switching Characteristics of CoOx Thin Films formed by Atomic Layer Deposition**
Myung-Soo Park, Atteq ur Rehman, Woo-Young Jang, Ji-Su Ahn, Han-Gyeol Lee, Won-Jun Lee, Deok-kee Kim
Sejong University
- MAP 0434 Charge Trap Memory Characteristics in MANOS Structure by Tunnel Layer SiO2 Growth Method**
Heedo Na¹, Jinho Oh¹, Insu Mok¹, Kyu Min Lee¹, Sung Hoon Lee², Hyun Chul Sohn¹
¹*Yonsei University*, ²*SK Hynix*
- MAP 0353 Electronic Structure of δ -Ta2O5 with Oxygen Vacancy within the LDA+U Method**
Dong Su Yoo, Kiyong Ahn, Sungbeom Cho, Yong-Chae Chung
Hanyang University
- MAP 0326 Different Lanthanum Doping Ratio on the Electrical and Physical Properties of Ferroelectric Bi4-xLaxTi2.9V0.1O12 (BLTV) Thin Film**
Fann Wei Yang¹, Kai Huang Chen², Chein Min Cheng¹, Jen Hwan Tsai³
¹*Southern Taiwan University*, ²*Tung-Fang Design University*, ³*Chinese Air Force Academy*



MAP 0297 Characteristics of Band Engineered Charge Trap Flash Memory with Hf-silicate/SiO₂ Stacked Tunnel Barrier

Jinho Oh, Heedo Na, Sunghoon Park, Hyunchul Sohn
Yonsei University

MAP 0232 An Analysis of Energy Distribution of Interface Traps in a SONOS NOR Array during P/E Cycling by the Charge Pumping Method

Ho-Myoung An¹, Dongming Li¹, Kyong Heon Kim¹, Byungcheul Kim², Won-Ju Cho³, Tae Geun Kim¹
¹Korea University, ²Gyeongnam National University of Science and Technology, ³Kwangjuon University

MAP 0217 Switching Properties of the Manganese Oxide Thin Film for Applications in Non-volatile Random Access Memory Devices

Chien-Min Cheng¹, Kai-Huang Chen², Fann-Wei Yang¹, Jen-Hwan Tsai³
¹Southern Taiwan University, ²Tung-Fang Design University, ³Chinese Air Force Academy

MAP 0099 Thermal-dependent Nonvolatile Memories Characteristics bases on Organic Ferroelectric Field-effect Transistor

Won-Ho Kim¹, Yoonseuk Choi², Jin-Hyuk Bae³
¹Samsung Electronics Co. Ltd., ²Hanbat National University, ³Kyungpook National University

MAP 0054 Effect of Nano-sized Glass with Spherical Shape via RF Thermal Plasma in BaTiO₃ based Ceramics for Multilayer Ceramic Capacitor

Jung Rag Yoon
Samwha Capacitor Co. Ltd

MAP 0562 Realization of High Performance n-type Si Nanowire Ferroelectric-gate Field Effect Transistor based Nonvolatile Memory Devices with Tunable Threshold Voltage

Ngoc Huynh Van, Jae Hyun Lee, Dongmok Hwang, Dae Joon Kang
Sungkyunkwan University

Sensor (MC)

Sep. 18, 2012 (Tue.)

MCP (Sensor)

Ballroom Lobby

16:20-17:40

MCP 1137 Manufacture Method of Nano-particle for Digital Radiography based on Gadolinium Scintillator

Young Kyu Lee, Sung Hun Kim, Yoon Jin Lee, Ji Yun Lee, Yong Keun Song, Ji Na Kim, Sang Hee Nam
Inje University

MCP 1099 Optical Microscope for Monitoring Particles on Zn Cathode during a Battery Charging

Byungwhan Kim, Junyoung Jang
Sejong University

MCP 1073 High Performance of Ethanol Gas Sensor using Pure ZnO, 3GZO, and 3SZO Nanowires

Dawn Jeong^{1,2}, Sung-ik Park¹, Young-hwan Kim¹, Sangsig Kim², Seong-il Kim¹
¹Korea Institute of Science and Technology, ²Korea University

MCP 1037 Flexible Tactile Sensor using Single-crystalline Silicon Nano Membrane

Min Hoon Park¹, Han Wook Song², Min Seok Kim², Jong Hyun Ahn¹
¹Sungkyunkwan University, ²Korea Research Institute of Standards and Science(KRISS)

MCP 1024 Electrical Characterization of Ultra Low Density Si Bulk Contamination by Capacitance-Frequency Method in CMOS Image Sensors

Hyung-Joon Kim, Kyung-Su Lee, Kwang-Soo Kim, Byoung-Deog Choi
Sungkyunkwan University



- MCP 0973 Responsivity Enhancement in Ge Metal-Semiconductor-Metal Near-Infrared Photodetectors with Platinum Contact Electrodes**
Hyun Duk Yang, Vallivedu Janardhanam, Kyu Hwan Shim, Chel Jong Choi
Chonbuk National University
- MCP 0972 Electrical Static Discharge (ESD) on Ge Metal-Semiconductor-Metal Near-Infrared Photodetectors with Platinum Contact Electrodes**
Hyun Duk Yang, Vallivedu Janardhanam, Chel Jong Choi, Kyu Hwan Shim
Chonbuk National University
- MCP 0935 Fabrication of Pb-Sn Nanowires Array for Gas Sensor by Vacuum Casting Technique**
Chin-Guo Kuo¹, Lih-Ren Hwan², Ho Chang³, Guo-yan Liu³
¹*National Taiwan Normal University*, ²*Chung Chou University of Science and Technology*, ³*National Taipei University of Technology*
- MCP 0886 Multiplexed DNT Target Molecule Detection Systems**
Yong Kyoung Yoo¹, Myung-Sic Chae², Ji Yoon Kang², Kyo Seon Hwang², Tae Song Kim², Jeong Hoon Lee¹
¹*Kwangwoon University*, ²*Korea Institute of Science and Technology*
- MCP 0870 Enhanced Gas Sensing Characteristics of Ag-functionalized Networked In₂O₃ Nanowires**
Hyoum Woo Kim, Han Gil Na, Dong Sub Kwak, Yong Jung Kwon
Hanyang University
- MCP 0829 Label-free and Real-time Immunodetection of the Avian Influenza A Hemagglutinin Peptide using a Silicon Field-Effect Transistor Fabricated by a Nickel Self-Aligned Silicide Process**
Yang-Kyu Park¹, Hyobong Hong², Chel-Jong Choi¹
¹*Chonbuk National University*, ²*Electronics and Telecommunications Research Institute*
- MCP 0820 High Sensitive Magnetoelectric Micro-bridge Current Sensors**
Dong Gun Lee¹, Junwoo Lee¹, Wook Choi¹, Jun Hyun Han², Jeong Hoon Lee¹
¹*Kwangwoon University*, ²*Chungnam National University*
- MCP 0815 An Implantable Capacitive Pressure Sensor for Micro-System and Biomedical Application**
Ji-Hyoung Roh¹, Kyu-Sik Shin², Byung-Moo Moon¹, Dae-Sung Lee²
¹*Korea University*, ²*Korea Electronics Technology Institute*
- MCP 0814 Application of Surface Protective Coating of a Membrane for Enforcing Environment-withstand Property of the MEMS 2-D Wind Direction and Wind Speed Sensor**
Kyu-Sik Shin¹, Eun-Shil Yoo², James Jungho Pak³, Jae-Pil Jung⁴, Dae-Sung Lee¹
¹*Korea Electronics Technology Institute*, ²*Micro-INFINITY*, ³*Korea University*, ⁴*University of Seoul*
- MCP 0786 Facile Synthesis of ZnO Nanosheet for VOCs Gases Detection at Low Concentration**
Shaolin Zhang¹, Jeongok Lim², Jeungsoo Huh², Wooyoung Lee¹
¹*Yonsei University*, ²*Kyungpook National University*
- MCP 0733 Nano-structured Sensing Layers for Surface Plasmon Resonance Detection of Metal Ions**
Seung A Jung, Inho Kim, Taek Seong Lee, Doo Seok Jeong, Wook Seong Lee, Won Mok Kim, Kyeong-Seok Lee
Korea Institute of Science and Technology
- MCP 0709 Anodic Deposition of Copper(I) Oxide as an Electrocatalyst for Phenol-Detection**
Sungho Park, Manso Han, Jaegoo Jung, Seunghun Kim, Won-Seok Chae
Daejin University
- MCP 0526 Mn-doped ZnO Nanorod Gas Sensor for Oxygen Detection**
Faheem Ahmed, Nishat Arshi, M. S. Anwar, Bon Heun Koo
Changwon National University
- MCP 0497 Magnetic Measurement of DNA Molecules by using Magnetic Beads for Bio Application**
Hoon Song, Duck-gun Park
Korea Atomic Energy Research Institute



MCP 0470 Alignment of Bio-functionalized Magnetic Beads using Ultrasonic Fields in a PDMS Micro-channel for Bio-sensor Application

Afroja Tazin Islam¹, A. K. M. Ariful Haque Siddique¹, Seung Hyun Cho², Cheol Gi Kim¹
¹Chungnam National University, ²Korea Research Institute of Standards & Science

MCP 0448 Enhancement of Ultraviolet Responsivity from n-ZnO/p-Si Heterojunction Diode by Thermal Treatment

Seong Gook Cho, Dong Uk Lee, Dong Wook Kim, Tschang Uh Nahm, Eun Kyu Kim
Hanyang University

MCP 0438 Effect of Interface Trap Density on the Minority Carrier Lifetime in CMOS Image Sensors

Hyung-Joon Kim, Kyung-Su Lee, Kwang-Soo Kim, Byoung-Deog Choi
Sungkyunkwan University

MCP 0262 Ion Selectivities of Polypyrrole - Ionophore Composite Actuators

Chae-Young Oh¹, Do-Hee Lim¹, Sang Keol Lee², Nam-Ju Jo¹
¹Pusan National University, ²Cheil Industries

MCP 0229 Extremely Sensitive Gas Sensor using SWNTs Composites with Polyaniline for Dimethyl Methyl Phosphonate (DMMP) Detection

Ran Yoo, Hyang Hee Choi, Wooyoung Lee
Yonsei University

MCP 0212 Developing a Theodolite for Laser Sensors to Detect the Phase Difference of Incident and Reflected Signals on the Target Materials

Keehong Um¹, Sooyeup Yoo²
¹Hansei University, ²Taesung Eco. Tech. Ltd.

MCP 0179 The Role of Ionic Liquids for a Sensitive Detection of Single Molecules using Nanopore

Min-Cheol Lim, Young-Rok Kim
Kyung Hee University

MCP 0169 Nanogap-based Hydrogen Gas Sensors using an Elastomeric Substrate

Junmin Lee, Wooyoung Lee
Yonsei University

MCP 0157 A Noble Method to Fabricate Highly Sensitive Nanogap-based Hydrogen Gas Sensors using a Nanoimprinted Elastomeric Substrate

Byungjin Jang, Hwaebong Jung, Taehoo Chang, Wooyoung Lee
Yonsei University

MCP 0108 Hydrogen Sensing Properties using the Spun Multi-walled Carbon Nanotubes

Hoon-Sik Jang, Seok Cheol Lee, Ho Jong Kim, Seung Hoon Nahm
Korea Research Institute of Standards and Science

MCP 0662 High Ordered TiO₂ Nanotube Thin Films for Chemical and UV Sensors

Do Hong Kim¹, Young-Seok Shim¹, Hi-Gyu Moon¹, Byeong Kwon Ju², Seok-Jin Yoon¹, Ho Won Jang³
¹KIST, ²Korea University, ³Seoul National University

MCP 0637 Detection of NO₂ to ppt Levels using Nanocolumnar WO₃ Film Sensor

Hi-Gyu Moon^{1,2}, Young-Seok Shim¹, Seok-Jin Yoon¹, Hyung Ho Park², Ho Won Jang³
¹KIST, ²Yonsei University, ³Seoul National University

MCP 0646 Feasibility Study of Ecofriendly Radiation Detector

JinaKim, Jung Wook Shin, Kyung Min Oh, Young Kyu Lee, Jin Seon Kim, Sang Hee Nam
Inje University

**Magnetism and Magnetic Materials (ME)**

Sep. 18, 2012 (Tue.)

MEP (Magnetism and Magnetic Materials)

Ballroom Lobby

16:20-17:40

MEP 1199 Energy-based Functionals for Nonlinear Magneto-Sensitive MaterialsDeok-Kee Choi
Dankook University**MEP 1198 A Numerical Analysis Framework for Magnetostriction of Ferromagnetic Materials**Deok-Kee Choi
Dankook University**MEP 0956 Interaction between Rashba and Zeeman Effects in a Quantum Well Channel**Won Young Choi¹, Jae Hyun Kwon², Joonyeon Chang¹, Suk Hee Han¹, Hyun Cheol Koo¹
¹KIST, ²NUS**MEP 0939 Influence of Annealing Conditions on Magnetic and Magneto-Transport Properties of La_{0.7}Sr_{0.3}Mn_{1+d}O₃-Manganese Oxide Composites**Hyo-Jin Kim, Sang-Im Yoo
Seoul National University**MEP 0858 Room-temperature Fabrication of Ferrite-polymer Composite Sheets for Near Field Communications by Aerosol Deposition**Hyung-Jun Kim, Song-Min Nam
Kwangwoon University**MEP 0835 Local Structural Analysis for Mn-doped ZnO Dilute Magnetic Semiconductors**Dong-Seok Yang, Hee Jae Kang
Chungbuk National University**MEP 0808 Fabrication of Non-sintered Polymeric Ferrite Films by Inkjet Printing**Young Joon Yoon, Joonghee Nam, Yooljin Kim, Hyo Tae Kim, Jong-hee Kim
Korea Institute of Ceramic Engineering and Technology**MEP 0738 Synthesis and Characterization of Fe₃O₄ Nanoparticles-Coated Boron Nitride Platelets for Electronic Applications**Ho Sun Lim, Myong-Jae Yoo, Seong Dae Park, Woo Sung Lee
Korea Electronics Technology Institute**MEP 0692 Study of A-site Disorder-Dependent Structural, Magnetic and Magnetocaloric Properties in La(0.7-X)SmXCa_{0.3}MnO₃ Manganites**M. S. Anwar, Faheem Ahmed, G. W. Kim, Bon Heun Koo
Changwon National University**MEP 0690 Magnetic and Ferroelectric Properties of BZT-LSM Multiferroic Ceramics**Parkpoom Jarupoom¹, Gobwute Rujijanagul²
¹Rajamangala University of Technology Lanna(RMUTL), ²Chiang Mai University**MEP 0604 Effects of NiO Nanoparticles on Mechanical and Magnetoelectric Properties of 0.94BNT-0.06BT/NiO Lead-free Composites**Thitima Glansuvarn¹, Chatchai Kruea-In², Gobwute Rujijanagul¹
¹University Chiang Mai, ²Chiang Mai Rajabhat University**MEP 0506 Microstructural Change and Magnetic Properties of Nanocrystalline Fe-Si-B-Nb-Cu Base Alloys Containing Al and Ca Elements**Seul Ki Nam, Sung Choon Yoon, Keun Yong Sohn, Won-Wook Park
Inje University

PROGRAM

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MEP 0500 Giant Magnetoimpedance Bio Sensor for Detecting Biomolecule and Magnetic Material

Duck-gun Park, Hoon Song
Korea Atomic Energy Research Institute

MEP 0469 Anisotropic Magnetoresistance in Epitaxial Fe Wire Grown on MgO/GaAs

Seong Hoon Shim¹, Kyung-Ho Kim¹, Hyung-jun Kim¹, Yun-Hi Lee², Joonyeon Chang¹
¹Korea Institute of Science and Technology, ²Korea University

MEP 0468 The Influence of BaFe12O19 on Bioactive Glass-ceramics for Hyperthermia Treatment of Bone Cancer

Wilaiwan Leenakul, Kamonpan Pengpat
Chiangmai University

MEP 0454 Selective Oxidation of Fe-Si Thin Films

Pyungwoo Jang, Seungchan Shin, Chi-Sup Jung, Kwang-Ho Kim, Seomoon Kyu
Cheongju University

MEP 0400 The Magnetic Properties of Soft Magnetic Composites Made of Fe-based Amorphous Flake and Fe-Si Powder Mixtures

Sung Choon Yoon, Seul Ki Nam, Keun Yong Sohn, Won-Wook Park
Inje University

MEP 0312 Surface Phase Diagram and Magnetic Anisotropies of Fe/Pd for Magnetic Random Access Memory

Minyeong Je¹, Heechae Choi², Yubin Hwang¹, Minho Lee¹, Sungbeom Cho¹, Dongsu Yoo¹, Yong-Chae Chung¹
¹Hanyang University, ²Korea Institute of Science and Technology

MEP 0172 Effect of Surface Structure on Magnetic Anisotropy of Co-Pt Intermetallic Phase on Pt (100) Surface

Yubin Hwang¹, Heechae Choi², Yong-Chae Chung¹
¹Hanyang University, ²Korea Institute of Science and Technology

MEP 0020 Crystal Structure and Properties of Double Layered Manganite La3-2x(SrCa)2xMn2O7

Jai-Yeoul Lee
Yeungnam University

Thermoelectric Power Devices (EE)

Sep. 19, 2012 (Wed.)

EEP (Thermoelectric Power Devices)

Ballroom Lobby

10:40-12:00

EEP 1187 A Way to Improve the Thermoelectric Properties of Conducting Polymer

Gyeong Ock Park, Hyanghee Choi, Wooyoung Lee
Yonsei University

EEP 1176 Optimization of the Thermoelectric Properties of Bi-Te Compounds by Ball Milling Process

Ji Hee Son¹, Min Wook Oh¹, Su Dong Park¹, Bong Seo Kim¹, Bok Ki Min¹, Hee Wong Lee¹, Myong Ho Kim²
¹Korea Electrotechnology Research Institute, ²Changwon National University

EEP 1175 Improvement of Thermoelectric Properties by Introducing of Transition Metal Impurity into GeTe System

Jae Ki Lee¹, Bong Seo Kim¹, Su Dong Park¹, Min Wook Oh¹, Bok Ki Min¹, Hee Wong Lee¹, Myong Ho Kim²
¹Korea Electrotechnology Research Institute, ²Changwon National University



- EEP 1089 Thermoelectric Properties of Ca-filled Fe_xNi_{4-x}Sb₁₂-based Skutterudites**
Deok-Hui Nam^{1,2}, Myung-Hyun Lee¹, Won-Seon Seo¹, Cheol-Woong Yang²
¹Korea Institute of Ceramic Engineering and Technology, ²Sungkyunkwan University
- EEP 0995 Thermoelectric Properties of Nanocomposite Bi-Te Alloys Composed from Bulk/Nano Powders**
Jong Tae Kim, Dong Hwan Kim, Jong Sook Kim, Cham Kim, Yu Kyung Lee, Koo-Chul Je, Hoyoung Kim
Daegu Gyeongbuk Institute of Science & Technology
- EEP 0975 Design Optimization of Solar Thermoelectric Power Generator**
Dae-Ho Kim¹, Seungwoo Han², Kibong Han³
¹University of Science & Technology, ²Korea Institute of Machinery & Materials, ³Jungwon University
- EEP 0944 Thermoelectric Characterization of Sb₂Te₃/Bi₂Te₃ Superlattice Grown by Pulse-PECVD**
Chang Wan Lee¹, Seong Gu Kang¹, Yoon Jang Chung¹, Jang Bo Shim¹, Hyoung Bong Bae¹, Seok Jong Jeong¹, Hyung Jun Kim², Young Kuk Lee¹
¹KRICT, ²Yonsei University
- EEP 0928 Atomic and Electronic Structure of Cu Doped Bi-Sb-Te-Se Thermoelectric Materials**
Byungki Ryu, Kyunghan Ahn, Sungwoo Hwang, KyuHyoung Lee
Samsung Advanced Institute of Technology
- EEP 0910 Carrier Transport Mechanism of Low Resistance Ti/Al Contact on AlInN/ GaN Heterostructures**
S. Kim¹, E. Jung¹, Y. Choi¹, S. Jung¹, H. Moon¹, M. Oh¹, J. H. Ryou², R. D. Dupuis², H. Kim¹
¹Chonbuk National University, ²Georgia Institute of Technology
- EEP 0907 Schottky Characteristics of Pt Contact on AlInN/GaN Heterostructures**
S. Kim¹, E. Jung¹, Y. Choi¹, S. Jung¹, H. Moon¹, M. Oh¹, J. H. Ryou², R. D. Dupuis², H. Kim¹
¹Chonbuk National University, ²Georgia Institute of Technology
- EEP 0900 Microstructures and Thermoelectric Properties of BiTe-based Compounds Produced by Melt Spinning and Subsequent Spark Plasma Sintering**
Bok-Ki Min, Bong-Seo Kim, Ji-Hee Son, Min-Wook Oh, Su-Dong Park, Hee-Woong Lee
Korea Electrotechnology Research Institute
- EEP 0841 Thermal Stability of Nanostructured Bi-Te Material**
Jong Sook Kim¹, Dong Hwan Kim¹, Jong Tae Kim¹, Cham Kim¹, Yu Kyung Lee¹, Koo-Chul Je², Hoyoung Kim¹
¹Daegu Gyeongbuk Institute of Science and Technology(DGIST), ²Anyang University
- EEP 0805 Thermoelectric Properties of Conducting Polymer as Thermoelectric Material**
Hyang Hee Choi, Wooyoung Lee
Yonsei University
- EEP 0685 Thickness Dependence of Electrical and Thermoelectric Properties of n-type Bismuth Telluride Thin Film by RF Magnetron Co-sputter**
Hee-Jung Lee¹, KwangEun Lee², Hyun Sung Park², Seungwoo Han²
¹BlueSys, ²KIMM
- EEP 0658 Thermoelectric Properties of Synthesized P-type Bi_{0.5}Sb_{1.5}Te₃ Thermoelectric Material from Metallic Salt Powder**
Kyong-Ju Kim¹, Gil-Geun Lee¹, Gook-Hyun Ha², Kyung-Tae Kim²
¹Pukyong National University, ²Korea Institute of Materials Science
- EEP 0632 Influence of Spark Plasma Sintering on the Thermoelectric Properties of RTGG Ca₃Co₄O₉ Oxide**
Deok-hui Nam^{1,2}, Won-Seon Seo¹, Myung-Hyun Lee¹, Soon-Mok Choi¹, Cheol-Woong Yang²
¹Korea Institute of Ceramic Engineering and Technology, ²Sungkyunkwan University



EEP 0599 Thermoelectric Characteristics of the Thin Film Devices Consisting of the Evaporated Bismuth-Telluride and Antimony-Telluride Thin-Film Legs

Jae-Hwan Kim, Jung-Yeol Choi, Jae-Man Bae, Min-Young Kim, Tae-Sung Oh
Hongik University

EEP 0493 In and Ga Doping Effect on Thermoelectric Properties of p-type Bi_{0.4}Sb_{1.6}Te₃

Sangmok Lee, Byungki Ryu, Sang Il Kim, Sungwoo Hwang, Hyun-Sik Kim, Kyunghan Ahn, Kyu Hyoung Lee
Samsung Advanced Institute of Technology

EEP 0391 Thermoelectric Properties of Non-stoichiometric MnTe Compounds

Bong-Seo Kim, In-Hye Kim, Bok-Ki Min, Min-Wook Oh, Su-Dong Park
Korea Electrotechnology Research Institute

EEP 0237 Fabrication and Thermoelectric Properties of Bi-core/Various-shell Nanowires

Byeongcheol Song, Jeongmin Kim, Seunghyun Lee, Hongjae Moon, Wooyoung Lee
Yonsei University

EEP 0055 Solid-State Synthesis and Thermoelectric Properties of Al-doped MnSi_{1.75-δ}

Dong-Kil Shin, Sin-Wook You, Il-Ho Kim
Korea National University of Transportation

EEP 0052 Thermoelectric Properties of LazFe_{4-x}CoxSb₁₂ Skutterudites

Kwan-Ho Park¹, Il-Ho Kim¹, Soon-Mok Choi², Won-Seon Seo²
¹Korea National University of Transportation, ²Korea Institute of Ceramic Engineering and Technology

EEP 0523 Realization of a Wearable Thermoelectric Power Generator by Screen-Printing Technique for Human Body Applications

Ju Hyung We¹, Sun Jin Kim¹, Gyung Soo Kim², Byung Jin Cho¹
¹KAIST, ²Phoenix Materials

OLED Materials and Devices (DC)

Sep. 19, 2012 (Wed.)

DCP (OLED Materials and Devices)

Ballroom Lobby

10:40-12:00

DCP 1189 Efficient and Color Pure Asymmetric Structured Blue Light-Emitting Material

Ji-Soo Shin, Jang Yeol Baek, Jaeyoung Hwang, Sung-Chul Shin, Soon Ki Kwon, Yun Hi Kim
Gyeongsang National University

DCP 1096 Characteristics of Ga-Al Doped ZnO Thin Films with Plasma Treatment Prepared by using Facing Target Sputtering Method

Ki Hyun Kim, Hyung Wook Choi, Kyung Hwan Kim
Gachon University

DCP 1046 Surface Plasmon Enhanced Organic Light Emitting Diodes

Sungkoo Lee, Kyeong K. Lee
Korea Institute of Industrial Technology

DCP 1023 Plasmon-induced Photoluminescence Modification in Benzobisthiazole-containing Polymer

Geon Joon Lee¹, Byoungchoo Park¹, Eun Ha Choi¹, Seung Jae Lee², Chong Seung Yoon², Eun Rang Park¹, Sun Woo Hwang¹, In Tae Kim¹
¹Kwangwoon University, ²Hanyang University

DCP 0958 The Auxiliary Metal Electrode and Light Extraction Layer(SU-8) for Large-Area OLED Lightings

Juhyun Hwang, Young Wook Park, Tae Hyun Park, Eun Ho Song, Se Joong Shin, Hakkoo Kim, Hyun Jun Lee, Kyung Bok Choi, Byeong-Kwon Ju
Korea University



- DCP 0742 Red Fluorescent DCM Derivatives with the Bulky Adamantly and Bicycle[2,2,2]octyl Groups for Organic Light-Emitting Diodes (OLEDs)**
Heung Soo Jang¹, Kum Hee Lee¹, Seok Jae Lee², Young Kwan Kim², Seung Soo Yoon¹
¹Sungkyunkwan University, ²Hongik University
- DCP 0671 Effect of Multiple Quantum Well Structure as Emissive Layer base on Blue Phosphorescent Organic Light Emitting Diodes**
Seok Jae Lee¹, Ja Ryong Koo¹, Ho Won Lee¹, Dong Hwan Lim¹, Kum Hee Lee², Seung Soo Yoon², Woo Young Kim³, Young Kwan Kim¹
¹Hongik University, ²Sungkyunkwan University, ³Hoseo University
- DCP 0625 Heteroleptic Platinum Complexes for WOLED**
Dong Min Chang, Dong Yuel Kwon, Young Sik Kim
Hongik University
- DCP 0594 Color Tunable Mechanisms of White Organic Light-Emitting Diodes with a Color Conversion Layer Containing CdSe/ZnS Quantum Dots**
Sungsoo Park, Wonju Kwon, Daehun Kim, Youngpyo Jeon, Taewhan Kim
Hanyang University
- DCP 0475 Organic Light Emitting Diodes Fabricated by a Bar-coating Method**
Sun-woo Kwak¹, Hyunsu Cho², Seunghyup Yoo², Jin Chung², Inyoung Kim³, Taik-min Lee³, Yong-young Noh¹
¹Hanbat National University, ²Korea Advanced Institute of Science and Technology(KAIST), ³Korea Institute of Machinery and Materials(KIMM)
- DCP 0393 Properties of Blue Phosphorescent Polymer Light Emitting Diodes using PFO:FCNlrpic Emission Layer**
Ho Jung Chang, Byung Min Park, Gi Ppeum Kim
Dankook University
- DCP 0266 Structural and Electrical Properties of Zn-doped ITO Thin Films Deposited under Different Ambient Gases**
Kyumann Lee, Seongho Han, Daegeun Jun, Dambi Jo
Korea University of Technology and Education
- DCP 0224 Enhanced Performance on Polymeric Light-Emitting Diode with Non-metallic Ions in the Water Soluble Non-conjugated Polymer**
Chung-Gi Kim, Min-Sik Koo, Dong-Hun Lee, Tae-Woo Kwon, Seong-Jin Cho, Taek Ahn, Hyung-Suk Woo, Dong-Kyu Park
Kyungsoo University
- DCP 0167 Fabrication of Gettered Silicide Seed-Induced Crystallized Polycrystalline Silicon Transistors and Its Electrical Properties Characterization**
Chang Woo Byun, Se Wan Son, Yong Woo Lee, Seung Ki Joo
Seoul National University
- DCP 0150 Numerical Study on Recombination Efficiency at S-DPVBi/Alq3 Interface in OLED**
Youngwook Hwang, Kwangsik Kim, Taeyoung Won
Inha University
- DCP 0100 Numerical Simulation on the Charge Transport in Alq3-based OLED Structure**
Kwangsik Kim, Taeyoung Won
Inha University



Photovoltaic Engineering (ED)

Sep. 19, 2012 (Wed.)

EDP 2 (Photovoltaic Engineering)

Ballroom Lobby

14:00-15:20

EDP 0529 The Enhancement of Photovoltaic Properties on ZnO Grown by PEALD Inserted into Silicon Thin Film Solar Cells

Young-Ju Lee, Dong-Ho Kim, Sung-Hun Lee, Yongsoo Jeong, Seoung-Yoon Ryu, Jung-Dae Kwon
Korea Institute of Materials Science

EDP 0512 Effects of Rare Earth Oxide Nanolayer Coating on ZnO Nanowires in Dye-sensitized Solar Cells

Seok Cheol Choi¹, Won Suk Yun¹, Sang Jin Oh², Sang Ho Sohn¹
¹Kyungpook National University, ²PHOENIX MATERIALS

EDP 0503 Effect Analysis of Rear-side Aluminum Weight and Co-firing Condition for Al-p+ Emitter Formation on N-type c-Si using Conventional Screen Printing Process

Jonghwan Lee¹, Cheolmin Park², Doohwan Yang³, Chaehwan Jeong¹, Junsin Yi²
¹Korea Institute of Industrial Technology, ²Sungkyunkwan University, ³LG Electronics Inc.

EDP 0489 Effect of Operating Parameters on the Composition of Electrodeposited Invar Alloy for Solar Cell Substrate

Juhwan Kim, Jae-Ho Lee
Hongik University

EDP 0444 Study on the Surface Reflectivity in an Early Stage of Al MOCVD for Photovoltaic Applications

Seomoon Kyu, Pyungwoo Jang, Chisup Jung, Kwang-Ho Kim
Cheongju University

EDP 0410 Studies on the Properties of Organic Photovoltaic Cells using WOx as an Buffer Layer on Transparent Anodes

Il Soo Oh, Gyu Min Kim, Se Young Oh
Sogang University

EDP 0405 Amorphous Silicon Solar Cell on Stainless Steel

Chang Min Keum, Byung Seong Bae
Hoseo University

EDP 0403 Preparation and Characterization of Flexible Polymer Solar Cells with PCDTBT:PC70BM Active Layer

Kun Ho Kim, Seung Ho Kim, Ho Jung Chang
Dankook University

EDP 0402 Fabrication of Oxide Semiconductor Layer on Aluminum Alloy to Improve Heat Dissipation via Plasma Electrolytic Oxidation

Kang Min Lee¹, In Jun Hwang¹, Young Gun Ko², Bongyoung Yoo¹, Dong Heon Lee³, Dong Hyuk Shin¹
¹Hanyang University, ²Yeungnam University, ³IMETAL, Inc

EDP 0398 The Effect of TiO₂ Nanotube/TiO₂ Nanoparticle Metal Doping Composition for Dye-sensitized Solar Cells

Chang-Hyo Lee, Tae-Sung Eom, Hyung-Wook Choi
Gachon University

EDP 0388 Efficient CdS Quantum Dot-Sensitized Solar Cells Prepared by an Improved Successive Ionic Layer Adsorption and Reaction Process

Sung Woo Jung, Kwang-Soon Ahn
YeungNam University



- EDP 0387 P-type Nickel Oxide as Photocathode in Photoelectrochemical Solar Cells**
Min A Park, Kwang-Soon Ahn
Yeungnam University
- EDP 0386 Cu₂S Photocathodes for Quantum-Dot Sensitized Solar Cells**
Soo Yong Lee, Kwang Soon Ahn
Yeungnam University
- EDP 0379 Structural and Optical Properties of RF-sputtered ZnS Thin Films as an Alternative Buffer Layer for CIGS Solar Cell**
Dongjun Yoo, Seung Chan Heo, Moonsuk Choi, Dohyoung Kim, Chulwon Chung, Changhwan Choi
Hanyang University
- EDP 0360 Fabrication of Diverse-Scale Patterned Layer on Organic Solar Cell**
Yangdoo Kim¹, Kang Soo Han¹, Juhyeon Shin¹, Mi Sun Ryu², Heon Lee¹
¹Korea University, ²Kyung Hee University
- EDP 0349 Molecular Design of Phenothiazine-phenoxazine based Novel Organic Dyes for Dye-Sensitized Solar Cell**
Boram Jeon¹, Sang-Ju Lee¹, Jung-Eun Nam¹, Yoon-Soo Han², Dae-Hwan Kim¹
¹Daegu Gyeongbuk Institute of Science & Technology, ²Catholic University
- EDP 0338 Transparent Conducting Characteristics of Flexible Mg and Ga Co-doped ZnO Thin Films by RF Magnetron Sputter Technique**
In Young Kim¹, Seung Wook Shin², Gi Seok Heo³, Min Sung Kim¹, Jong Ha Moon¹, Jin Hyeok Kim¹, Jeong Yong Lee²
¹Chonnam National University, ²KAIST, ³Korea Institute of Industrial Technology
- EDP 0335 Earth Abundant Elements of Cu₂ZnSnS₄ (CZTS) Nanocrystals Formed by Hydrothermal Method**
Woori Bae¹, Seung Wook Shin², G. L. Agawane¹, Jong Ha Moon¹, Jeong Yong Lee², Yeon Chan Park¹, Jin Hyeok Kim¹
¹Chonnam National University, ²KAIST
- EDP 0332 Studies on the Controlling of Microstructural and Morphological Properties of Al Doped ZnO Thin Films Prepared by Hydrothermal Method**
Myeng Gil Gang¹, Seung Wook Shin², Jong-Ha Moon¹, Jeong Yong Lee², Jin Hyeok Kim¹
¹Chonnam National University, ²KAIST
- EDP 0320 Synthesis and Characterization of the Pulse-reverse Electrodeposited Cu(In,Ga)Se₂ Thin Film and Its Application to Thin Film Solar Cells**
Seung Hyun Jo¹, Seung Wook Shin², G. L. Agawane¹, Jong Ha Moon¹, Jeong Yong Lee², Jin Hyeok Kim¹
¹Chonnam National University, ²KAIST
- EDP 0318 Current Improvement of a-Si Thin-Film Solar Cells using a Hybrid Buffer Layer of Au Nanoparticle and WO₃ Thin Films**
Seung Yoon Ryu, Hyung Hwan Jung, Dong Ho Kim, Min Seung Choi
Korea Institute of Materials Science(KIMS)
- EDP 0313 Properties of Si/SiO_x Quantum Well Structure on Al₂O₃/Si Substrates for Photovoltaic Applications**
Kwang-Ho Kim, Jeong-Jae Yu, Pyungwoo Jang, Chisup Jung, Seomoon Kyu
Cheongju University
- EDP 0306 Effect of Soft-annealing on the Properties of CIGSe Absorbers Prepared from Solution Precursors**
Shi-Joon Sung, Mi Sun Park, Dae-Kue Hwang, Dae-Hwan Kim, Dong-Ha Lee
DGIST



EDP 0303 A New Direct Growth Technique of Polycrystalline Silicon Wafer with High Productivity and Efficiency

Ye Neung Lee, Sung Min We, Jin Seok Lee, Joon Soo Kim, Young Soo Ahn
Korea Institute of Energy Research

EDP 0299 Control of Solid-liquid Interface Shape in Polycrystalline Silicon Ingots Grown by Electron-beam Melting

Jin-Seok Lee, Jun-Kyu Lee, Joon-Soo Kim, Young-Soo Ahn
Korea Institute of Energy Research

EDP 0291 Effects of Annealing on Structural and Electrical Properties of Sub-micron Thick CIGS Films

Byoung-soo Ko, Shi-Joon Sung, Dae-Hwan Kim, Dong-ha Lee, Dae-Kue Hwang
Daegu Gyeongbuk Institute of Science and Technology

EDP 0286 Fabrication and Photovoltaic Properties of Nanotube Dye-sensitized Solar Cells

Sang-Ju Lee, Kang-Pil Kim, Shi-Joon Sung, Dae-Kue Hwang, Dae-Hwan Kim
Daegu Gyeongbuk Institute of Science and Technology

EDP 0270 Crystallinity and Layer Structure of Intrinsic Silicon Manipulated by Atmospheric-pressure Plasma-enhanced Chemical Vapor Deposition

Jung-Dae Kwon, Kee-Seok Nam, Yongsoo Jeong
Korea Institute of Materials Science

EDP 0269 Photo-assisted Electrodeposition of Se on FTO

Sungho Park, Manso Han, Seunghun Kim, Jaegoo Jung, Won-Seok Chae
Daejin University

EDP 0265 Effect of Crystallographic Orientation of Emitter Silicon on Firing Reaction for Screen-Printed Contact Formation of Silicon Solar Cells

Jung-Woo Chun, Sung-Bin Cho, Bo-Mook Chung, Joo-Youl Huh
Korea University

EDP 0222 The Effect of Carrier Injection Stress on Amorphous Silicon Layer by Deep Level Transient Spectroscopy

Sun Hwa Lee¹, Jin Joo Park², Chong Hoon Shin², Jun Sin Yi², Chae Hwan Jeong¹
¹Korea Institute of Industrial Technology, ²Sungkyunkwan University

EDP 0216 Fabrication of Platinum Nanocups Array via Nanoimprint Lithography for Reducing the Charge Transfer Resistance in Dye-sensitized Solar Cells

Huisu Jeong, Gun-young Jung
Gwangju Institute of Science and Technology

EDP 0204 Optimization of the Solar Concentrator for Increasing the Acceptance Angle in Concentrating Photovoltaic(CPV) System

Taek-Sung Lee¹, Seok-Joo Byun², Seok Yong Byun², Dongwoo Sheen³, Inho Kim¹, Kyeong-Seok Lee¹, Won Mok Kim¹
¹Korea Institute of Science and Technology, ²INSIDEOPTICS Co. LTD, ³Seoul National University

EDP 0173 Effect of Oxide Thin Films in Back Contact on the Optical Absorption Efficiency of Thin Crystalline Si Solar Cells

Seok Yong Byun¹, Seok-Joo Byun¹, Taek Sung Lee², Dongwoo Sheen³, Won Mok Kim²
¹INSIDEOPTICS Co. LTD, ²Korea Institute of Science and Technology, ³Seoul National University

EDP 0171 Fabrication and Characterization of Hybrid Si/ZnO Subwavelength Structures as Efficient Antireflection Layer

Seong-Ho Baek¹, Yong-Il Jung², Bum-Young Noh², Il-Kyu Park², Jeong-Su Park¹, Eun-Jin Bae¹, Jae Hyun Kim¹
¹DGIST, ²Yeungnam University



- EDP 0149 Effective Surface Passivation of Crystalline Silicon using Al₂O₃ Thin Films Deposited by Atomic Layer Deposition**
Sang Ryu¹, Youngman Kim², Chaehwan Jeong¹
¹Korea Institute of Industrial Technology, ²Chonnam National University
- EDP 0134 The Performance Degradation of c-Si Solar Cells due to the UV Exposure**
Hyo Jung Kim, Byoung Deog Choi, Sang Sub Kim, Chang Hoon Han, Jun Ki Lee
Sungkyunkwan University
- EDP 0130 Efficient Inverted Organic Solar Cells based on a Low Bandgap Polymer with High Air-stability**
Myungkwan Song, Sunghoon Jung, Dae Sung You, Su Jin Park, Chang Su Kim, Jae-wook Kang
Korea Institute of Materials Science(KIMS)
- EDP 0129 Efficient Organic Photovoltaic Cells using Solution-Processed Silver Nanowire Transparent Electrodes**
Su Jin Park, Dae Sung You, Sunghoon Jung, Myungkwan Song, Chang Su Kim, Jae-Wook Kang
Korea Institute of Materials Science(KIMS)
- EDP 0126 Physical and Electrical Properties of ZnO Films as Function of Different Thickness for Organic Photovoltaic Devices**
Sang-Hun Nam, Won Suk Jung, Ki-Hwan Hwang, Byoungyou Hong, Jin-Hyo Boo
Sungkyunkwan University
- EDP 0113 Investigation of Light Harvesting Properties in Dye-sensitized Solar Cells using an Additional Titanium Oxide Reflecting Layer**
Kyoseung Sim, Shi-Joon Sung, Dae-Hwan Kim
DGIST
- EDP 0103 Optical Properties of CuIn_{1-x}Ga_xSe₂ Thin Film Solar Cells by using the Photocurrent Spectroscopy**
Hyun-Jun Jo¹, Dong-Hwan Jeon¹, Dae-Kue Hwang¹, In-Ho Bae², Dae-Hwan Kim¹
¹Daegu Gyeongbuk Institute of Science and Technology(DGIST), ²Yeungnam University
- EDP 0101 Microstructures of Polycrystalline Silicon Wafer Directly Grown on Si₃N₄ Substrate from Liquid Silicon**
Jin Seok Lee, Boyun Jang, Joon Soo Kim
Korea Institute of Energy Research
- EDP 0083 Properties of Electron-beam Treated CIGS Absorber Layer by Multi-step Sputtering Method**
Chae Woong Kim, Chaehwan Jeong
Korea Institute of Industrial Technology
- EDP 0074 Morphological Effect of Platinum Nanofibers on the Performance of Dye-sensitized Solar Cells**
Uiyoung Jeong, Jonghyun Kang, Jinuk Oh, Hyunjung Lee
Kookmin University
- EDP 0062 Study on the Fabrication of Paint-type Si Quantum Dot-sensitized Solar Cells**
Hyunwoong Seo, Yuting Wang, Giichiro Uchida, Kunihiro Kamataki, Naho Itagaki, Kazunori Koga, Masaharu Shiratani
Kyushu University
- EDP 0014 Preparation of Photoelectrode Thin Film of Dye-sensitized Solar Cells by using Anodic Treatment**
Ho Chang¹, Chih-Hao Chen¹, Chin-Guo Kuo², Hong-Ming Chang¹, Chii-Ruey Lin¹, Zheng-Yi Zhou¹
¹National Taipei University of Technology, ²National Taiwan Normal University



EDP 0215 Hydrometallurgical Refining of Metallurgical Grade-Silicon using Acid Mixtures

Jong Jin No, Bo Yun Jang, Jin Seok Lee, Joon Soo Kim, Young Soo Ahn
Korea Institute of Energy Research

TFT Materials and Devices (DD)

Sep. 19, 2012 (Wed.)

DDP (TFT Materials and Devices)

Ballroom Lobby

14:00-15:20

DDP 1196 Solution-processed OTFT based on Polythiophene Derivatives Containing Vinyl Group

Il Kang, Moon Chan Hwang, So Min Park, Yun Hi Kim, Soon Ki Kwon
Gyeongsang National University

DDP 1188 A Benzodithiophene based Semiconducting Polymer for Organic Thin Film Transistor

Jung-A Hong, Hui-Jun Yun, Il Kang, Joung-Man Park, Yun-Hi Kim
Gyeongsang National University

DDP 1088 Soluble n-type Organic Thin-Film Transistors with Enhanced Electrical Characteristics

Ho Won Lee¹, Gun Woo Hyung¹, Seok Jae Lee¹, Ja Ryong Koo¹, Eou Sik Cho², Sang Jik Kwon², Woo Young Kim³, Young Kwan Kim¹
¹Hongik University, ²Gachon University, ³Hoseo University

DDP 1086 Effect of Mg Content on Microstructure and Dielectric Properties of MgZrOx Thin Films Synthesized by Sol-Gel Method

Tae Woong Kim, Soo Min Hwang, Seung Muk Lee, Geun Chul Park, Jinho Joo
Sungkyunkwan University

DDP 1081 The Effect of Multi Dielectric Materials for Reliability Improvement of Oxide Thin Film Transistor using Indium-Tin-Zinc-Oxide

Sangsub Kim, Junki Lee, Dongsoo Kim, Byungdeog Choi
Sungkyunkwan University

DDP 0945 Characteristics of IZTO Transparent Conducting Thin Films by the Use of Magnetron Sputtering Equipped with Ion-Beam System

Se-Jong Lee¹, Jaiyoul Lee², Namihm Cho³
¹Kyungsung University, ²Youngnam University, ³Sunmoon University

DDP 0915 Influence of Gate Dielectrics on the Properties of Zinc Tin Oxide Thin Film Transistors

Tae Young Ma, Mu Hee Choi
Gyeongsang National University

DDP 0908 Development of a Flexible and Transparent Organic Complementary Inverter

Mu-Seok Go, Ji-Min Song, Jang-Sik Lee, Mijung Lee
Kookmin University

DDP 0845 Electron Beam based Crystallization Technique for Advanced Thin Film Transistor

Su Woong Lee, Kyu Chang Park
Kyung Hee University

DDP 0844 Crystallization of Sputter Deposited Amorphous Silicon with Electron Beam

Hae Na Won, Kyu Chang Park
Kyung Hee University

DDP 0837 The Thermal Annealing Effects of Gate Insulator on the Electrical Performance and Stability of Ti, B-doped In-Zn Oxide Thin Film Transistors

Bosul Kim, Jae-Heon Shin, Chan-Hwa Hong, Kyung Hyun Kim, Nae-Man Park, Woo-Seok Cheong
Electronics and Telecommunications Research Institute

**DDP 0792 Device Properties of Solution-processed Thin-Film Transistors with ZTO Active Layer Treated with High-energy Electron Beams**

Jang Kyu Choi, So Hyun Jeong, Jae Min Song, Byung Seong Bae, Eui-Jung Yun
Hoseo University

DDP 0706 A New Method for Planarized Thick Cu Gate Formation

Seung Jae Yun, Se Wan Son, Yong Woo Lee, Seung Ki Joo
Seoul National University

DDP 0514 Influence of Post-Annealing Conditions on the Gate Dielectric Properties of Solution-Processed Al₂O₃ Layer for All-Solution-Processed Oxide TFTs

Yong-Hoon Kim¹, Kwang-Ho Kim¹, Jae-Sang Heo², Sung Kyu Park²
¹Korea Electronics Technology Institute, ²Chung-Ang University

DDP 0456 Development of High Performance n-type Organic Thin Film Transistors by Small Molecule-Polymer Blend

Paul Seyram Kwablah Amegadze, Yong-Young Noh
Hanbat National University

DDP 0443 Electrical Characteristics of Silicon after Aluminum Induced Crystallization

Jin-Kuk Kim, Byung-Seong Bae
Hoseo University

DDP 0441 Integrated Decoder Type Gate Driver using Poly Silicon Thin Film Transistors

Sang-A Oh, Byung-Seong Bae
Hoseo University

DDP 0439 Al Doping Effect for Various Thickness of the Silicon Layer

Yong-Hee Lee, Byung-Seong Bae
Hoseo University

DDP 0433 IR Drop Compensation of AMOLED Pixel Circuit Without VDD Line

Jae-Pyo Lee, Byung-Seong Bae
Hoseo University

DDP 0430 The Effect of Substrate Doping on Electrical Performance of Poly Crystalline Thin Film Transistor by MILC

Yong Woo Lee, Se Wan Son, Chang Woo Byun, Seung Jae Yun, Seung Ki Joo
Seoul National University

DDP 0420 Electrical Properties of a-IGZO Thin Film under Light Illumination with Various Wavelengths

Ju-Yeon Kim, Yang-Wook Heo, Eui-Jung Yun, Byung-Seong Bae
Hoseo University

DDP 0343 The Effect of Boron Doping on the Crystallization and Electrical Properties of Hydrogenated Amorphous Silicon Thin Film Deposited by LPCVD

A. Mallikarjuna Reddy, Yong Woo Lee, Gui Fu Yang, Seung Ki Joo
Seoul National University

DDP 0304 The Effect of Oxygen Partial Pressure to the Gate Bias Stability in Low Temperature Treated Transparent Thin Film Transistors with In-Ga-O Channel

Hojun Ryu¹, Jun-yong Park², Shinhyuk Yang³, Sang-Hee Ko Park¹, Sungmin Yoon²
¹ETRI, ²Kyunghee University, ³Samsung Mobile Display

DDP 0274 Surface Energy Controlled Polyimide Gate Insulators by Copolymerization Approaches for High Performance Pentacene Thin-Film Transistors

Jin Woo Kim¹, Mi Hye Yi¹, Taek Ahn²
¹Korea Research Institute of Chemical Technology, ²Kyungsung University



DDP 0271 Photoinitiator-free PVA Crosslinking System for Organic Passivation Layers of Pentacene Thin-Film Transistors

Hye Jung Suk¹, Mi Hye Yi¹, Taek Ahn²

¹Korea Research Institute of Chemical Technology, ²Kyungsung University

DDP 0240 Effect of Gd Content on the Microstructure and Dielectric Performance of Sol-Gel-Derived Gd-Aluminate (GdxAl1-xOy)/Si Films

Sang Hyub Lee, Soo Min Hwang, Seung Muk Lee, Jun Hyung Lim, Jinho Joo

Sungkyunkwan University

DDP 0239 Dielectric Properties and Microstructural Evolution of Interfacial-Layer-Free TiSiOx/Si Films Fabricated by Sol-Gel-Process

Seung Muk Lee, Soo Min Hwang, Geun Chul Park, Jun Hyung Lim, Jinho Joo

Sungkyunkwan University

DDP 0211 A Novel Fully Self Aligned Method for Formation of Lightly Doped Drain Structure on MILC Polysilicon TFTs using Undercut Etching Technique

Se Wan Son, Chang Woo Byun, Yong Woo Lee, Seung Ki Joo

Seoul National University

DDP 0184 Improvement in the Bias Stability of SnO-based Thin Film Transistor by Introducing Thin Oxide Water Vapor Barrier Film

Dongsuk Han, Woongsun Kim, Jaehyung Park, Daeyong Moon, Saeyoung Shin, Jongwan Park

Hanyang University

DDP 0120 Electrical Properties of Solution-Deposited ZnO Thin-Film Transistors by Low-temperature Annealing

Sang Chul Lim, Ji Young Oh, Seong Deok Ahn, Kyoung Ik Cho, Jae Bon Koo, Yong Suk Yang

Electronics and Telecommunications Research Institute(ETRI)

Nano Patterning and Self-assembly (NB)

Sep. 19, 2012 (Wed.)

NBP (Nano Patterning and Self-assembly)

Ballroom Lobby

14:00-15:20

NBP 1134 Design and Fabrication of Large Areal Sub-wavelength Grating Structure using Laser Interference Lithography and Deep Reactive Ion Etching

Soonkyu Je, Jongmyeong Shim, Jungjin Han, Shinill Kang

Yonsei University

NBP 1129 Mussel-Inspired Surface Engineering for Block Copolymer Lithography

Young Joo Choi, Bong Hoon Kim, Duck Hyun Lee, Ju Young Kim, Sang Ouk Kim, Dong Ok Shin

KAIST

NBP 1071 Graphene Synthesis using ICP-CVD and Application

Seung Jae Baeck¹, Kwangseop Kim², Jae Hyun Kim², Byung Hee Hong³, Jong Hyun Ahn¹

¹Sungkyunkwan University, ²KIMM, ³Seoul National University

NBP 0961 A New Class of Microliter Scale Solution Processing of Graphene-Carbon Nanotube Hybrid Materials for Highly Uniform and Large Area Transparent Conductors

Yeongun Ko, Nam Hee Kim, Sung Tae Kim, Suk Tai Chang

Chung-Ang University

NBP 0871 Bimodal Porous Gold Opals for Molecular Sensing

Weon-Sik Chae¹, Hyunung Yu², Jin-Seung Jung³, David B. Robinson⁴, Paul V. Braun⁵

¹Korea Basic Science Institute, ²Korea Research Institute of Standards and Science, ³Gangneung-Wonju National University, ⁴Sandia National Laboratories, ⁵University of Illinois



- NBP 0822 Manipulation of 1-D Nanostructure by Dielectrophoresis in a Ceramic-based Microfluidic Channel**
Ji-Yun Seon¹, Young Joon Yoon¹, Seung Hun Huh¹, Kwang Youn Cho¹, Hyo Tae Kim¹, Chang-Yeoul Kim¹, Hong Koo Baik²
¹Korea Institute of Ceramic Engineering and Technology, ²Yonsei University
- NBP 0812 Large Area Fabrication of ZnO Nanowire-based Device for Application of Sensing Ultraviolet Light**
Jihye Lee, Sarah Kim, Dae-geun Choi, Jum-Hyuk Choi, Joo Yun Jeong, Jun-ho Jeong, Eung-sug Lee
Korea Institute of Machinery and Materials
- NBP 0795 Fabrication of Highly Rigid Transparent Sapphire Mold for UV Nanoimprint Lithography**
Hyoungwon Park, Kyeong-Jae Byeon, Joong-Yeon Cho, Jinseung Kim, Ju-Hyeon Shin, Heon Lee
Korea University
- NBP 0769 Laser Interference Lithography with a Horizontal Substrate Holding Configuration**
Jongseok Kim, Il GyuJeong, Sang Ho Lee, Kyung Tae Kang, Sung Ho Lee
Korea Institute of Industrial Technology
- NBP 0764 Metal Nano Islands as Etch-Masks for Nanopatterning of Glasses**
Mi-Hwa Moon, Jong-Joo Rha, Dong-Ho Kim
Korea Institute of Materials Science
- NBP 0725 Selective Catalyst Cap Opening of Vertically Aligned Carbon Nanotubes**
Won Seok Chang
Korea Institute of Machinery and Materials
- NBP 0716 Room-temperature Deposition of Silicon Nanodot Clusters by Plasma-Enhanced Chemical Vapor Deposition**
Jae-Kwan Kim, Jun Young Kim, Ji-Myon Lee
Sunchon National University
- NBP 0710 Nanoscale Tip Fabrication for Plasmon Induced Field-Enhancement**
Won Seok Chang
Korea Institute of Machinery and Materials
- NBP 0649 Synthesis and Applications of the Hybrid Mask for Soft-Lithography**
Jaeun Cheon, Hyunjung Lee
Kookmin University
- NBP 0462 Fabrication of Well-distributed Cylindrical Nano-patterns on Glass Substrate by Modified Nano-Imprinting**
So Hee Lee¹, Heon Lee², Hee Chul Lee¹
¹Korea Polytechnic University, ²Korea University
- NBP 0340 Size-dependent Adhesion of Nanopatterns for Nanoimprint Applications**
Kwang-Seop Kim, Jae-Hyun Kim, Ki-Don Kim, Jun-Ho Jeong, Hak-Joo Lee
Korea Institute of Machinery and Materials
- NBP 0254 Direct Nanoimprint of Metal Bilayer for Tunable Metal Photonic Properties**
Sang-Keun Sung, Ji-Hye Lee, Jun-Ho Jeong, Eung-Sug Lee, Jun-Hyuk Choi
Korea Institute Machinery & Materials
- NBP 0154 A Spontaneous Nano Scale Solution Patterning Method Utilizing Surface Energy Engineering : Introduction to Double Dewetting Edge Lithography**
Kwang-Ho Lee, Huisu Jung, Snag-Mook Kim, Gun-Young Jung
GIST
- NBP 0056 Nanopatterning of UV-Curable Metal Oxide Materials with High-Refractive Index**
Dae-Geun Choi, Jihye Lee, Jun-Hyuk Choi, Jun-Ho Jeong
Korea Institute of Machinery and Materials



NBP 1197 Re-creation of Hydrophobicity of the Dragonfly's Wing on the Various Substrates using by Nano-imprint Lithography

Joong-Yeon Cho¹, Sungwook Kim², Gyutae Kim¹, Heon Lee¹

¹Korea University, ²Hana Academy

Oxide Semiconductor (MD)

Sep. 19, 2012 (Wed.)

MDP (Oxide Semiconductor)

Ballroom Lobby

14:00-15:20

MDP 1200 Spin and Orbital Angular Momentum Structures of Metals and Its Implication to Spintronic Materials

Soo Hyun Jo¹, Joon Lee², Changyoung Kim¹

¹Yonsei University, ²Sang Moon High School

MDP 1190 Self-rectifying Effect in Resistive Switching Memory with Pt/IGZO/TaOx/W Structure using Amorphous InGaZnO

Jin Woo Lee, Duck Kyun Choi, Seung Ki Jeong

Hanyang University

MDP 1127 Effect of SiC Nanoparticles on Dielectric Loss and Mechanical Property of CaCu₃Ti₄O₁₂ Ceramics

Chompoonuch Warangkanagool¹, Gobwute Rujjanagul²

¹Naresuan University, ²Chiang Mai University

MDP 1115 Chemical Shift and Surface Characteristic of Al-doped ZnO Thin Film Depending on Substrate Properties

Teresa Oh, Sang Yeol Lee

Cheongju University

MDP 1098 Low-temperature Deposition of ZnO Semiconductor Films on PEN Substrates by Solution Process

Chien-Yie Tsay, Pei-Wen Wu

Feng Chia University

MDP 1028 Structure and Characteristics of Li-doped NiO Thin Films Prepared by using PLD

Ho Bum Kwon, Jai Yeoul Lee, Hee Young Lee, Se Jong Lee

Yeungnam University

MDP 1017 Variation of Threshold Voltage of Solution-Processed Zr-Si-In-Zn-O Thin Film Transistor Depending on Zirconium Contents

Jun Young Choi¹, Sang Yeol Lee²

¹Korea University, ²Cheongju University

MDP 0967 The Effect of High Pressure Annealing on Positive Bias Instability of TaInZnO Thin Film Transistors

Byung Du Ahn¹, You Seung Rim¹, Jun Hyung Lim², Kwum-Bum Chung³, Jin-Seong Park³

¹Yonsei University, ²Sungkyunkwan University, ³Dankook University

MDP 0966 Effects of UV Assistance on the Properties of Al-doped ZnO Thin Films Deposited by Sol-Gel Method

Yung Kuan Tseng, Yen Cheng Chen, Feng Ming Pai, Chao Hsien Wu

National Yunlin University of Science & Technology

MDP 0924 Fabrication of Nonvolatile Memory Devices based on the Solution Processed Metal-Oxide Thin-Film Transistors

Ji-Min Song, Jin-Woo Park, Young Dae Seo, Hyunyoung Hong, Adila Rani, Mijung Lee, Jang-Sik Lee

Kookmin University

**MDP 0895 Band Offsets in YSZ/InGaZnO₄ Heterostructure System**

Hyun Cho¹, Kyeong-Won Kim², Erica A. Douglas², Brent P. Gila², Valentin Craciun², Eric S. Lambers², David P. Norton², Fan Ren², Jin Kon Kim¹, Stephen J. Pearton²

¹Pusan National University, ²University of Florida

MDP 0854 Fabrication and Properties of YBa₂Cu₃O_{7-x} at Different Sintering Temperatures

Poom Prayoonphokkharat, Sukanda Jiansirisomboon, Anucha Watcharapasorn

Chiang Mai University

MDP 0848 The Effect of Chloride Precursor on the Stability of Solution-processed InZnO Thin-Film Transistors

Dong-hee Lee, Sung-min Park, Jung-il Yang, Dong-kyu Cho, Sang-hyun Woo, Yoo-sung Lim, Dae-kuk Kim, Moon-suk Yi

Pusan National University

MDP 0827 ZnO/SiCHeterojunction Diode for Ultra-violet Detector Applications

Jung-Ho Lee, Ji-Chul Jung, Min-Seok Kang, Jung-Hyuk Koh, Jae-Geun Ha, Sang-Mo Koo

Kwangwoon University

MDP 0793 Electrical and Optical Properties of Co-sputtered Amorphous Transparent Conducting Titanium Indium Zinc Oxide Thin Films

Gi-Seok Heo, Jae-Cheol Park, Jeong-Pyo Oh, Yu-Ri Lee, Young-Jun Lee, Kwang-Young Kim

KITECH

MDP 0780 The Study of New Channel Layer for Oxide TFT via RF Sputter

Kyung Hyun Kim, Jae-heon Shin, Nae-Man Park, Bosul Kim, Chan-Hwa Hong, Woo-Seok Cheong

ETRI

MDP 0768 Transparent Nonvolatile Memory Device using Silicon Quantum Dots

Nae-Man Park, Jaeheon Shin, Bosul Kim, Chan Hwa Hong, Kyung Hyun Kim, Woo-Seok Cheong

Electronics and Telecommunications Research Institute

MDP 0760 A Study on High-Voltage Low-Power Power MOSFET of Optimization for Industrial Motor Drive

Ey Goo Kang¹, Hun Suk Chung¹, Eun Sik Jung², Bum June Kim¹

¹FarEast University, ²Maplesemi

MDP 0654 Effect of Rapid Thermal Annealing Temperature on the Properties of Nitrogen-doped In₂O₃ Thin Films

Shinho Cho

Silla University

MDP 0645 Compositional Range and Electrical Properties of the Morphotropic Phase Boundary in the Bi_{0.5}(Na_{0.80}K_{0.20})_{0.5}TiO₃-(Ba_{0.7}Sr_{0.3})TiO₃ System

Pharatree Jaita, Anucha Watcharapasorn, Sukanda Jiansirisomboon

Chiang Mai University

MDP 0639 Transparent Flexible Thin Film Transistors based on Indium Zinc Tin Oxide Thin Films

Do Kyung Lee¹, Han Jae Shin², Hak-Rin Kim³

¹Catholic University of Daegu, ²Gumi Electronics and Information Technology Research Institute, ³Kyungpook National University

MDP 0631 Thermal Stability of Gallium-doped Zinc Oxide Thin Film on Glass Substrate by RF Sputtering Process

Jong-Ho Kang^{1,2}, Myung-Hyun Lee¹, Young Soo Lim¹, Won-Seon Seo¹, Jung-Sik Bang³, Hyun-Woo Jang³, Heon-Jin Choi²

¹Korea Institute of Ceramic Engineering and Technology, ²Yonsei University, ³LG Chem, Ltd



MDP 0620 A Study on the Field Ring of High Voltage Characteristics Improve for the Power Semiconductor

Tae Jin Nam¹, Ey Goo Kang¹, Hun Suk Jung¹, Eun Sik Jung²
¹FarEast University, ²Maple Semiconductor Incorporated

MDP 0609 Electrical Behaviors of (1-x)Ba(Zr0.07Ti0.93)O3-xBa(Ni0.5W0.5)0.1Ti0.9O3 Lead Free Solid Solution Binary System

Chatchai Kruea-In¹, Gobwute Rujjanagul²
¹Chiang Mai Rajabhat University, ²Chiang Mai University

MDP 0540 Effects of In Doping on Structural and Optical Properties of ZnO Nanorods Grown by Hydrothermal Method

Soaram Kim¹, Min Su Kim¹, Giwoong Nam¹, Hyunggil Park¹, Hyunsik Yoon¹, Do Yeob Kim², Dong-Yul Lee³, Jin Soo Kim⁴, Jong Su Kim⁵, Jeong-Sik Son⁶
¹Inje University, ²Clemson University, ³Samsung LED Co. Ltd., ⁴Chonbuk National University, ⁵Yeungnam University, ⁶Kyungwoon University

MDP 0535 Effect of Post Annealing on p-type Conducting Al/SnO2/Al Multilayer Thin Films

Keun Young Park, Geun Woo Kim, Ho Je Cho, Tae Kwon Song, Bon Heun Koo, Si Nae Heo
Changwon National University

MDP 0515 Enhanced Gate Bias Stability of Solution-Processed Zinc Tin Oxide TFTs using Self-assembled Monolayer as a Selective Channel Passivation

Jae-Sang Heo¹, Yong-Hoon Kim², Sung Kyu Park¹
¹Chung-Ang University, ²Korea Electronics Technology Institute

MDP 0511 The Device Instability of Thermally Annealed TiOx Thin Film Transistors under Gate Bias Stresses

Kyung-chul Ok¹, Kwon-Bum Chung¹, Jung-Dae Kwon², Jin-Seong Park¹
¹Dankook University, ²Korea Institute of Materials Science

MDP 0501 Studies on Excitation-Power- and Temperature-Dependent Photoluminescence of ZnO Particles Grown by Plasma-Assisted Molecular Beam Epitaxy

Giwoong Nam¹, Min Su Kim¹, Soaram Kim¹, Hyunggil Park¹, Hyunsik Yoon¹, Dong-Yul Lee², Jin Soo Kim³, Jong Su Kim⁴, Jeong-Sik Son⁵, Jae-Young Leem¹
¹Inje University, ²Samsung LED Co. Ltd., ³Chonbuk National University, ⁴Yeungnam University, ⁵Kyungwoon University

MDP 0498 Microstructure and Luminescent Properties of CdZnO Thin Films Prepared by Sol-gel Method

Hyunggil Park¹, Giwoong Nam¹, Hyunsik Yoon¹, Soaram Kim¹, Min Su Kim¹, Dong-Yul Lee², Jin Soo Kim³, Jong Su Kim⁴, Jeong-Sik Son⁵, Jae-Young Leem¹
¹Inje University, ²Samsung LED Co. Ltd., ³Chonbuk National University, ⁴Yeungnam University, ⁵Kyungwoon University

MDP 0495 Effects of Annealing Temperature on Structure and Optical Properties of ZnO Nanorods with Mg0.2Zn0.8O Capping Layers

Hyunsik Yoon¹, Giwoong Nam¹, Hyunggil Park¹, Soaram Kim¹, Min Su Kim¹, Dong-Yul Lee², Jin Soo Kim³, Jong Su Kim⁴, Jeong-Sik Son⁵, Jae-Young Leem¹
¹Inje University, ²Samsung LED Co. Ltd., ³Chonbuk National University, ⁴Yeungnam University, ⁵Kyungwoon University

MDP 0491 Growth and Optical Properties of Sol-Gel ZnO Thin Films Grown on R-plane Sapphire Substrates

Min Su Kim¹, Soaram Kim¹, Giwoong Nam¹, Hyunggil Park¹, Hyunsik Yoon¹, Do Yeob Kim², Dong-Yul Lee³, Sung-O Kim⁴, Jin Soo Kim⁴, Jong Su Kim⁵
¹Inje University, ²Clemson University, ³Samsung LED Co. Ltd., ⁴Chonbuk National University, ⁵Yeungnam University



- MDP 0415 Preparation and Dielectric Properties of $\text{Sr}(\text{Fe}_{1-x}\text{Al}_x)_0.5\text{Nb}_0.5\text{O}_3$ by Molten-Salts Process**
Thanatep Phatungthane, Gobwute Rujjanagul
Chiangmai University
- MDP 0414 Dielectric Properties of $(1-x)\text{SrFe}_{1/2}\text{Nb}_{1/2}\text{O}_3$ - $(x)\text{BaZn}_{1/3}\text{Ta}_{2/3}\text{O}_3$ Ceramics**
Thanatep Phatungthane, Gobwute Rujjanagul
Chiangmai University
- MDP 0372 Post-annealing Effects on Properties of $\text{SnO}_2/\text{Al}/\text{SnO}_2$ Thin Films Deposited by RF Sputtering**
Ho Je Cho, Geun Woo Kim, Keun Young Park, Si Nae Heo, Tae Kwon Song, Bon Heun Koo
Changwon National University
- MDP 0371 Electronic Structure in Conduction Band of Binary and Multi-Elemental Oxide Semiconductor using Absorption Spectroscopy**
Kwun-Bum Chung, Tae Won Seo
Dankook University
- MDP 0317 Cuprous Oxide Thin Films Synthesized by Sol-Gel Process**
Hong-Jae Lee, Yoon Suk Jeong, Ho Seong Lee
Kyungpook National University
- MDP 0310 Fabrication of Reduced Graphene Oxide and Zinc Oxide Nanocomposites using Sintering Method for Superior Photocatalysis**
Rajendra C. Pawar, Hyungsub Kim, Caroline S. Lee
Hanyang University
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