

Program

October 20 (Monday)

Opening 9:45~10:00

Chair : Y.Hirayama

Plenary Session I 10:00~12:00

Chair : T.Hiramoto, E. Yoon

Centennial Hall (1F)

Plenary I-1 10:00~10:40

Recent Progress in High Mobility Channel Materials and Devices

Yoshio Nishi

Stanford University, USA

Plenary I-2 10:40~11:20

GaN-Based Nonpolar/Semipolar LEDs and Laser Diodes

S.Nakamura, S. P. DenBaars, J. S. Speck, M. C. Schmidt, K-C Kim, R. M. Farrell, D. F. Feezell, D. A. Cohen, M. Saito, H. Sato, H. Asamizu, A. T. Yagi, H. Zhong, H. Masui, N. N. Fellows, M. Iza, T. Hashimoto and K. Fujito(*)

University of California, Santa Barbara (UCSB), Mitsubishi Chemical Corporation()*

Plenary I-3 11:20~12:00

Semiconductor Nanowires: from Materials Science to Photonic and Electronic Devices

Lars Samuelson

Lund University, the Nanometer Structure Consortium /Solid State Physics, Lund, Sweden

Lunch (12:00~13:30)

MoA I CMOS and related nanotechnology I

Chair : S.Takagi

Centennial Hall (1F)

MoA I-1 13:30~14:00 (invited)

Strained Quantum Wire Transistors

Yee-Chia Yeo

National University of Singapore (NUS), Singapore

MoA I-2 14:00~14:30 (invited)

Electron Transport through Gate-All-Around Silicon Nanowire Field Effect Transistors

Keun Hwi Cho, Kyoung Hwan Yeo, Sung Dae Suk, Yun-Young Yeoh, Ming Li, Dong-Won Kim, Sung Woo Hwang(*), GyoYoung Jin, and Kyung Seok Oh
Samsung Electronics Co., Korea University()*

MoA I-3 14:30~15:00 (invited)

Research on III-V and Ge nano-electronics for key technology beyond Si CMOS

Ming-Hwei Hong, J.Kwo, M.L.Huang, T.D.Lin, Y.C.Chang, W.C.Lee, P.Chang, and L.K.Chu
National Tsing Hua University, Taiwan

MoA I-4 15:00~15:15

Silicon MOSFET on directly bonded Si-on-SiC wafer with high heat conductance

Hiroshi Shinohara, Hiroyuki Kinoshita, and Masahiro Yoshimoto
Department of Electronics, Kyoto Institute of Technology

MoA I-5 15:15~15:30

Transport Analysis of Scaled MOSFET in 65nm Technology Based on Alpha-Power Law

Ryota Suzuki, Takuya Saraya and Toshiro Hiramoto
Institute of Industrial Science, University of Tokyo

Coffee Break (15:30~16:00)

MoA II Electronic properties of novel nanomaterials

*Chair : T.Fujisawa
Centennial Hall (1F)*

MoA II-1 16:00~16:30 (invited)

Spins on Graphene

Hari Manoharan
Stanford University, USA

MoA II-2 16:30~17:00 (invited)

Spin-orbit interaction and Kondo-superconductivity interplay observed in single self-assembled InAs quantum dots

Akira Oiwa(*1,*2,*4), Kazuhiko Hirakawa(*3,*4,*5), and Seigo Tarucha(*1,*2,*5)
*Department of Applied Physics and QPEC, The University of Tokyo(*1), Quantum Spin Information Project, ICORP, JST(*2), Institute of Industrial Science, The University of Tokyo(*3), JST, CREST(*4), INQIE, The University of Tokyo(*5)*

MoA II-3 17:00~17:15

Very high Kondo temperature ($T_K \sim 80$ K) in self-assembled InAs quantum dots laterally coupled to nanogap electrodes

K. Shibata(*1) and K. Hirakawa(*1,*2,*3)
*Institute of Industrial Science, Univ. of Tokyo(*1), INQIE, Univ. of Tokyo(*2), CREST-JST(*3)*

MoA II-4 17:15~17:30

Aharonov-Bohm oscillations in indium oxide core/shell heterostructure nanowires

Minkyung Jung(*1), Joon Sung Lee(*1), Woon Song(*1), Youngheon Kim(*1), Sang Don Lee(*1), Seung-Bo Shim(*1), Nam Kim(*1), Byung-Chill Woo(*1), Jinhee Kim(*1), Mahn-Soo Choi(*2), and Shingo Katsumoto(*3)

*KRISS(*1), Korea Univ.(*2), Univ. of Tokyo(*3)*

MoA II-5 17:30~17:45

A Single Electron Transistor with a Chemically Bottom-up Made Si Nanowire

Shaoyun Huang(*1), Naoki Fukata(*2,3), Maki Shimizu(*1,4), Tomohiro Yamaguchi(*1), and Koji Ishibashi(*1),

*Advanced Device Laboratory, RIKEN(*1), International Center for Materials Nanoarchitectonics, National Institute for Materials Science(*2), PRESTO, Japan Science and Technology Agency(*3), Department of Physics, Tokyo Univ. of Sci.(*4)*

MoA II-6 17:45~18:00

In-plane Transport in a Double Layer Crystalline Silicon Structure with an SiO₂ Barrier

Kei Takashina, Masao Nagase, Katsuhiko Nishiguchi, Yukinori Ono, Akira Fujiwara and Toshimasa Fuji-sawa

NTT Basic Research Laboratories, NTT Corporation

Late News A

Chair : A.Fujiwara

Centennial Hall (1F)

LN A-1 18:00~18:15

Electron Mobility Improvement for InSb Quantum Wells by Structural Defect Reduction

T.D. Mishima, M. Edirisooriya and M.B. Santos

University of Oklahoma

LN A-2 18:15~18:30

Bernoulli Effect in Two Dimensional Electron Gas: Probing the Electron Scattering Mechanisms

Ismet I. Kaya(*1), Maik Hauser(*2)

*Sabancı Univ.(*1), Max-Planck Inst. for Solid State Research(*2)*

LN A-3 18:30~18:45

Memory Effect of Organic Field-Effect Transistors with Embedded Monolayer of Semiconductor Colloidal Dots

Kaori Kajimoto, M. Minami, K. Uno, and Ichiro Tanaka

Wakayama University

MoB I Oxide semiconductors and nanomaterials I

Chair : M.Kawasaki and Z.L.Wang

International Conference Hall III (2F)

MoB I-1 13:30~14:00 (invited)

From Nanogenerators to Nanopiezotronics

Zhong Lin Wang

Georgia Institute of Technology, USA

MoB I-2 14:00~14:15

Characterization of Relative Humidity Sensors produced by Ion-Assisted Glancing Angle Deposition

Jason B. Sorge(*1), Michael T. Taschuk(*1), Sumudu P. Fernando(*1), John J. Steele(*1), and Michael J. Brett(*1,2)

*Department of Electrical and Computer Engineering, University of Alberta, Edmonton, Alberta, Canada(*1), NRC National Institute for Nanotechnology, Edmonton, Alberta, Canada(*2)*

MoB I-3 14:15~14:30

Advance in a- and m-face ZnO:Nano-scale surface nanowires and mobility anisotropy in quantum systems

Hiroaki Matsui and Hitoshi Tabata

The University of Tokyo

MoB I-4 14:30~15:00 (invited)

Nanotubes Based on the Kirkendall Effect and Diffusion Process

Hongjin Fan

Department of Earth Sciences, University of Cambridge, UK

MoB I-5 15:00~15:15

Theory of Electron Transport in Disordered Oxides: Percolation Model

Toshio Kamiya(*1), Kenji Nomura(*2), Masahiro Hirano(*2,*3), and Hideo Hosono(*1,*2,*3)

*Materials and Structures Laboratory, Tokyo Institute of Technology(*1), ERATO-SORST, Japan Science and Technology Agency(*2), Frontier Research Center, Tokyo Institute of Technology(*3)*

MoB I-6 15:15~15:30

Investigation of a-IGZO Thin Film Transistor Performance and Stability Characteristic with Grown by RF and DC Sputtering

Sung-Soo Park(*1), Won-Ho Choi(*1), Dong-Ho Nam(*1), Kwang-il Chai(*1), Jae-Kyeong Jeong(*2), and Ga-Won Lee(*1)

*Dept. of Electronic Eng., Chungnam National Univ.(*1), Samsung SDI Co., Ltd.(*2)*

Coffee Break (15:30~16:00)

MoB II Oxide semiconductors and nanomaterials II

Chair : H.Fan

International Conference Hall III (2F)

MoB II-1 16:00~16:30 (invited)

Resistance Switching Behaviors Applicable to Next-Generation Non-Volatile Memory Devices

Bae Ho Park(*1), Myoungjae Lee(*2), Sunae Seo(*3)

*Department of Physics, Konkuk University, Korea(*1), Samsung Adv. Inst. of Tech., Korea(*2)*

MoB II-2 16:30~16:45

Leakage current and domain poling characteristics in $\text{Bi}_{3.25}\text{La}_{0.75}\text{Ti}_3\text{O}_{12}$ and $\text{Bi}_{3.15}\text{Nd}_{0.85}\text{Ti}_3\text{O}_{12}$ thin films

R. H. Shin(*1), J. H. Lee(*1), W. Jo(*1), O-Jong Kwon(*2) and Chan Park(*2)
*Ewha Womans Univ. (*1), Seoul National Univ. (*2)*

MoB II-3 16:45~17:00

Self-Template Growth of Ferroelectric $\text{Bi}_4\text{Ti}_3\text{O}_{12}$ Nano-plate via Flux-mediated Epitaxy on $\text{SrTiO}_3(001)$

Yuji Matsumoto(*1), Akira Imai(*1) and Ryota Takahashi(*2)
*Materials and Structures Laboratory, Tokyo Tech(*1), Department of Materials Science and Engineering, Univ. of Maryland(*2)*

Coffee Break (17:00~17:30)

Late News B

Chair : T.Arakawa
International Conference Hall III (2F)

LN B-1 17:30~17:45

<110>-oriented lateral GaAs nanowires epitaxially grown on GaAs (311)B and (001) substrates

Guoqiang Zhang, Kouta Tateno, Hidetoshi Nakano
NTT Basic Research Laboratories

LN B-2 17:45~18:00

GaAsBi/GaAs multi-quantum wells with well-defined multi-layered structures

Yoriko Tominaga, Kunishige Oe, Masahiro Yoshimoto
Kyoto Institute of Technology

LN B-3 18:00~18:15

The enhancement of sensitivity by surface modification on CNT-FET biosensor for disease diagnosis

Jun Pyo Kim(*1), Seunghun Hong(*2), Sang Jun Sim(*1)
*Sungkyunkwan Univ(*1), Seoul National Univ.(*2)*

LN B-4 18:15~18:30

Electrical sensing of Hepatitis B Virus (HBV) specific antigen using Ni-decorated single-walled carbon nanotube field-effect transistors

Young-Seop Lo (*1,*2), Du-Won Jung (*1), A-Rum Lee (*1), Bum-Kyu Kim (*1), Hye-Mi So (*2), Hyunju Chang (*2), Sun-Ae Jun (*4), Byung-In Sang (*4), Jeong-O Lee (*2), Ju-Jin Kim (*1), and Yong Hwan Kim (*3)
*Department of Physics, Chonbuk National University(*1), Fusion Biotechnology Research Center, Korea Research Institute of Chemical Technology (*2), Department of Chemical Engineering, Kwangwoon University(*3), Korea Institute of Science and Technology (*4)*

MoC I Nano-photonics and optical devices I

Chair : T.Baba
Conference Hall III (2F)

MoC I-1 13:30~14:00 (invited)

III-V Compound Semiconductor Nanowires for Optoelectronics Applications

H.J. Joyce, S. Paiman, Q. Gao, H.H. Tan, C. Jagadish
Australian National University

MoC I-2 14:00~14:15

Green GaInN photonic crystal structure with small surface recombination effect

Masayuki Fujita(*1), Hitoshi Kitagawa(*1, *2), Toshihide Suto(*1, *2), Yoichi Kurokawa(*1, *2), Yoshi-nori Tanaka(*1), Takashi Asano(*1), and Susumu Noda(*1)
*Kyoto University(*1), ALPS Electric Co., Ltd.(*2)*

MoC I-3 14:15~14:45 (invited)

High Contrast Grating Vertical-Cavity Surface Emitting Lasers

Ye Zhou, Michael C.Y.Huang, Chris Chase, and Connie J.Chang-Hasnain
University of California, Berkeley

MoC I-4 14:45~15:00

Microcylinder Quantum Cascade Lasers Coupled with Lateral Waveguides

Yuki Wakayama(*1), Satoshi Iwamoto(*1-3), Yasuhiko Arakawa(*1-3)
*Research Center for Advanced Science and Technology, Univ. of Tokyo(*1), Institute of Industrial Science, Univ. of Tokyo(*2), Institute for Nano Quantum Information Electronics, Univ. of Tokyo(*3)*

MoC I-5 15:00~15:15

Top-Air-Cladding GaInAsP/InP Lateral Current Injection Type Lasers

Tadashi Okumura(*1,2), Munetaka Kurokawa(*1,2), Mizuki Shirao(*1), Daisuke Kondo(*1,2), Nobuhiko Nishiyama(*1) and Shigehisa Arai(*1,2)
*Dept. of Electrical and Electronic Engineering(*1), Quantum Nanoelectronics Research Center(*2) Tokyo Institute of Technology*

Coffee Break (15:15~15:45)

MoC II Nano-photonics and optical devices II

Chair : S.Noda
Conference Hall III (2F)

MoC II-1 15:45~16:15 (invited)

Silicon Nanophotonics for On-Chip Optical Interconnects

Yurii Vlasov, William M.J.Green, Solomon Assefa
IBM TJ Watson Research Center, USA

MoC II-2 16:15~16:30

Formation of index chirping in SOI unchirped photonic crystal coupled waveguide for wide-range delay tuning of slow light pulse

Jun Adachi(*1,*2), Hirokazu Sasaki(*1,*2), Takashi Kawasaki(*1,*2), Daisuke Mori(*1,*2), Toshihiko

Baba(*1,*2)

*Yokohama National Univ.(*1), CREST, Japan Science and Technology Agency(*2)*

MoC II-3 16:30~17:00 (invited)

Entangled Photon-Pair Generation Using Silicon Photonic Wire Waveguide

Hiroki Takesue(*1,*3), Hiroshi Fukuda(*2), Tai Tsuchizawa(*2), Toshifumi Watanabe(*2), Koji Yamada(*2), Yasuhiro Tokura(*1,*3), and Sei-ichi Itabashi(*2)

*NTT Basic Research Laboratories(*1), NTT Microsystem Integration Laboratories (*2), CREST, Japan Science and Technology Agency (*3)*

MoC II-4 17:00~17:15

Direct Observation of Highly Efficient Coupling of Spontaneous Emission in Quantum Dot-Photonic Crystal Nanocavity Systems by Momentum Space Imaging

Masahiro Nomura, Aniwat TандаeChanurat, Satoshi Iwamoto, Yasutomo Ota, Naoto Kumagai, Yasuhiko Arakawa

The University of Tokyo

MoC II-5 17:15~17:30

Cavity Quantum Electrodynamics in Electro-Optically Tuned and Electrically Driven Quantum Dot-Micropillar Cavities

C.Kistner, T.Heindel, S.Reitzenstein, C.Schneider, C.Boeckler, S.Hoefling, and A.Forchel

Technische Physik, Universitaet Wuerzburg

Coffee Break (17:30~17:45)

Late News C

Chair : T.Someya

Conference Hall III (2F)

LN C-1 17:45~18:00

Photocurrents in PPE Pentacene Organic Thin-film Transistor

Jin Jang(*1), Sun Hee Lee(*1), Chang Hyun Kim(*1), Sung Hoon Kim(*1), Tae Woo Jeon(*1), Yong Hee Kim(*1), Seung Hoon Han(*1), Min Hee Choi(*1), Dong Joon Choo(*2)

*Advanced Display Research Center and Depart. of Information Display Kyung Hee Univ. (*1), Advanced Display Research Center and Depart. of Chemistry Kyung Hee Univ.(*2)*

LN C-2 18:00~18:15

Investigation of Major Fabrication Parameters of Poly(N-vinylcarbazole)-Based Non-Volatile Memory Devices

Jin-Sik Choi, Nam Ju Kim, Eun Ho Chang, Jung Ha Chung, Young Rae Kim and Dong Hack Suh

Department of Chemical Engineering, Hanyang University, Korea

LN C-3 18:15~18:30

Six-Membered ring phosphorescent Small Moleculesbased on iridium(III) complex and their properties

Ju Young Yook(*1), Yun Cheol Yang(*1), Jaekook Ha(*2), Changwoong Chu(*2) and Dong Hack Suh(*1)

*Department of Chemical Engineering, Hanyang University, 133-791, Korea (*1), OLDE Lab. Display R&D*

Center LCD business Samsung Electronics Co. LTD., 466-711, Korea(*2)

Poster Session 18:15~19:45

Mo P1 (panel #1)

Structural dependence of radiative carrier lifetime in GaAs quantum nanostructures

Jong Su Kim, Hoonsoo Kang, Clare C. Byeon and Mun Seok Jeong

Advanced Photonics Research Institute, GIST

Mo P2 (panel #4)

Growth and properties of the GaAs, In_xGa_{1-x}As epitaxial films, quantum wells and InAs quantum dots on porous GaAs

Yury Buzvnin(*1), Nikolay Vostokov(*1), Darya Gaponova(*1), Yury Drozdov(*1), Boris Zvonkov(*2)

*Institute for Physics of Microstructures, Russian Academy of Sciences, Nizhny Novgorod, Russia(*1);*

*Physical-Technical Institute of Nizhny Novgorod State University, Russia(*2)*

Mo P3 (panel #7)

Annealing properties of InAs quantum dots grown on GaAsSb/GaAs buffer layers

Masayuki Hirose, Jiaying Hu, and Koichi Yamaguchi

The University of Electro-Communications

Mo P4 (panel #10)

The effects of buffer layer condition on two-step Ge growth on Si substrates

Keun wook Shin, Hyun-Woo Kim, and Euijoon Yoon

Seoul National University

Mo P5 (panel #13)

Evaluation of semiconducting/metallic ratio of single-walled carbon nanotubes processed by thermal and acid treatment

Kyoung In Min(*1,*2), Ki Kang Kim(*3), Soo Bong Choi(*4), Jong Su Kim(*1), Clare C. Byeon(*1), Myoung Kyu Oh(*1), Heesuk Rho(*2), Young Hee Lee(*3), Mun Seok Jeong(*1)

*Advanced Photonics Research Institute, GIST, Gwangju 500-712, Korea.(*1), Department of Physics, Chonbuk National University, Jeonju 561-756, Korea.(*2), Department of Physics, Center for Nanotubes and Nanostructured Composites, Sungkyunkwan University, Suwon 440-746, Korea.(*3), Department of Physics, Seoul National University, Seoul 151-742, Korea.(*4)*

Mo P6 (panel #16)

Cathodeluminescent properties of ZnO nanobranches on Si nanowire backbones by catalyst-free metalorganic vapor deposition

Kwang Soo Son, Dong Hyun Lee, Jae-Woong Choung, Pyun Yong Bum, Jae Seok Lee and Won Il Park

Hanyang Univ.

Mo P7 (panel #19)

Nano-Processing by Liquid-Cluster Ion Beams

Hiromichi Ryuto, Ryosuke Ozaki, and Gikan H. Takaoka

Kyoto University

Mo P8 (panel #22)

An extended dynamical model of drying process of a polymer solution coated on a flat substrate : extension of the former model to three-dimensional one

Hiroyuki Kagami
Nagoya College

Mo P9 (panel #24)

Roughness Analysis of Trench Patterns Formed by Using Block Copolymer Lithography

Toru Yamaguchi and Hiroshi Yamaguchi
NTT Basic Research Labs.

Mo P10 (panel #27)

Low frequency noise at high temperature of n-MOSFETs with Hf-based gate dielectrics

Hyun-Sik Choi(*1), Chang-Yong Kang(*2), Sung-Woo Jung(*3), and Yoon-Ha Jeong(*1,*3)
*POSTECH(*1), SEMATECH(*2), National Center for Nanomaterials Technology(*3)*

Mo P11 (panel #30)

High Performance RF Characteristics of Asymmetric MOSFETs

Jong Pil Kim, Jae Young Song, San Wan Kim, Han Ki Chung, Jae Hyun Park, Hee Sauk Jhon, Ga Ram Kim, Hyungcheol Shin, Jong Duk Lee and Byung-Gook Park
Seoul National University

Mo P12 (panel #33)

Nanowire Channel Nanocrystal Memory with P-Doped Silicon Nanocrystals

Toshiro Hiramoto, Yuji Takahashi, Kousuke Miyaji, and Takuya Saraya
University of Tokyo

Mo P13 (panel #36)

The effect of Sb surfactant during the post growth interruption on InAs QD growth by metal organic chemical vapor deposition

Jungsub Kim, Uk Sim, Changjae Yang, Jaeyel Lee, and Euijoon Yoon
Department of Materials Science and Engineering, Seoul National University, Seoul 151-744, Korea

Mo P14 (panel #39)

Fabrication and Microwave Characterization of Coplanar Waveguide Consisting of a Single Silicon Nanowire

Myung Gil Kang(*1,*2), Su Heon Hong(*1,*2), Dong Jin Lee(*1,*2), Yong Kyu Kim(*1,*2), Min Su Choi(*1,*2), Sung Woo Hwang(*1,*2), Dongmok Whang(*2,*3), Maeng Ho Son(*4), and Doyeol Ahn(*4)
*Korea Univ.(*1), Research Center for Time Domain Nano-functional Devices(*2), Sungkyunkwan Univ.(*3), Univ. of Seoul(*4)*

Mo P15 (panel #42)

Optical properties of GaAs/AIAs dynamic quantum wires formed by one-dimensional standing surface acoustic waves

Tetsuomi Sogawa(*1), Haruki Sanada(*1), Hideki Gotoh(*1), Hiroshi Yamaguchi(*1), Sen Miyashita(*2), and Paulo V. Santos(*3)
*NTT Basic Research Laboratories, NTT Corporation(*1), NTT Advanced Technology Corporation(*2),*

*Paul Drude Institute(*3)*

Mo P16 (panel #45)

Charge States of a Superconducting Single-Electron Transistor Coupled with a Two-Dimensional Electron Gas

Eisuke Abe, Yosuke Kimura, Yoshiaki Hashimoto, Yasuhiro Iye and Shingo Katsumoto
Institute for Solid State Physics, The University of Tokyo

Mo P17 (panel #48)

Graphene nanoribbon field-effect transistor: device model and characteristics

Victor Ryzhii(*1,*3), Maxim Ryzhii(*1,*3), Akira Satou(*1,*3), and Taiichi Otsuji(*2,*3)
*Univ. of Aizu(*1), Tohoku Univ.(*2), Japan Sci Technol. Agency(*3)*

Mo P18 (panel #50)

Curvature effects on the electronic resistivity of a corrugated nanosurface

Shota Ono and Hiroyuki Shima
Hokkaido University

Mo P19 (panel #53)

Reconsideration of Threshold Voltage Shift Observed in Nano-Scale SOI MOSFET

Yasuhisa Omura and Daisuke Kyokane
Grad. School of Sci. and Eng., Kansai University

Mo P20 (panel #55)

New design of perfect invisibility devices using negative refractive index materials

T. Ochiai(*1), U. Leonhardt(*2) and J.C. Nacher(*3)
*Toyama Prefectural University(*1), University of St Andrews(*2), Future University-Hakodate(*3)*

Mo P21 (panel #57)

Loss Reduction of Si Wire Waveguide on SOI Substrate Prepared by Parallel Plate RIE using Double Layered Resist Mask with C₆₀

Keita Inoue(*1), Dhanorm Plumuwongrot(*1), Nobuhiko Nishiyama(*1), Shinichi Sakamoto(*1), Haruki Enomoto(*1), Shigeo Tamura(*2), Takeo Maruyama(*4), and Shigehisa Arai(*3)
Dept. of Electrical and Electronic Engineering(1), Technical Department(2), Quantum Nanoelectronics Research Center, Tokyo Institute of Technology(3), School of Electrical and Computer Engineering, College of Science and Engineering, Kanazawa University(4)

Mo P22 (panel #59)

Theory Of Optical Properties Of Ultra-Thin Si Layers For Light Emission Transistor Applications

Aleksey Andreev(*1,*2) and David A. Williams(*1)
*Hitachi Cambridge Laboratory(*1), Univ. of Surrey, UK(*2)*

Mo P23 (panel #61)

Near-field photoluminescence imaging of whispering-gallery modes in semiconductor micro-disks with embedded InAs and InP quantum dots

Alexander Mintairov, Yaya Chu(*1), Yan He(*1), James Merz(*1), S.Blokhin(*2), M.Maximov(*2), A.Nadtochy(*2), S.Oktyabrsky(*3), and V.Tokranov(*3)
*University of Notre Dame(*1), Ioffe Physico-Tech. Inst., Russia(*2), SUNY Albany, USA(*3)*

Mo P24 (panel #63)

Discharge Property of MgO Thin Film for Protecting Layer of Plasma Display Panels

L.-Y. Chen, A. Nakao, T. Ikawa, Y. Tanaka, S.-H. Hsiao, J. A. Toque, A. Ide-Ektessabi

Kyoto University

Mo P25 (panel #65)

Analysis of carrier injection mechanism in pentacene FET using time-resolved microscopic optical second harmonic generation measurement

Motoharu Nakao, Takaaki Manaka, Martin Weis, Eunju Lim, and Mitsumasa Iwamoto

Department of Physical Electronics, Tokyo Institute of Technology

Mo P26 (panel #67)

Ultralow-voltage pentacene thin-film transistors with mobility of 0.6 cm²/Vs

Shinya Takatani(*1), Yoshiaki Noguchi(*1), Tsuyoshi Sekitani(*1), Ute Zschieschang(*2), Hagen Klauk(*2), and Takao Someya(*1)

*Quantum-Phase Electronics Center, School of Engineering, The University of Tokyo(*1), Max Planck Institute for Solid State Research(*2)*

Mo P27 (panel #70)

Electrical Characteristics of Short-Channel Polymer Field-Effect Transistors

Takeshi Hirose(*1), Takashi Nagase(*1), Takashi Kobayashi(*1), Rieko Ueda(*2), Akira Otomo(*2) and Hiroyoshi Naito(*1)

*Department of Physics and Electronics, Osaka Prefecture University(*1), National Institute of Information and Communications Technology(*2)*

Mo P28 (panel #73)

Annealing effects on organic memories with ferroelectric copolymer

Koichiro Zaitso, Kiyoshiro Ishibe, Tsuyoshi Sekitani, and Takao Someya

The University of Tokyo

Mo P29 (panel #76)

Study of organic photo FETs with photosensitive polymer as gate dielectric layer

Satoshi Miyagawa(*1), Hiroki Kawai(*2), Takeshi Kawai(*2), Manabu Yoshida(*3), and Toshihide Kamata(*1,3)

*Tsukuba University(*1), Tokyo University of Science(*2), National Institute of Advanced Industrial Science and Technology(*3)*

Mo P30 (panel #79)

A Simple Technique to Modify ITO Glass Substrate for Organic Photovoltaic devices

Rakesh A. Afre, Y. Hayashi, T. Soga and T. Jimbo

Nagoya Institute of Technology

Mo P31 (panel #82)

Non-enzymatic electrochemical H₂O₂ sensor using CuO nanoflowers

Min-Jung Song(*1), Sung-Woo Hwang(*1), and Dongmok Whang(*1,*2)

*Korea Univ.(*1), Sungkyunkwan Univ.(*2)*

Mo P32 (panel #85)

STM Investigation of Electrical Characteristic in Merocyanine Dye Langmuir-Blodgett Films after Heat Treatment

Chang-Heon Yang (*1), Ji-Yoon Lee (*1), Hoon-Kyu Shin (*2), Young-Soo Kwon (*1)
*Dong-A University (*1), POSTECH (*2)*

Mo P33 (panel #88)

Kinetic Energy Transfer by Coupled Vibrations in the Building Blocks of Potential Molecular Capsules

Sándor Kunsági-Maté(*1), Sandor Bakonyi(*1), László Kollár(*2) and Bernard Desbat(*3)
*Department of General and Physical Chemistry, University of Pecs, Hungary(*1), Department of Inorganic Chemistry, University of Pécs, Hungary(*2), Chime et Biochimie des Molécules et Nanosystemes, Unversity of Bordeaux, Pessac, France(*3)*

Mo P34 (panel #111)

Small Amplitude Frequency Modulation AFM on Molecules Using High Resonance Mode

Yoshihiro Hosokawa(*1), Kei Kobayashi(*2), Kazumi Matsushige(*1) and Hirofumi Yamada(*1)
*Department of Electronic Science and Engineering, Kyoto University(*1), Innovative Collaboration Center, Kyoto University(*2)*

Mo P35 (panel #113)

Devising a Nanoprobing System for Measuring the Interaction Force of Single Protein-Carbohydrate Bond

Sungjoo Kim, Wonkyu Moon
Pohang University of Science and Technology

Mo P36 (withdrawn)

Mo P37 (panel #117)

An encoder-like capacitive sensor with the planarized electrode

Daesil Kang, Moojin Kim, Wonkyu Moon
POSTECH

Mo P38 (panel #119)

Current-Voltage Characteristics of GaAs Nano-Scottky Diodes Using InAs Self-Assembled Quantum Dots as Nano-Electrodes; Dependence on Doping Concentration

Ichiro Tanaka(*1), S. Nakatani(*1), K. Uno(*1), I. Kamiya(*2), H. Sakaki(*2)
*Wakayama Univ.(*1), Toyota Technological Institute(*2)*

Mo P39 (panel #129)

Growth of As doped p-type epitaxial ZnO thin films using R.F Magnetron Sputtering

H.K Choi(*1) , S.H Jung(*2) , B.T Lee(*1)
*Chonnam National University(*1), Korea Basic Science Institute(*2)*

Mo P40 (panel #132)

Electrical and structural properties of transparent conducting zinc oxide films prepared by RF-magnetron sputtering

Keigou Maejima, Hajime Shibata, Hitoshi Tampo and Shigeru Niki

National Institute of Advanced Industrial Science and Technology

Mo P41 (panel #135)

Fabrication of ZnO nanorod arrays on Si(111) and a-plane sapphire substrates using aqueous solution with microwave-assisted heating

Ken-ichi Ogata, Kazuto Koike, Shigehiko Sasa, Masataka Inoue and Mitsuaki Yano
Nanomaterials Microdevices Research Center, Osaka Institute of Technology

Mo P42 (panel #138)

Growth and characterization of Ni-doped ZnO thin films

G.Srinivasan, J.Kumar
Crystal Growth Centre, Anna University, Chennai

Mo P43 (panel #141)

Real-time observation of hydrogen production via gas-phase photocatalytic reaction for nanocrystalline titanium dioxides

Kei Noda(*1), Masashi Hattori(*1), Kouichi Amari(*1), Kei Kobayashi(*2), Toshihisa Horiuchi(*3) and Kazumi Matsushige(*1)
*Dept. Electro. Sci. and Eng., Kyoto Univ.(*1), ICC, Kyoto Univ.(*2), Kyoto-Adv. Nanotech. Network(*3)*

Mo P44 (panel #144)

Resistive Switching Characteristics of Epitaxial and Polycrystalline NiO Thin Films

Chanwoo Park(*1), Sang Ho Jeon(*2), Seungwu Han(*3), Bae Ho Park(*2), Sunae Seo(*4), and Dong-Wook Kim(*3)
*Hanyang Univ.(*1), Konkuk Univ.(*2), Ewha Womans Univ.(*3), Samsung Adv. Inst. of Tech.(*4)*

Mo P45 (panel #147)

Wide Hydrogen Sensing Dynamic Range of Silver-rutile Schottky Diode

Mohsen Purahmad
K. N. Toosi University of Technology

Mo P46 (panel #150)

Light confinement by novel multilayered flakes in dye-sensitized solar cells

Takashi Yasuda, Shuhei Ikeda and Shoji Furukawa
Kyushu Inst. of Technology

October 21 (Tuesday)

TuA I Carrier dynamics and quantum information processing in nanostructures

*Chair : T.Hirakawa
Centennial Hall (1F)*

TuA I-1 9:00~9:30 (invited)

Si/SiGe Few-Electron Quantum Dots

M.A. Eriksson(*1), C.B.Simmons(*1), N.Shaji(*1), M.Thalakulam(*1), E.K.Sackmann(*1), B.J.Van Bael(*1), D.E.Savage(*1), M.G.Lagally(*1), R. Joynt(*1), M. Friesen(*1), R. H. Blick(*1), A.J.Rimberg(*2), S. N. Coppersmith(*1)

*University of Wisconsin-Madison(*1), Dartmouth College(*2)*

TuA I-2 9:30~9:45

Coherent transfer of light polarization to electron spins in a semiconductor

H. Kosaka(*1,*2), H. Shigyou(*1), T. Inagaki(*1), Y. Mitsumori(*1,*2), Y. Rikitake(*3), H. Imamura(*2,*4), T. Kutsuwa(*2), M. Kuwahara(*2), K. Edamatsu(*1)

*Tohoku University(*1), CREST(*2), Sendai National College of Technology(*3), National Institute of Advanced Industrial Science and Technology (*4)*

TuA I-3 9:45~10:00

Real-time single photon detection by quantum point contact in quantum dots

T. Asayama(*1,2), E. Totoki(*1), A. Pioda(*1), A. Oiwa(*1,3), and S. Tarucha(*1,3,4)

*Department of Applied Physics, the University of Tokyo(*1), Sony Corp.(*2), ICORP Quantum Spin Information Project, JST(*3), Institute for Nano Quantum Electronics, the University of Tokyo(*4)*

TuA I-4 10:00~10:15

Rabi oscillation and dynamics of excitonic states in a single quantum dot at a telecommunication band

T. Miyazawa(*1), T. Kodera(*1), A. Suzuki(*2), H. Takagi(*2), N. Kumagai(*1), K. Watanabe(*1), T. Nakaoka(*1,*3) and Y. Arakawa(*1,*2,*3)

*Institute for Nano Quantum Information Electronics, the Univ. of Tokyo(*1), Research Center for Advanced Science and Technology, the Univ. of Tokyo(*2), Institute of Industrial Science, the Univ. of Tokyo(*3)*

TuA I-5 10:15~10:30

Excited State Spectroscopy in Side-Coupled Quantum Dots

Tomohiro Otsuka, Eisuke Abe, Yasuhiro Iye and Shingo Katsumoto

Institute for Solid State Physics, University of Tokyo

TuA I-6 10:30~10:45

Escape dynamics of electrons in a single-electron ratchet using silicon nanowire MOSFETs

Satoru Miyamoto(*1,*2), Katsuhiko Nishiguchi(*1), Yukinori Ono(*1), Kohei M. Itoh(*2) and Akira Fujiwara(*1)

*NTT Basic Research Laboratories(*1), Keio University(*2)*

TuA I-7 10:45~11:00

Noise bolometry in coupled mesoscopic systems

Masayuki Hashisaka, Yoshiaki Yamauchi, Shuji Nakamura, Shinya Kasai, Teruo Ono, Kensuke Kobayashi
Kyoto Univ.

Coffee Break (11:00~11:20)

TuA II Nanostructures fabrication

Chair : J.Motohisa

Centennial Hall (1F)

TuA II-1 11:20~11:50 (invited)

Synergetic Nanowire Growth

Magnus T Borgström

Philips research labs Eindhoven(current adress: Solid State Physics, Lund University)

TuA II-2 11:50~12:05

Fabrication of periodically-inverted GaP/AlGaP waveguides for quasi-phase matching nonlinear optical devices

Tomonori Matsushita, Ikuma Ohta and Takashi Kondo

The University of Tokyo

TuA II-3 12:05~12:20

Batch Fabrication of First-Order Grating for DFB Lasers on 3-inches GaAs Substrates by Using UV-Imprint and Chlorine-ICP-RIE Techniques

Masashi Nakao(*1), Shugo Ishizuka(*2), Shingo Kataza(*2), Shuichi Shoji(*2), Shinro Mashiko(*1) and Jun Mizuno(*2)

*National Institute of Information and Communications Technology(*1) and Waseda Univ. (*2)*

TuA II-4 12:20~12:35

The effect of C incorporation on the growth of Ge layer on Si substrate via two-step growth

Hyun-Woo Kim, Keun Wook Shin and Euijoon Yoon

Department of Materials Science and Engineering, Seoul National University

Lunch (12:35~14:00)

TuA III Carbon-based nanomaterials

Chair : Y.Homma

Centennial Hall (1F)

TuA III-1 14:00~14:30 (invited)

Self-standing graphene sheets fabricated by a CVD growing technique

C.Oshima, G.Odawara and T. Ishikawa

Department of Applied Physics, Waseda University

TuA III-2 14:30~14:45

Ink-jet printing of all SWCNT transistors

Haruya Okimoto(*1), Taishi Takenobu(*1), Hiromichi Kataura(*2,*3), Takeshi Asano(*4) and Yoshihiro Iwasa(*1)

*IMR(*1), AIST(*2), JST/CREST(*3), Brother Industries, Ltd(*4)*

TuA III-3 14:45~15:00

Manipulation of single-walled carbon nanotubes with a tweezers tip

Huaping Liu, Shohei Chiashi, Masafumi Ishiguro and Yoshikazu Homma

Tokyo University of Science

TuA III-4 15:00~15:15

Transparent, flexible and conductive CNT containing polymer thin films for electronic applications

Albert G. Nasibulin(*1), Antti O. Kaskela(*1), David Brown(*2), Brad Aitchison(*2), Anton S. Anisimov(*1), Esko I. Kauppinen(*1,*3)

*Helsinki University of Technology(*1), Canatu Oy(*2), VTT Nanobiotechnology(*3)*

TuA III-5 15:15~15:30

Electrical Conduction Control of Carbon Nanowalls Fabricated by Radical-Controlled Plasma Processing

Mineo Hiramatsua(*1), Wakana Takeuchi(*2), Hiroyuki Kano(*3), Yutaka Tokuda(*4), and Masaru Hori(*2)

*Meijo University(*1), Nagoya University(*2), NU Eco-Engineering(*3), Aichi Institute of Technology(*4)*

TuA III-6 15:30~15:45

A New Hybrid Nanomaterial: Carbon NanoBud™ - Fullerene-Functionalised SWCNT

Albert G. Nasibulin(*1), Anton S. Anisimov(*1), Peter V. Pikhitsa(*2), Hua Jiang(*1), Paula Queipo(*1), Anna Moisala(*1), David P. Brown(*7), David Gonzalez(*1), Giulio Lolli(*4), Gunther Lientschnig(*8), Abdou Hassanien(*8), Arkady V. Krashennnikov(*5), Sergey D. Shandakov(*1), Daniel E. Resasco(*4), Mansoo Choi(*2), David Tománek(*6), Esko I. Kauppinen(*1,*3)

*Helsinki University of Technology(*1), Seoul National Univ.(*2), VTT Biotechnology(*3), Univ. of Oklahoma(*4), Helsinki Univ. of Tech(*5), Michigan State Univ.(*6), Canatu Oy(*7), AIST(*8)*

Coffee Break (16:00~16:15)

Panel Session : 16:15~17:45

CNT, Graphene, Spintronics, Quantum Computing - Fashion and Reality, Critical Reviews

Moderator : Jimmy Xu,

Organizer : Yoonsoo Park / Andy Chung

Centennial Hall (1F)

TuB I Oxide semiconductors and nanomaterials III

Chair : H.Tabata

International Conference Hall III (2F)

TuB I-1 9:15~9:45 (invited)

Supercritical Hydrothermal Synthesis of Organic Inorganic Hybrid Nanoparticles

Tadafumi Adschiri

Advanced Institute for Materials Research (WPI-AIRM), Tohoku University

TuB I-2 9:45~10:00

Spatial Distribution of a Two-Dimensional Electron Gas in ZnO / Mg_xZn_{1-x}O Heterostructure Probed by Conducting Polymer Schottky Contact

Masaki Nakano(*1), Atsushi Tsukazaki(*1), Ryosuke Y. Gunji(*1), Kazunori Ueno(*2), Akira Ohtomo(*1), Tomoteru Fukumura(*1), and Masashi Kawasaki(*1,*2,*3)

*Institute for Materials Research, Tohoku University(*1), WPI Advanced Institute for Materials Research,*

Tohoku University(*2), CREST, Japan Science and Technology Agency(*3)

TuB I-3 10:00~10:15

Potentially High Breakdown Field in β -Ga₂O₃ Semiconductors

Takayoshi Oshima(*1), Takeya Okuno(*1), Naoki Arai(*2), Norihito Suzuki(*2), Shigeo Ohira(*2), Shizuo Fujita(*1)

Kyoto Univ.(*1), Nippon Light Metal Company, Ltd.(*2)

TuB I-4 10:15~10:30

Defects characterization in ZnO Schottky contact and homogeneous p-n junction

C. C. Ling(*1), Q. L. Gu(*1), C. Y. Zhu(*1), Y. F. Hsu(*1), A. B. Djurisic(*1), G. Brauer(*2), W. Anwand(*2), W. Skorupa(*2)

The University of Hong Kong(*1), Forschungszentrum Dresden-Rossendorf(*2)

Coffee Break (10:30~10:50)

TuB II Nanomechanics, nanoprobng and applications

Chair : T.Ono

International Conference Hall III (2F)

TuB II-1 10:50~11:20 (invited)

Next Generation Ferroelectric High Density Data Storage Based on Scanning Nonlinear Dielectric Microscopy

Yasuo Cho, Yohiomi Hiranaga, Kenkou Tanaka, Yuichi Kurihashi, and Tomoya Uda

Research Institute of Electrical Communication, Tohoku University

TuB II-2 11:20~11:35

Integrated Circuit / Microfluidic Chips for Biology and Medicine

R.M. Westervelt(*1), T. Hunt(*2), H. Lee(*3), D. Issadore(*1), K.A. Brown(*1), Y. Liu(*1), D. Ingber(*4) and D. Ham(*1)

*School Eng and Applied Sciences, Harvard Univ(*1), Dept Bioengineering, UC Berkeley(*2), Center for Molecular Imaging, MGH(*3), Childrens Hospital, Harvard Medical School(*4)*

TuB II-3 11:35~11:50

Spatial Observation of Spin-Resolved Landau Levels on an Adsorbate-Induced Two-Dimensional Electron System

Katsushi Hashimoto(*1,*2,*3), C. Sohrmann(*4), J. Wiebe(*1), T. Inaoka(*5), Y. Hirayama(*2,*3), R. A. Roemer(*4), R. Wiesendanger(*1), and M. Morgenstern(*6)

*Institute of Applied Physics, Hamburg University(*1), Department of Physics, Tohoku University(*2), JST-ERATO Nuclear Spin Electronics Project(*3), Department of Physics and Center for Scientific Computing, University of Warwick(*4), Department of Physics and Earth Sciences, University of the Ryukyus(*5), and II. Institute of Physics B and JARA-FIT, RWTH Aachen University(*6)*

TuB II-4 11:50~12:05

In-plane conductance images of few-layer graphene on SiC substrate

Masao Nagase, Hiroki Hibino, Hiroyuki Kageshima and Hiroshi Yamaguchi

NTT Basic Research Labs., Nippon Telegraph and Telephone Corp.

TuB II-5 12:05~12:20

Individual characterization of non-uniform hole-injection barriers in organic FET via scanning gate microscopy

Nobuyuki Aoki, Kouhei Sudou, Kazutaka Matsusaki and Yuichi Ochiai
Chiba University

TuB II-6 12:20~12:35

Synchronized micromechanical elements for resonance sensing

Jinyang Feng(*1), Takahito Ono(*1), Masayoshi Esashi(*2)
*Graduate School of Engineering, Tohoku University(*1), The World Premier International Research Center Initiative for Atom Molecule Materials, Tohoku University(*2)*

Lunch (12:35~14:00)

TuB III Organic materials and devices I

Chair : T.Minakata

International Conference Hall III (2F)

TuB III-1 14:00~14:30 (invited)

Structure Modification for High Efficiency White Organic Light Emitting Diode

Ji Hoon Seo(*1), Seung Soo Yoon(*2), Young Kwan Kim(*1)
*Dept. of Information Display, Hongik University(*1), Dept. of Chemistry, Sungkyunkwan University(*2)*

TuB III-2 14:30~15:00 (invited)

Organic TFTs for Flexible Display Application

K. Nomoto, I. Yagi, N. Hirai, M. Noda, N. Yoneya, R. Yasuda, A. Yumoto(*), and J. Kasahara
Fusion Domain Laboratory, Advanced Materials Laboratories, Sony Corporation, Display Device Development Group, SONY Corporation()*

TuB III-3 15:00~15:15

Color Tunable White Light Organic Light Emitting Diodes with Conducting Polymer and Phosphorescent Materials

Kunitoshi Kimpara, Hirotake Kajii, Yutaka Ohmori
Osaka University

TuB III-4 15:15~15:30

Field-Induced Disorder and Carrier Localization in Molecular Organic Transistors

Masahiko Ando(1*), T. Minakata(*2), C. Duffy(*3), J. Winfield(*3), and H. Sirringhaus(*3)
*Hitachi Cambridge Lab.(*1), Asahi-Kasei R&D Center(*2), Cavendish Lab.(*3)*

TuB III-5 15:30~15:45

Inverter circuits using p-type organic thin-film transistors by subfemtoliter inkjet

Tomoyuki Yokota(*1), Yoshiaki Noguchi(*1), Tsuyoshi Sekitani(*1), Ute Zschieschang(*2), Hagen Klaukand(*2) Takao Someya(*1)

*University of Tokyo(*1), Max Planck Institute(*2)*

TuB III-6 15:45~16:00

Fabrication of Field Effect Transistor Using Organic Gate-Insulator

Kosuke Narita(*1), Hiroshi Yamauchi(*1), Masaaki Iizuka(*2), Shigekazu Kuniyoshi(*1) and Kazuhiro Kudo(*1)

*Electrical and Electronic Course, Graduate School of Engineering, Chiba University(*1), Faculty of Education(*2)*

Coffee Break (16:00~16:15)

TuC I Nitride-based lasers and nanophotonics

Chair : Y.Ishitani

Conference Hall III (2F)

TuC I-1 9:00~9:30 (invited)

Surface Emitting Nitride Laser Diode Using Photonic Crystal

Susumu Noda

Kyoto University

TuC I-2 9:30~10:00 (invited)

Emission Enhancement of Light-emitting Diode through Surface Plasmon Coupling

Dong-Ming Yeh, Cheng-Yen Chen, Yen-Cheng Lu, Kun-Ching Shen, Jyh-Yang Wang, Wen-Hung Chuang, Yean-Woei Kiang, and C. C. Yang

Institute of Photonics and Optoelectronics, National Taiwan University, Taipei, Taiwan

TuC I-3 10:00~10:15

Polarization control of semipolar-oriented InGaN quantum-well emission by utilizing (Al)InGaN alloy substrates

A. Atsushi Yamaguchi

Kanazawa Institute of Technology

TuC I-4 10:15~10:30

New Experimental Method for the Study of Energy Contours in Momentum Space of NANO-Structured Semiconductors with large Band Gaps using photo-assisted Field Emission of Electrons

O. Yilmazoglu (*1), D. Pavlidis(*1), H.L. Hartnagel(*1), V. Litovchenko, A. Evtukh(*2), A. Grygoriev(*2), and N. Semenenko(*2)

*Technical University Darmstadt (*1), Institute of Semiconductor Physics (*2)*

Coffee Break (10:30~10:50)

TuC II Advanced nitride-based light emitting diodes

Chair : A.Yamaguchi

Conference Hall III (2F)

TuC II-1 10:50~11:20 (invited)

Photonic Crystal and Surface Plasmon for High Efficiency GaN-Based Light-Emitting Diode

Min-Ki Kwon, Ja-Yeon Kim, and Seong-Ju Park

Dept. of Material Science & Engineering, Gwangju Institute of Science and Technology(GIST), Korea

TuC II-2 11:20~11:50 (invited)

GaN/ZnO Heterojunction Light Emitting Diodes

A. B. Djurišić(*1), L. Ge(*1), Y. Y. Xi(*1), Y. F. Hsu(*1), A. M. C. Ng(*1), P. W. K. Fong(*2), C. Surya(*2), W. K. Chan(*1), K. W. Cheah(*3)

*University of Hong Kong(*1), Hong Kong Polytechnic University(*2), Hong Kong Baptist University(*3)*

TuC II-3 11:50~12:05

Emission-color control of well-arranged GaN nanocolumns on the same substrate by changing the nanocolumn size and period

Hiroto Sekiguchi(*1,*2,*3), Katsumi Kishino(*1,*2,*3), Akihiko Kikuchi(*1,*2,*3)

*Sophia Univ. (*1), Sophia Nanotechnology Research Center(*2), CREST, JST(*3)*

TuC II-4 12:05~12:20

Radiative lifetime analysis on ultra thin InN/GaN-quantum well structures by transient photoluminescence measurements

Y. Omori, Y. Ishitani, N. Hashimoto, H. Saito, E. Hwang, S. B. Che, and A. Yoshikawa

Chiba University

TuC II-5 12:20~12:35

Electrical effects of laser irradiation on metal contact to N-polar GaN surface

Jin-Bock Lee, Jin-Hyun Lee, Jong-In Yang, Jae-Woong Han, Seong-Suk Lee, Hee-Seok Park

Central R&D Institute, Samsung electro-mechanics CO.,LTD

Lunch (12:35~14:00)

TuC III Spin injection and devices

Chair : K.Ando

Conference Hall III (2F)

TuC III-1 14:00~14:30 (invited)

Current Induced Spin-Wave Emission from Ferromagnetic Nano-Structures

B. Hillebrands(*1), H. Schultheiss(*1), F. Ciubotaru(*1), A. Laraoui(*1), M. van Kampen(*2), L. Lagae(*2), and A. N. Slavin(*3)

*Fachbereich Physik and Forschungszentrum OPTIMAS, TU Kaiserslautern, Kaiserslautern, Germany(*1), IMEC, Leuven, Belgium(*2), Oakland University, Rochester, MI, USA(*3)*

TuC III-2 14:30~15:00 (invited)

Racetrack Memory : a current-controlled domain wall shift register

Stuart S. P. Parkin

IBM, USA

TuC III-3 15:00~15:15

Real-time detection of the vortex core dynamics by using TMR effect

Shinya Kasai(*1), Kunihiro Nakano(*1), Keisuke Yamada(*1), Kouta Kondou(*1), Norikazu Ohshima(*2), Yoshinobu Nakatani(*3), Kensuke Kobayashi(*1) and Teruo Ono(*1)
*Kyoto Univ. (*1), NEC(*2), Univ. of Electro-Communications(*3)*

TuC III-4 15:15~15:45 (invited)

A Scalable Spin Torque Transfer MRAM with perpendicular magnetization TMR elements

H.Yoda(*1), T.Kishi(*1), T.Nagase(*1), M.Yoshikawa(*1), E.Kitagawa(*1), T.Daibou(*1), K.Nishiyama(*1), T.Kai(*1), N.Shimomura(*1), M.Nakayama(*1), M.Amano(*1), H.Aikawa(*1), S.Takahashi(*1), S.Ikegawa(*1), M.Nagamine(*1), J.Ozeki(*1), S.Yuasa(*2), Y.Nakatani(*3), M.Oogane(*4), Y.Ando(*4), Y.Suzuki(*5), T.Miyazaki(*6), and K.Ando(*2)
*Toshiba Corporation(*1), AIST(*2), The Univ. of Electro-Communications(*3), Dept. Appl. Phys., Tohoku Univ.(*4), Osaka Univ.(*5), WPI-AIMR, Tohoku Univ.(*6)*

TuC III-5 15:45~16:00

Nanoimprint Mold Fabrication for Patterned Media Using Ordered Nanosphere Array Templates

Hirota Oshima(*1), Hiroaki Tamura(*2), Mitsuo Takeuchi(*2), Yoshiaki Yanagida(*2), Naohisa Matsushita(*2), Akihiro Inomata(*1), Takuya Uzunaki(*1), and Atsushi Tanaka(*1)
*Fujitsu Laboratories Ltd.(*1), Fujitsu Ltd.(*2)*

Coffee Break (16:00~16:15)

Poster Session 16:15~17:45

Tu P1 (panel #2)

Optical Properties of Colloidal GaAs Quantum Dots Fabricated by Laser Ablation in Liquid Media

A.A Lalayan, A. P. Djotyan, A. A. Avetisyan
Yerevan State University

Tu P2 (panel #5)

Composition Controlled InAsP/InP Nanowires Fabricated by Selective-Area Metalorganic Vapor Phase Epitaxy

Yasunori Kobayashi(*1), Katsuhiko Tomioka(*1,*2), Takashi Fukui(*1,*2) and Junichi Motohisa(*1)
*Graduate School of Information Science and Technology, Hokkaido University.(*1), Research Center for Integrated Quantum Electronics, Hokkaido University.(*2)*

Tu P3 (panel #8)

35 nm T-gate Double Delta Doped $\text{In}_{0.52}\text{Al}_{0.48}\text{As}/\text{In}_{0.53}\text{Ga}_{0.47}\text{As}$ Metamorphic GaAs HEMTs With an Ultrahigh f_{max} of 620 GHz

D. Y. Choi(*1), S. Kim(*1), G. B. Choi(*1), S.W. Jung(*2) and Y.H. Jeong(*1,*2)
*Pohang University of Science and Technology(*1), National Center for Nanomaterials Technology(*2)*

Tu P4 (panel #11)

The Role of the Solution Permittivity in the Stability of Aniline/SWCNT Interaction in Alcoholic Solvents

Beáta Peles-Lemli(*1), Péter Ács(*2), László Kollár(*2) and Sandor Kunsági-Máté(*1)

*Department of General and Physical Chemistry, University of Pécs, Hungary(*1), Department of Inorganic Chemistry, University of Pécs, Hungary(*2)*

Tu P5 (panel #14)

Dry Processed Single-walled Carbon Nanotube Network Thin-film Transistors

Marina Y. Zavodchikova(*1), Tero Kulmala(*2), Albert G. Nasibulin(*1), Kestutis Grigoras(*2), Anton S. Anisimov(*1), Sami Franssila(*2), Vladimir Ermolov(*3) and Esko I. Kauppinen(*1)

*NanoMaterials Group, Laboratory of Physics and Center for New Materials, Helsinki University of Technology, Espoo, Finland(*1), Microfabrication Group, Micro and Nanosciences Laboratory, Helsinki University of Technology, Espoo, Finland(*2), Nanoscience laboratory, Nokia Research Center, Helsinki, Finland(*3)*

Tu P6 (panel #17)

Metal oxide nanorod synthesis by oxidation in air

Simas Rackauskas(*1), Albert G. Nasibulin(*1), Hua Jiang(*1), Prasantha Reddy(*1), Gintare Statkute(*2), Jani Sainio(*3), Harri Lipsanen(*2), and Esko I. Kauppinen(*1,*4)

*Helsinki University of Technology(*1), Optoelectronics lab., Helsinki Univ. of Tech.(*2), Laboratory of Phys., Helsinki Univ. of Tech.(*3)*

Tu P7 (panel #21)

Structure of Aggregate Formed by the Hydrotropic para-Toluene Sulfonate with Hydroxyacetophenone Derivatives

Kornélia Szabó(*1), Peijie Wang(*2), Fang Yan(*2), Sándor Kunsági-Máté(*1)

*Department of General and Physical Chemistry, University of Pécs, Hungary(*1), Key Laboratory for Nano-Photonics and Nano-Structure, Capital Normal University, Beijing, China(*2)*

Tu P8 (panel #25)

Reliability of HfO₂/SiO₂ Dielectric with Strain Engineering using CESL Stressor

J. C. Kim(*1), K. T. Lee(*1), S. H. Song(*1), S. H. Hong(*1), M. S. Park(*1), H. S. Choi(*1), G. B. Choi(*1), R. H. Baek(*1), H. C. Sagong(*1), S. W. Jung(*2), C. Y. Kang(*3) and Y. H. Jeong(*1,2)

*Pohang University of Science and Technology(*1), National Center for Nanomaterials Technology(*2), SEMATECH(*3)*

Tu P9 (panel #28)

Gate-Induced Drain Leakage (GIDL) Performance of Strain Engineering using CESL Stressor with High-k gate dielectric

S. H. Song(*1), J. C. Kim(*1), K. T. Lee(*1), S. H. Hong(*1), M. S. Park(*1), G. B. Choi(*1), H. S. Kim(*1), R. H. Baek(*1), H. C. Sagong(*1), S. W. Jung(*2), C. Y. Kang(*3), and Y. H. Jeong(*1,*2)

*POSTECH(*1), NCNT(*2), SEMATECH(*3)*

Tu P10 (panel #31)

Design Consideration for Source/Drain and LDD Junction of FiReFET

Jae Young Song, Jong Pil Kim, Sang Wan Kim, Jae Hyun Park, Ga Ram Kim, Jong Duk Lee and Byung-Gook Park

Seoul National University

Tu P11 (panel #34)

Stacked Vertical Channel (SVC) NOR Flash Memory

Jang-Gn Yun, Il Han Park, Seongjae Cho, Jung Hoon Lee, Dong Hua Lee, Doo-Hyun Kim, Gil Sung Lee, Yoon Kim, Se-Hwan Park, Won Bo Sim, Wandong Kim, Jong-Duk Lee and Byung-Gook Park
Seoul National University

Tu P12 (panel #37)

Optical Response of Layers of Embedded Semiconductor Nano-Objects: From Quantum Mechanics to Ellipsometry and Back

Thu Le Minh and O. Voskobyonikov

Department of Electronics Engineering, National Chiao Tung University, Taiwan

Tu P13 (panel #40)

Exciton dynamics in GaNAs/GaAs multiple quantum well

Akinobu Kittaka(*1), Kensuke Fujii(*1), Kazuki Kawasima(*1), Hideki Hari(*1), Noriaki Tsurumachi(*1), Shunsuke Nakanishi(*1), Hideofumi Akiyama(*2), Shyun Koshiba(*1) and Hiroshi Itoh(*1)

*Kagawa University(*1), Institute of Solid State Physics, University of Tokyo(*2)*

Tu P14 (panel #43)

Optical responses in a quantum dot and quantum point contact for quantum media conversion from a photon to an electron spin

Makoto Kuwahara(*1), Takeshi Kutsuwa(*1), Keiji Ono(*2,*1), Hideo Kosaka(*1,*3)

*JST-CREST(*1), RIKEN(*2), Tohoku Univ.(*3)*

Tu P15 (panel #46)

Optimization of Quantum Detector of Noise Based on Multiple Asymmetric Superconducting Rings

V.L. Gurtovoi (*1), M. Exarchos(*2), R. Shaikhaidarov(*2), V.N. Antonov(*2), A.V. Nikulov(*1) and V.A. Tulin(*1)

*Inst. of Microelectronics Technology Russian Academy of Sci. (*1), Physics Dep. Royal Holloway University of London (*2)*

Tu P16 (panel #49)

Torsion-induced AB oscillation in a twisted coherent ring

Hisao Taira and Hiroyuki Shima

Department of Applied Physics, Graduate School of Engineering, Hokkaido University

Tu P17 (panel #52)

Transport and Low-Frequency Noise Properties of $\text{In}_{0.52}\text{Al}_{0.48}\text{As}/\text{In}_x\text{Ga}_{1-x}\text{As}$ 2D Electron Gas Devices

Jan Pavelka(*1), Nobuhisa Tanuma(*2), Munecazu Tacano(*2), Josef Šikula(*1) and Peter Handel(*3)

*Brno University of Technology(*1), Meisei University(*2), University of Missouri(*3)*

Tu P18 (panel #56)

Effect of cavity mode volume on enhancement of photoluminescence from silicon photonic crystal nanocavities

Shigeru Nakayama, Satoshi Ishida, Satoshi Iwamoto, and Yasuhiko Arakawa

University of Tokyo

Tu P19 (panel #58)

Growth and optical characterizations of Si:Ge alloy nanowires for photonic applications

Jee-Eun Yang(*1), Won-Hwa Park(*2), Zee Hwan Kim(*2) and Moon-Ho Jo(*1),
*Pohang University of Science and Technology (*1), Korea University(*2)*

Tu P20 (panel #60)

Photoinduced Switching Characteristic of Azafullerene Encapsulated Single-Walled Carbon Nanotubes

Yongfeng Li, Toshiro Kaneko, Rikizo Hatakeyama
Tohoku University

Tu P21 (panel #62)

GHz message transmission in VCSEL-based optical chaos communications

Yanhua Hong, Min Won Lee, Jon Paul, Paul S. Spencer and K. Alan Shore
Bangor University, Wales, UK

Tu P22 (panel #68)

Channel length dependence of DC bias stress effect in organic field-effect transistors at high temperatures

Kenjiro Fukuda, Tsuyoshi Sekitani, and Takao Someya
Quantum-Phase Electronics Center, School of Engineering, The University of Tokyo

Tu P23 (panel #71)

Electric-Field-Dependent Field-Effect Mobilities of C₆₀ Thin-Film Transistors with Bottom Contact Structure

Masatoshi Kitamura(*1), Shigeru Aomori(*1,*2), Jong Ho Na(*1) and Yasuhiko Arakawa(*1)
*Univ of Tokyo (*1), Sharp Co. (*2)*

Tu P24 (panel #74)

Effect of Thermal Annealing on Structure and Morphology of F₁₆CuPc/ α 6T pn Heterojunction

Rongbin Ye(*1), Yujin Ishii(*1), Mamoru Baba(*1), Koji Ohta(*1), and Kazunori Suzuki(*2)
*Faculty of Engineering, Iwate University(*1), Iwate Industrial Research Institute(*2)*

Tu P25 (panel #77)

Enhanced Lifetime of Luminescent Polymer Coated by Silane-Based Sol-Gel Glass

Takeshi Fukuda, Shuhei Yamauchi, R. Kobayashi and Norihiko Kamata
Saitama university

Tu P26 (panel #80)

Piezoelectric membrane sensor with ZnO nanostructures for label free detection of bio-molecules

Sankyu Lee(*1), Yeolho Lee(*1), Sangmin Jeon(*2), H. J. Cha(*2) and Wonkyu Moon(*1)
*Department of Mechanical Engineering in POSTECH (*1), Department of Chemical Engineering in POSTECH (*2)*

Tu P27 (panel #83)

Electrical Measurement of Conjugated Molecular Wires using Nanogap Electrodes

Takashi Nagase(*1), Hiroyoshi Naito(*1), Toshifumi Terui(*2), Kenji Gamo(*2), Michio M. Matsushita(*3) and Tadashi Sugawara(*4)
*Osaka Pref. Univ. (*1), NICT (*2), Nagoya Univ. (*3), Univ. of Tokyo (*4)*

Tu P28 (panel #86)

Nanoscale liquid printing method using an AFM tip

Kiyohiro Kaisei(*1), Kei Kobayashi(*2), Hirofumi Yamada(*1) and Kazumi Matsushigea(*1)

*Dept. of Electronic Sci. and Eng., Kyoto Univ.(*1), Innovative Collaboration Center, Kyoto Univ.(*2)*

Tu P29 (panel #90)

Dependence of Spin-Transfer Torque Switching Characteristics on Process Parameter of Ar flow rate

Keewon Kim(*1), Woojin Kim(*2), Se Chung Oh(*2), Kyung-Tae Nam(*2), Dae Kyom Kim(*2), Younghyun Kim(*2), Jun Ho Jeong(*2), Seung-Yeol Lee(*2), Jang Eun Lee(*2)

*Semiconductor Device Lab. Samsung Advanced Institute of Technology (SAIT)(*1), Process Development Team, Samsung Electronics Co., Ltd.(*2)*

Tu P30 (panel #93)

Current and Field Induced Domain Wall Motion in NiFe and NiFePt Nano-Wires

T. Ochiai(*1), H. Ashida(*1), Y. Shimizu(*1), K. Nagasaka(*1) and A. Tanaka(*1), H. Tanigawa(*2), S. Kasai(*2) and T. Ono(*2)

*Fujitsu Ltd.(*1), Kyoto University(*2)*

Tu P31 (panel #96)

Single Shot Detection of the Magnetic Domain Wall Motion by Using the Tunnel Magnetoresistance Effect

Kouta Kondou(*1), Norikazu Ohshima(*2), Shinya Kasai(*1), Yoshinobu Nakatani(*3) and Teruo Ono(*1)
*Institute for Chemical Research, Kyoto University(*1), Device Platforms Reseach Laboratories, NEC Corp.(*2), University of Electro-communications(*3)*

Tu P32 (panel #99)

Electrical detection of the vortex core dynamics by using TMR effect

Kunihiro Nakano(*1), Shinya Kasai(*1), Keisuke Yamada(*1), Kouta Kondou(*1), Norikazu Ohshima(*2), Yoshinobu Nakatani(*3), Kensuke Kobayashi(*1), and Teruo Ono(*1)

*Institute for Chemical Research, Kyoto University.(*1) Device Platforms Research Laboratory, NEC Corporation.(*2) University of Electro-Communications.(*3)*

Tu P33 (panel #101)

Current-Driven Domain Wall motion in ferromagnetic nano-wires with Perpendicular Magnetic Anisotropy

Tomohiro Koyama(*1), Tanigawa Hironobu(*1), Norikazu Ohshima(*2), Shunsuke Fukami(*2), Nobuyuki Ishiwata(*2), Shinya Kasai(*1), Teruo Ono(*1)

*Institute for Chemical Research, Kyoto University(*1), Device Platforms Research Laboratory, NEC Corporation(*2)*

Tu P34 (panel #103)

Domain wall motion induced by a pulsed-current in a NiFe wire

Hironobu Tanigawa, Tomohiro Koyama, Kouta Kondou, Shinya Kasai, and Teruo Ono

Institute for Chemical Research, Kyoto University

Tu P35 (panel #105)

Perturbation theory of charge current driven by magnetization dynamics

Kazuhiro Hosono, Akihito Takeuchi and Gen Tatara
Tokyo Metropolitan University

Tu P36 (panel #107)

Kondo effect in CoFeB/MgO/CoFe magnetic tunnel junctions

Do Bang(*1), T. Nozaki (*1), Y. Suzuki (*1), M. Shiraishi (*1), H. Kubota (*2), A. Fukushima (*2), and S. Yuasa (*2)

*Graduate School Engineering Science, Osaka Univ. (*1), Nanoelectronics Institute, AIST, Tsukuba (*2)*

Tu P37 (panel #109)

Anomalous Hall Effect Caused by Circular Spin Current

Katsuhisa Taguchi, Gen Tatara

Tokyo Metropolitan University

Tu P38 (panel #112)

Microprobe with Electrostatic Microactuator for TOF-MA combined SFM

Chuaun-Yu Shao, Yusuke Kawai, Takahito Ono, Mashayoshi Esashi

Tohoku University

Tu P39 (panel #114)

New Technique of Scanning Probe Parallel Nanolithography Using Individually Driving Multi-Probe Cantilever Array

Yoshitada Isono(*1), Naoki Watanabe(*2), Tohru Sasaki(*3), Toshihiko Nagamura(*3) and Toshihiko Ochi(*4)

*Kobe Univ. (*1), Ritsumeikan Univ. (*2), Unisoku Co., Ltd. (*3), Sumitomo Precision Products Co., Ltd. (*4)*

Tu P40 (panel #116)

Experimental Investigation on Nonlinearity of Single Crystal Silicon Nanocantilevers

Yonggang Jiang, Takahito Ono, Jinyang Feng, Masayoshi Esashi

Tohoku University

Tu P41 (panel #118)

Laser Ablation for Embedded 3D Microfluidic Devices

Christopher Walker, Axel Scherer

California Institute of Technology

Tu P42 (panel #121)

GaN epitaxial films on Si substrates with complex buffer on the basis of a porous material

Yury Buzynin(*1), Andrey Lukyanov(*1), Mikhail Drozdov(*1), Yury Drozdov(*1), Oleg Khrykin(*1), Alexander Buzynin (*2)

*Institute for Physics of Microstructures, Russian Academy of Sciences, Nizhny Novgorod, Russia (*1); A.M.Prokhorov General Physics Institute, Russian Academy of Sciences, Moscow, Russia (*2)*

Tu P43 (panel #123)

Fabrication of surface-coated GaN crystallites deposited on Si substrates

Takashi Okuhata, Kazuki Tomioka, Masashi Sawadaishi, Satoru Taguchi and Tohru Honda

Kogakuin University

Tu P44 (panel #125)

Field-Plate Effects on Buffer-Related Current Collapse in AlGaIn/GaN HEMTs

Atsushi Nakajima, Keiichi Itagaki and Kazushige Horio

Shibaura Institute of Technology

Tu P45 (panel #127)

The study on the emission mechanism and thermal behaviors of AlInGaIn deep ultraviolet light-emitting diodes

Jicai Zhang(*1), Youhua Zhu(*1), Takashi Egawa(*1), Shigeaki Sumiya(*2), Makoto Miyoshi(*2), and Mitsuhiro Tanaka(*2)

*Nagoya Institute of Technology(*1), NGK Insulators, Ltd.(*2)*

Tu P46 (panel #130)

Realization of (Al,N)-codoped P-type ZnO Films by Using ZnO:Al₂O₃ Target and DC Magnetron Sputtering

Hu-Jie Jin, Yan-Yan Liu, Yong-Kab Kim and Choon-Bae Park

Wonkwang University

Tu P47 (panel #133)

Photoluminescence property of ZnO film grown by metalorganic chemical vapor deposition

Masatomo Sumiya(*1), Kenji Watanabe(*1), Eiji Fujimoto(*1), and Hideomi Koinuma(*1,*2)

*National Institute for Materials Science (*1), Graduate School of Frontier Sciences, Tokyo University (*2)*

Tu P48 (panel #136)

Electrochemical-Selective Growth of Nano-sized ZnO Crystals

Kazuyuki Uno, Tsutomu Ina, Takayuki Asaoka, Tadayuki Kanda, Yoshinori Ishii, and Ichiro Tanaka

Faculty of Systems Engineering, Wakayama University

Tu P49 (panel #139)

Repeated temperature modulation epitaxy of Sr_{n+1}Ti_nO_{3n+1} Ruddlesden-Popper homologous series

Masaki Okude(*1), Akira Ohtomo(*1), Takuji Kita(*2) and Masashi Kawasaki(*3,*4)

*Institute for Materials Research, Tohoku Univ.(*1), Toyota Motor Corporation(*2), WPI Advanced Institute for Materials Research and Institute for Materials Research, Tohoku Univ. (*3), CREST, Japan Science and Technology Agency(*4)*

Tu P50 (panel #142)

Hydrothermal Treatment for TiO₂ (B) nano-fibers under High Magnetic Field

Akira Narai(*1), Yusaku Nogi(*2), Toshihiro Harada(*2), Keigo Nishimura(*2), Takashi Miki(*1), Masaki Kato(*2) and Ken Hirota(*2)

*KOBE STEEL LTD.(*1), Doshisha University(*2)*

Tu P51 (panel #145)

A new switching behavior of Pt/TiO_x/Pt Schottky diode

Ni Zhong, Hisashi Shima, and Hiro Akinaga

Nanotechnology Research Institute (NRI), National Institute of Advanced Industrial Science and Technology (AIST), and JST, CREST

Tu P52 (panel #148)

Properties of PAI-nano silica hybrid coating treated with APTES silane coupling

Se Won Han, Dong Hee Han, and Dong Pil Kang

KERI(Korea Electrotechnology Research Institute), Nanohybrid Materials Research Group, Korea

October 22 (Wednesday)

Plenary Session II 9:00~10:20

Chair : S.Fujita, Y.-H. Jeong

Centennial Hall (1F)

Plenary II-1 9:00~9:40

Graphene: Magic of Flat Carbon

Andre Geim

Centre for Mesoscience & Nanotechnology, University of Manchester, UK

Plenary II-2 9:40~10:20

Recent Progress on Tunnel Magnetoresistance and Its Applications

Shinji Yuasa(*1), Rie Matsumoto(*1,*2), Akio Fukushima(*1), Hitoshi Kubota(*1), Kay Yakushiji(*1), Taro Nagahama(*1), Koji Ando(*1), and Yoshishige Suzuki(*1,*2)

*National Institute of Advanced Industrial Science and Technology (AIST), Japan(*1), Osaka Univ.(*2)*

Coffee Break (10:20~10:40)

Poster Session 10:40~12:10

We P1 (panel #3)

Improved Emission Efficiency from 1.3 μm InAs/GaAs Quantum Dots by Growing the Initial Part of Capping Layer at Low Temperatures

Tao Yang, Haiming Ji, Yulian Cao, Wenquan Ma, Qing Cao, and Lianghai Chen

Institute of Semiconductors, Chinese Academy of Sciences

We P2 (panel #6)

The study of bimodal phenomena of InAs quantum dots through post-growth antimony exposure by metalorganic chemical vapor deposition

Uk Sim, Jungsub Kim, Changjae Yang, Jaeyel Lee and Euijoon Yoon

Seoul National University

We P3 (panel #9)

Low temperature deterministic growth of Ge nanowires using solid Cu catalysts

Kibum Kang, Dong-An Kim, and Moon-Ho Jo

Pohang University of Science and Technology (POSTECH)

We P4 (panel #12)

Influence of pH on Solubility of Single-walled Carbon Nanotubes Treated by Microplasma in Aqueous Solution

Kiminobu Imasaka, Usama Khaled and Junya Suehiro
Kyushu University

We P5 (panel #15)

Ink-jet printing of metallic and semiconducting SWCNTs

Haruya Okimoto(*1), Taishi Takenobu(*1), Kazuhiro Yanagi(*2,3), Yasumitsu Miyata(*2), Hiromichi Kataura(*2, 3), Takeshi Asano(*4) and Yoshihiro Iwasa(*1)
*IMR(*1), AIST(*2), JST/CREST(*3), Brother Industries, Ltd(*4)*

We P6 (panel #18)

Rapid Synthesis of Well-crystalline Nanosized Magnesium Hydroxide: Influence of Ultrasound

Jun Li, Guoyi Tang, Junxi Wan, Guolin Song and Zhansong Yin
Advanced Materials Institute, Graduate School at Shenzhen, Tsinghua University

We P7 (panel #20)

Entropy Driven Changes in the Solvation Shell of Anthracene Molecules in Binary Mixtures of Protic Alcoholic Solvents

Sándor Kunsági-Máté(*1) and Koichi Iwata(*2)
*Department of General and Physical Chemistry, University of Pécs, Hungary(*1), Research Centre for Spectrochemistry, University of Tokyo, Japan (*2)*

We P8 (panel #23)

Fianit- multifunctional material for electronic

A.N.Buzynin(*1), V.V.Osiko(*1), Yu.N.Buzynin(*2), M.N.Drozdov(*2), E.E.Lomonova (*1), A.E.Lukyanov(*1), V.M.Daniltsev (*2), O.I.Khrykin(*2), M.A.Trishenkov(*3)
*A.M.Prokhorov General Physics Institute, Russian Academy of Sciences, Moscow, Russia(*1), Institute for Physics of Microstructure, Russian Academy of Sciences, Nizhny Novgorod, Russia(*2), Federal State Unitary Enterprise Research and Production Association ORION(*3)*

We P9 (panel #26)

Temperature dependent performances of nMOSFET with HfLaSiO gate dielectric

S. H. Hong(*1), K. T. Lee(*1), J. C. Kim(*1), H. S. Choi(*1), G. B. Choi(*1), R. H. Baek(*1), M. S. Park(*1), S. H. Song(*1), H. C. Sagong(*1), S. W. Jung(*2), C. Y. Kang(*3), Y. H. Jeong(*1,*2)
*Pohang university of science and technology(*1), National center for nanomaterials technology(*2), SE-MATECH(*3)*

We P10 (panel #29)

A Novel Series-resistance Extraction Method for Nano-scaled nMOSFETs Considering Mobility Degradation due to V_{bs}

Rock-Hyun Baek(*1), Gil-Bok Choia(*1), Hee-Sung Kang(*2), Sung-Woo Jung(*3), and Yoon-Ha Jeong(*1,3)
*POSTECH(*1), System LSI Division Samsung Co.(*2), National Center for Nanomaterials Technology(*3)*

We P11 (panel #32)

Anomalous Temperature Dependence of Electron Mobility in Si MOSFETs with p+poly-Si Gates

Kyung Hwa Park(*1), Kazuhiko Hirakawa(*1), and Shinichi Takagi(*2)
*Institute of Industrial Science, University of Tokyo(*1), Department of Electrical Engineering and Information Systems, University of Tokyo(*2)*

We P12 (panel #35)

Design Considerations for Gated Twin-Bit (GTB) Nonvolatile Memory Device Regarding Leakage Current

Seongjae Cho, Yoon Kim, Se Hwan Park, Jong Duk Lee, Hyungcheol Shin and Byung-Gook Park
Seoul National University

We P13 (panel #38)

Virtual Photonic Couplings of Quantum Nanostructures

Hideaki Matsueda(*1), Jorn M. Hvam(*2), Yann Ducommun(*3) and Eli Kapon(*3)
*Kochi University(*1), Technical University of Denmark(*2), EPFL(*3)*

We P14 (panel #41)

Excitons in the stacks of ZnSe/CdSe quantum dots

Lia Trapaidze, Tamaz Kereselidze and Tamar Tchelidze
Dep. of Physics, Tbilisi State University, Tbilisi, Georgia

We P15 (panel #44)

Spin Polarization in a Curvature-controlled Quantum Point Contact

Shuji Nakamura, Masayuki Hashisaka, Yoshiaki Yamauchi, Shinya Kasai, Teruo Ono, and Kensuke Kobayashi
Institute for Chemical Research, Kyoto University

We P16 (panel #47)

Observation of 6 micrometer long spin transport in a graphene multilayers

Kanji Yoh and Keita Konishi
Hokkaido University

We P17 (panel #51)

RF Characteristics of Schottky-Gate-Controlled Hot Electron Transistor

Yasuyuki Miyamoto, Takashi Hasegawa, Hisashi Saito, and Kazuhito Furuya
Tokyo Tech.

We P18 (panel #54)

Electromigration and self-breaking in gold and platinum nanowires

T. Hayashi(*1), F. Prins(*2), B. J. A. de Vos-van Steenwijk(*2), T. Fujisawa(*1) and H. S. J. van der Zant(*2)
*NTT Basic Research Laboratories(*1), TU Delft(*2)*

We P19 (panel #64)

A simple model for characterization and parameter extraction of organic thin-film transistors including deep and tail states

C. W. Sohn(*1), T. U. Rim(*1), G. B. Choi(*1), S. W. Jung(*2), and Y. H. Jeong(*1,*2)
*Pohang University of Science and Technology(*1), National Center for Nanomaterials Technology(*2)*

We P20 (panel #66)

Analysis of carrier behavior in pentacene FET with P(VDF-TeFE) gate insulator using displacement

current measurement

Shuhei Yoshita, Ryousuke Tamura, Eunju Lim, Martin Weis, Takaaki Manaka, and Mitsumasa Iwamoto
Tokyo Institute of Technology

We P21 (panel #69)

Polymer Field-Effect Transistors with High-k Polysilsesquioxane Gate Insulators

Yusuke Ueda(*1), Takashi Hamada(*1,*2), Kenji Tomatsu(*1), Takashi Nagase(*1,*2), Takashi Kobayashi(*1,*2), Shuichi Murakami(*2,*3), Kimihiro Matsukawa(*2,*4), and Hiroyoshi Naito(*1,*2)
*Department of Physics and Electronics, Osaka Pref. Univ. (*1), Innovation Plaza Osaka, Japan Science and Technology Agency (*2), Technology Research Institute of Osaka Prefecture (*3), Osaka Municipal Technical Research Institute (*4)*

We P22 (panel #72)

Complementary circuits based on p-type organic and n-type zinc oxide semiconductors

Yasuyuki Watanabe(*1), Hiroyuki Iechi(*2), Hiroshi Yamauchi(*3) and Kazuhiro Kudo(*4)
*Center for Frontier Science, Chiba University (*1), Tohoku R&D Center, Research and Development Group, RICOH Co., Ltd (*2), Faculty of Engineering, Chiba University (*3), Graduate school of Engineering, Chiba University (*4)*

We P23 (panel #75)

Effect of Electrochemical Doping and Hole Injection on PEDOT-PSS Layer for Organic Light-Emitting Diode

Hideki Ohkawa
Toshiba Lighting & Technology

We P24 (panel #78)

Co-Doping Effect on Quantum Efficiency of Polysilane-Based Photoconductive Device

Ryohei Kobayashi, Takeshi Fukuda, and Norihiko Kamata
Saitama University

We P25 (panel #81)

Electrochemical Detection of Hydrogen Peroxide and Application in Biosensor Fe(Pyterpy)₂ Monolayers as Charge Transfer Mediator

Dong-Yun Lee (*1), Won-Suk Choi (*1), Sang-Hyun Park (*1), Dong-Jin Qian (*2), Young-Soo Kwon (*1)
*Dong-A University (*1), Fudan University (*2)*

We P26 (panel #84)

Electron Transport and Charge Confinement Properties of Viologen Derivatives Using STM at Room Temperature

Nam-Suk Lee(*1), Kangkyun Baek(*2), Gyeong Won Yun(*2), Hoon-Kyu Shin(*3), Young-Soo Kwon(*4), Burm-Jong Lee(*1)
*Inje Univ. (*1), Pohang University of Science and Technology (*2), NCNT, Pohang University of Science and Technology (*3), Dong-A University (*4)*

We P27 (panel #87)

STM observation of the initial adsorption stage of sulfur on Au(111) at liquid nitrogen temperature

Shu Kurokawa, Yuu Miyawaki and Akira Sakai

Kyoto University

We P28 (panel #89)

Electronic structure and spin-dependent transport in ferromagnetic silicide and Heusler alloy / semiconductor junctions

Hiroyoshi Itoh

Kansai University

We P29 (panel #91)

Spin-dependent tunneling spectroscopy in Fe/ZnSe/Ga_{1-x}Mn_xAs magnetic tunnel diodes

Hidekazu Saito(*1,*2), Asuka Yamamoto(*1), Sinji Yuasa(*1) and Koji Ando(*1)

*Nanoelectronics Res. Inst. AIST (*1), PRESTO(*2)*

We P30 (panel #92)

Transport property study of metal/MgO/III-V semiconductor structure for spintronic devices

J.-C. Le Bretona(*1,*2), H. Saito(*1), V. Zayets(*1), S. Yuasa(*1), K. Ando(*1), and P. Schieffer(*2)

*AIST Tsukuba (*1), Universite de Rennes I (*2)*

We P31 (panel #94)

Negatively spin polarized tunnel current via interfacial states in Fe/GaAs contact with Schottky barrier

Syuta Honda(*1), Jun-ichiro Inoue(*1) and Hiroyoshi Itoh(*2)

*Nagoya Univ.(*1), Kansai Univ.(*2)*

We P32 (panel #95)

Room-temperature ferromagnetism in Mn-doped ZnSnAs₂ thin films grown on InP substrates

Naotaka Uchitomi, Joel T. Asubar and Yoshio Jinbo

Nagaoka University of Technology

We P33 (panel #97)

NMR Study of Ferromagnetic Rhombohedral C₆₀ Polymer

Yao Yu(*1), Min Gu(*1), and Tong B. Tang(*2)

*Nanjing University(*1), Hong Kong Baptist University(*2)*

We P34 (panel #98)

Magnetic properties of carbon nanoclusters prepared with nanocluster beam source

Suzi Deng(*1), Kian-Ping Loh(*1), Yong-Lim Foo(*2)

*National University of Singapore(*1), A*STAR(*2)*

We P35 (panel #100)

Ferroelectric Control of Carrier mediated Ferromagnetism in Spinel Ferrite with High Curie Temperature

Hidekazu Tanaka, Junichi Takaobuishi, Teruo Kanki and Tomoji Kawai

The Institute of Scientific and Industrial Research, Osaka University

We P36 (panel #102)

Nanocrystals of Magnetite Grown Epitaxially on Yttria-Stabilized Zirconia Substrate in Pulsed-

Laser Deposited Indium Tin Oxide Thin Films

Koichi Okada(*1), Sigemi Kohiki(*1), Hirokazu Shimooka(*1), Masanori Mitome(*2), Yoshio Bando(*2), Masao Arai(*2), Hidekazu Tanaka(*3), Tomoji Kawai(*3), Masaki Mito(*1) and Hiroyuki Deguchi(*1)
*Kyushu Institute of Technology(*1), National Institute for Materials Science(*2), Osaka Univ.(*3)*

We P37 (panel #104)

Strain-induced Magnetic Anisotropy and Magneto-transport Properties of Co/Ag Multilayer Films

Chhabilal S. Rizal(*1) and Akihiro, Yamada(*2)

*University of British Columbia (*1), Tomokomai National Institute of Technology (*2)*

We P38 (panel #106)

Magnetic and electric properties of photo-induced magnet (Al,Ru,Fe)₃O₄ spinel ferrite thin films

Teruo Kanki(*1), Yasushi Hotta(*1), Naoki Asakawa(*1), Munetoshi Seki(*2), Eiji Ikenaga(*3), Hitoshi Tabata(*2), Hidekazu Tanaka(a), Keisuke Kobayashi(*4), and Tomoji Kawai(*1)

*The Institute of Scientific and Industrial Research, Osaka University (*1), Graduate School of Engineering, The University of Tokyo (*2), JASRI, Spring-8(*3), National Institute for Materials Science (NIMS), Spring-8 (*4)*

We P39 (panel #108)

Magnetoresistance to Anomalous Hall Effect Transition in Co-Transparent Conductive Oxide Nanocomposites

J. C. A. Huang(*1), C. Y. Hsu(*1), and Yonhua Tzeng(*1,*2)

*National Cheng Kung University(*1), National Cheng Kung University(*2)*

We P40 (panel #122)

Growth of GaN on single crystal quartz substrates

Dong Hyuk Kim, Keon-Hun Lee, Sung Hyun Park, Jong Hack Kim, Min Hwa Kim, Nam Hyuk Kim and Euijoon Yoon

Seoul National University

We P41 (panel #124)

P-GaN metal-oxide-semiconductor diodes with gate insulator grown using bias-assisted photoelectrochemical oxidation method

Li-Hsien Huang, Nan-Teng Shiau, and Ching-Ting Lee

Institute of Microelectronics, Department of Electrical Engineering, National Cheng Kung University

We P42 (panel #126)

Device Isolation for AlGaN/GaN HFET Utilizing Heavy Metal Diffusion

Heng-Yu Xu, Jin-Ping Ao, Hui Yu, Cheng-Yu Hu, and Yasuo Ohno

Institute of Technology and Science, The University of Tokushima

We P43 (panel #128)

Polycrystalline-SiC Nanoelectromechanical Switches for High-Temperature Switching and Logic Applications: A Preliminary Report

Te-Hao Lee(*1), Kevin M. Speer(*2), Kenji Okino(*1), Xiaoran Fu(*2), Swarup Bhunia(*2), and Mehran Mehregany(*2)

*Dept. of Materials Science & Eng., Case Western Reserve University, Cleveland, Ohio, U.S.A.(*a), Dept. of Electrical Eng. & Comp. Sci., Case Western Reserve University, Cleveland, Ohio, U.S.A.(*b)*

We P44 (panel #131)

Existence of subgap states near valence band maximum and relationship with carrier transport properties in highly-doped a-In-Ga-Zn-O

Kenji Nomura(*1), Toshio Kamiya(*1,*2) Hiroshi Yanagi(*2), Eiji Ikenaga(*3), Ke Yang(*3), Keisuke Kobayashi(*4), Masahiro Hirano(*1,*5), Hideo Hosono(*1,*2,*5)
*ERATO-SORST(*1), Tokyo Tech(*2), Spring-8(*3), NIMS(*4), Tokyo Tech(*5)*

We P45 (panel #134)

Selective Growth of Vertical and Horizontal ZnO Nanowires for Device Applications

Seongmo Shin(*1), Dongjae Cha(*1), and Dong-Wook Kim(*2)
*Hanyang Univ.(*1), Ewha Womans Univ.(*2)*

We P46 (panel #137)

Influence of chemical synthesis and properties of ZnO nanocrystals

G.Srinivasan, J.Kumar
Crystal Growth Centre, Anna University, Chennai

We P47 (panel #140)

Deposition of Doped Transparent Conducting Oxides on Polyethylene Terephthalate for Flexible Display Applications

Jay Arre Toque, Shih-Hsui Hsiao, Yoshikazu Tanaka, Takashi Ikawa, Chen Liang-yu, Ari Ide-Ektessabi
Kyoto University

We P48 (panel #143)

Enhanced Bending Stability of Carbon Nanotube-Reinforced Indium Tin Oxide Films on Flexible Plastic Substrate

Kiyoshi Chiba and Atsushi Futagami
Department of Nano Material and Bio Engineering, Tokushima Bunri University

We P49 (panel #146)

Fabrication of ultra-sharp Nb nanopins array for the application of electron field emission devices

Heungsoon Lee, J. Y. Son, Y.-H. Shin, Woo-Hee Kim, and Hyungjun Kim
Pohang University of Science and Technology (POSTECH)

We P50 (panel #149)

The Ultimate Strength of Silica Nanowires

Gilberto Brambilla
Optoelectronics Research Centre, University of Southampton, U.K.

Lunch (12:10~13:40)

WeA I Nanostructure devices

*Chair : Y.Miyamoto
Centennial Hall (1F)*

WeA I-1 13:40~14:10 (invited)

Single-Dopant Effect in Si MOSFETs

Y. Ono(*1), M. A. H. Khalafalla(*1), A. Fujiwara(*1), K. Nishiguchi(*1), K. Takashina(*1), S. Horiguchi(*2), Y. Takahashi(*3), H. Inokawa(*4),
*NTT Basic Research Laboratories(*1), Akita Univ.(*2), Hokkaido Univ.(*3), Shizuoka Univ.(*4)*

WeA I-2 14:10~14:25

Site-Control of InAs Quantum Dots and Its Application to Single Electron Transistor

K. M. Cha, K. Shibata and K. Hirakawa

University of Tokyo

WeA I-3 14:25~14:40

GaAs sub-THz TUNNETT Diodes Implemented with Molecular Layer Epitaxy and Its Application to 0.2THz Integrated Patch Antenna Oscillators

Sundararajan.B, Kazuomi Endo, Tadao Tanabe, and Yutaka Oyama

Tohoku University

Coffee Break (14:40~14:50)

WeA II CMOS and related nanotechnology II

Chair : T.Hiramoto

Centennial Hall (1F)

WeA II-1 14:50~15:20 (invited)

Electrostatic Discharge (ESD) Protection Solutions for Nano CMOS Technology

Juin J. Liou

University of Central Florida, USA

WeA II-2 15:20~15:35

The Performances of HfSiON/TiN Gate Stack MOSFETs for 45 nm node LSTP Applications Using Conventional Fabrication Process

M. S. Park(*1), K. T. Lee(*1), G. B. Choi(*1), S. H. Hong(*1), H. S. Choi(*1), R. H. Baik(*1), S. H. Song(*1), J. C. Kim(*1), H. C. Sagong(*1), S. W. Jung(*2), H. Takeuchi(*3), B. H. Lee(*4), C. Y. Kang(*4), H. D. Lee(*5), and Y. H. Jeong(*1,2)

*Pohang University of Science and Technology(*1), National Center for Nanomaterials Technology(*2), ATDF(*3), SEMATECH(*4), Chungnam National University(*5)*

WeA II-3 15:35~15:50

Effective mobility extraction methodology using RF modeling scheme for leaky MOSFET with short channel length and small area

G. B. Choi(*1), S. H. Hong(*1), H. S. Choi(*1), R. H. Baik(*1), K. T. Lee(*1), M. S. Park(*1), S. H. Song(*1), J. C. Kim(*1), H. C. Sagong(*1), S. W. Jung(*2), H. Takeuchi(*3), B. H. Lee(*4), C. Y. Kang(*4), H. D. Lee(*5) and Y. H. Jeong(*1,2)

*POSTECH(*1), NCNT(*2), ATDF(*3), SEMATECH(*4), Chung Nam Univ.(*5)*

WeA II-4 15:50~16:05

Thermal Stability Improvement of Ni-Germanide Using Co/TiN capping layer for Nano-Scale

Ge-MOSFETs

Kee-Young Park(*1), Ying-Ying Zhang(*1), In-Shik Han(*1), Soon-Yen Jung(*1), Zhun Zhong(*1), Shi-Guang Li(*1), Hong-Sik Shin(*1), Jungwoo Oh(*2), Prashant Majhi(*2), Ga-Won Lee(*1), Jin-Suk Wang(*1), Hi-Deok Lee(*1)

*Dept. of Electronics Engineering, Chungnam National University(*1), SEMATECH, 2706 Montopolis Drive, Austin, TX 78741 USA(*2)*

WeA II-5 16:05~16:20

First-principles Study on Inversion Layer Capacitance of Atomically Thin Si Channel Double Gate Field Effect Transistor

Hiroyuki Kageshima and Akira Fujiwara

NTT Basic Research Laboratories, NTT Corporation

WeB I Organic materials and devices II

Chair : M.Iwamoto

International Conference Hall III (2F)

WeB I-1 13:40~14:10 (invited)

Problems of Neuro-Electronic Interfacing on the Nano, Micro and Milliscale

Peter Fromherz

Max Planck Institute of Biochemistry

WeB I-2 14:10~14:40 (invited)

Improvement of Light-Harvesting and Interfacial Electron Transfer for Efficient Solar Energy Conversion

Hiroshi Imahori

Institute for Integrated Cell-Material Sciences (iCeMS), Kyoto University

Coffee Break (14:40~14:50)

WeB I-3 14:50~15:05

Bias-induced formation of conductive channels across metallic nanogap electrodes

Akinori Umeno, Kenji Yoshida and Kazuhiko Hirakawa

Univ. of Tokyo

WeB I-4 15:05~15:20

Studies on grain structures of wet-processed thin films of pentacene

Takashi Minakata, Yutaka Natsume

Asahi-KASEI Corporation

WeB I-5 15:20~15:35

Fabrication and Characterization of pi-Conjugated Azomethine Self-Assembled Multilayers

Masakazu Kamura(*1,*2), Shigeru Aomori(*1,*2), Yasutaka Kuzumoto(*1,*2), Yoshitaka Tomomura(*1,*2), Hirohiko Houjou(*3), Masatoshi Kitamura(*2) and Yasuhiko Arakawa(*2,*3)

*Sharp Corporation(*1), Institute of Nano Quantum Information Electronics The University of Tokyo(*2) and Institute of Industrial Science The University of Tokyo(*3)*

WeB I-6 15:35~15:50

Dipole moment design of organic monolayer by divalent ion doping

Wei Ou-Yang, Martin Weis, Tetsuya Yamamoto, Takaaki Manaka and Mistumasa Iwamoto

Tokyo Tech

WeB I-7 15:50~16:05

Detection of Supported Lipid Bilayers Using Their Electric Charge

Chiho Kataoka-Hamai(*1) and Yuji Miyahara(*1,*2)

*National Institute for Materials Science(*1), Univ. of Tokyo(*2)*

WeC I Spin dependent phenomena in new materials

Chair : H.Tanaka

Conference Hall III (2F)

WeC I-1 13:40~14:10 (invited)

Spin Injection and Modulation in a Semiconductor Channel

Hyun Cheol Koo(*1), Jae Hyun Kwon(*1), Jin Suk Ma(*1), Joonyeon Chang(*1), Jonghwa Eom(*1,*2),
and Suk-Hee Han(*1)

*Korea Institute of Science and Technology(*1), Sejong University(*2)*

WeC I-2 14:10~14:25

Transport properties of magnetic tunnel transistor with a MgO barrier

Taro Nagahama(*1), Hidekazu Saito(*1,*2), Shinji Yuasa(*1)

*AIST(*1), PRESTO-JST(*2)*

WeC I-3 14:25~14:40

Anomalous Rashba Effect in Double Cladding InAs-based Quantum Well

Takashi Matsuda and Kanji Yoh

Hokkaido University

Coffee Break (14:40~14:50)

WeC I-4 14:50~15:05

Room Temperature Ferromagnetism of Thiol Modified Ag-ZnO Interface

Suzi Deng(*1), Kian-Ping Loh(*1), Jiabao Yi(*2), Jun Ding(*1), Y. L. Foo

*National University of Singapore(*1), A*STAR(*2)*

WeC I-5 15:05~15:20

Study on the origin of large magnetoresistance in rubrene-Co nano-composites

D. Hatanaka(*1), S. Tanabe(*1), H. Kusai(*1), R. Nouchi(*1), T. Nozaki(*1), T. Shinjo(*1), M. Shi-
raishi(*1,*2), Y. Suzuki(*1)

*Osaka University (*1), JST-PRESTO (*2)*

WeC I-6 15:20~15:50 (invited)

Electric field control of ferromagnetism

Ramamoorthy Ramesh

University of California, Berkeley, Lawrence Berkeley Laboratory

WeC I-7 15:50~16:05

Photo-Assisted Switching and Ultrafast Functionality of the Ferroelectric Polarization in BiFeO₃ Thin Films

D.S. Rana, I. Kawayama, K.R. Mavani, K. Takahashi, H. Murakami, M. Tonouchi

Institute of Laser Engineering, Osaka University, 2-6 Yamadaoka, Suita 565-0871, Osaka, Japan