

PSA-10 Program

October 3 (Sun), 2010

Registration 16:00-19:00

Welcome Party 18:00-21:00

October 4 (Mon), 2010 (Convention Hall: Room B)

Registration 8:00-18:00

Opening Remark (Chair: Hee Jae Kang and M. Suzuki) 9:00-9:15
H. J. Kang (Chungbuk National University)

Plenary Talk (Chair: Hee Jae Kang and M. Suzuki) 9:15-10:45

O-01 9:15-10:00

(Invited) R. Shimizu* (*International Institute for Advanced Studies)
45 years in Monte Carlo simulation for microbeam analysis - A personal retrospective review -

O-02 10:00-10:45

(Invited) D. R. Baer,* M. H. Engelhard, S. V. Kuchibhatla, J. Liu and P. Nachimuthu (*Pacific Northwest National Laboratory)
Surface characterization of nanoparticles: Critical needs and significant challenges

Break 10:45-11:00

Standardization and pre-standardization (Chair: D. R. Bear and Kyung Joong Kim) 11:00-12:00

O-03 11:00-11:30

(Invited) C. J. Powell* (*National Institute of Standards and Technology)
Surface sensitivity of AES and XPS

O-04 11:30-12:00

(Invited) I. Gilmore* (*National Physical Laboratory)
The development of a standards base for static SIMS - now and the future

Lunch 12:00-14:00

Standardization and pre-standardization (Chair: C. J. Powell and I. Gilmore) 14:00-15:30

O-05 14:00-14:30

(Invited) K. J. Kim* (*Korea Research Institute of Standards and Science)
Improvement of uncertainty in surface analysis

O-06 14:30-14:50

A. J. Fahey* (*National Institute of Standards and Technology)
Influence of substrate chemistry on the analysis of particles by secondary ion mass spectrometry

O-07 14:50-15:10

M. Tomita,* Y. Kawamura, Y. Shimizu, M. Uematsu and K. M. Itoh (*Toshiba Corporation, Corporate Research & Development Center)
Investigation of atomic mixing of silicon atoms in silicon under cesium and oxygen ion bombardments

using silicon isotope superlattices

O-08 15:10-15:30

S. Tanuma,* C. J. Powell and D. R. Penn (*National Institute for Materials Science)
Electron inelastic mean free paths for 41 elemental solids

Break 15:30-15:50

Theory and simulation (Chair: R. Shimizu and S. Tougaard) 15:50-17:30

O-09 15:50-16:20

(Invited) S. Tougaard* (*University of Southern Denmark)
Nano-structure information from XPS; automated data analysis and 3D-imaging

O-10 16:20-16:50

(Invited) W. S. M. Werner* (*Vienna University of Technology)
Progress in quantitative interpretation of electron spectra for surface and nanostructure analysis

O-11 16:50-17:10

H. C. Shin, L. S. Son, K. R. Kim, S. K. Oh, H. J. Kang,* D. Tahir, S. Heo, J. G. Chung, J. C. Lee and S. Tougaard (*Chungbuk National University)
Band alignment and optical properties of $(\text{ZrO}_2)_x(\text{HfO}_2)_{1-x}$ dielectric films grown on p-Si(100)

O-12 17:10-17:30

W. Motozaki, Y. Nagatani, Y. Kimura, K. Endo,* T. Takemura, E. Kurmaev and A. Moewes (*Tokyo University of Science)
Electronic structure of aspirin and paracetamol

Break 17:30-17:50

Vendor session (Chair: Jae Cheol Lee) 17:50-19:10

V-01 17:50-18:00

Cameca / AMETEK Korea

V-02 18:00-18:10

JEOL / JEOL Korea

V-03 18:10-18:20

KRATOS / DK Science

V-04 18:20-18:30

Millbrook / Tescan Korea

V-05 18:30-18:40

Park Systems

V-06 18:40-18:50

SPECS / DK Science

V-07 18:50-19:00

Thermo / Surface Systems Korea

V-08 19:00-19:10

ULVAC-PHI / Woosin Cryovac

October 5 (Tue), 2010 (Convention Hall: Room A)

Registration 8:00-18:00

Data analysis and treatment (Chair: A. Jablonski and H. Yoshikawa) 8:40-10:20

O-13 8:40-9:10

(Invited) B. J. Tyler* (*University of the West Indies)

Critical issues in multivariate analysis of ToF-SIMS spectra, images and depth profiles

O-14 9:10-9:30

S. Aoyagi,* M. Okamoto, N. Kato and M. Kudo (*Shimane University)

Analyzing TOF-SIMS spectra of polymers using multivariate curve resolution

O-15 9:30-10:00

(Invited) J. E. Castle* (*University of Surrey)

The potential benefit of a semi-automatic appraisal of the XP spectrum

O-16 10:00-10:20

J. Wolstenholme,* P. Mack and A. Wright (*Thermo Fisher Scientific)

Structural and chemical surface characterisation of patterned polymer surfaces

Break 10:20-10:40

Data analysis and treatment (Chair: J. Castle and B. Tyler) 10:40-12:00

O-17 10:40-11:10

(Invited) A. Jablonski* (*Institute of Physical Chemistry, Polish Academy of Sciences)

The backscattering correction factor revisited

O-18 11:10-11:40

(Invited) H. Yoshikawa,* H. Jin, H. Shinotsuka, H. Iwai, M. Arai, S. Tougaard and S. Tanuma (*National Institute for Materials Science)

Energy loss functions and optical constants of a few semiconductors determined by factor analysis of reflection electron energy loss spectra

O-19 11:40-12:00

M. Shima,* K. Tsutsumi, A. Tanaka and T. Tazawa (*JEOL Ltd.)

The separation of the overlapped spectra of tin oxide with the standard spectra in XPS

Lunch 12:00-13:30

Poster Short Presentation (Chair: Sungkyun Park and Yeonhee Lee) 13:30-15:30

One minute for one poster

Poster Presentation 1 (Chair: Yeonjin Yi) 15:30-17:00 (Room C)

Odd poster number

Poster Presentation 2 (Chair: Jong Wan Lee) 17:00-18:30 (Room C)

Even poster number

Powell Prize Voting 18:30-18:40 (Room C)

Break 18:40-19:00

Banquet 19:00-22:00 (Room A)

October 5 (Tue), 2010 (Convention Hall: Room B)

Registration 8:00-17:00

Novel techniques and instrumentations (Chair: J. Matsuo and H. Iwai) 8:40-10:20

O-20 8:40-9:10

(Invited) J. W. Park* (*Pohang University of Science and Technology)

Force-based atomic force microscopy for biomarker detection

O-21 9:10-9:30

J. Lee* (*Korea Basic Science Institute)

The development of multi-disciplinary in-situ surface analytical system for nanotechnology

O-22 9:30-9:50

W. Heichler,* A. Thissen, S. Maehl, T. Kampen and O. Schaff (*SPECS Surface Nano Analysis GmbH)

A novel electron spectrometer for high pressure and wide angle photoemission

O-23 9:50-10:10

Y. Yamashita,* H. Yoshikawa, S. Ueda, T. Chikyow and K. Kobayashi (*National Institute for Material Science)

Bias-application in hard x-ray photoelectron spectroscopy for characterization of advanced materials

Break 10:10-10:30

Novel techniques and instrumentations (Chair: Joon Won Park and Jouhahn Lee) 10:30-12:00

O-24 10:30-11:00

(Invited) J. Matsuo* (*Kyoto University)

Novel primary ion beams for bio-SIMS

O-25 11:00-11:20

E.-S. Moon, S.-Y. Kim and H. Kang* (*Seoul National University)

Reactive ion scattering as a probe for surface chemical analysis

O-26 11:20-11:40

N. Hirao,* Y. Baba, T. Sekiguchi and I. Shimoyama (*Japan Atomic Energy Agency)

Focusing of soft X-ray for quick PEEM measurements

O-27 11:40-12:00

J. Y. Park* (*Korea Advanced Institute of Science and Technology)

Electronic excitation at surfaces; detecting chemi-current and catalytic turnover on metal semiconductor catalytic nanodiodes

October 6 (Wed), 2010 (Convention Hall: Room A)

Registration 8:00-17:00

Applications I (semiconductor, metal, ceramic, composite, etc.)

(Chair: K. Yanagiuchi and Hee Jae Kang) 9:00-10:30

O-28 9:00-9:30

(Invited) K. Kobayashi,* M. Kobata, I. Pis, J. William, N. Ohashi, H. Iwai, T. Matsushita and H. Nohira (*National Institute for Material Science)

Application of hard x-ray photoelectron spectroscopy as a bulk sensitive probe

O-29 9:30-9:50

K.-W. Kim,* J.-P. Lee, C.-S. Jeong, H.-J. Kim and O. Han (*Hynix Semiconductor Inc.)

Nitrogen analysis in the near surface and the interface SiO_xN_y/Si by SIMS

O-30 9:50-10:10

H. Hozumi,* S. Ogawa, A. Yoshigoe, S. Ishidzuka, J. R. Harries, Y. Teraoka and Y. Takakuwa (*Tohoku University)

Oxidation kinetics of SiGe alloy layer studied by real-time XPS

O-31 10:10-10:30

H. Tajima,* N. Shiobara, H. Katsumata and S. Uekusa (*Meiji University)

Properties of TaN thin films for the ULSI prepared by reactive sputter deposition

Break 10:30-10:50

Applications I (semiconductor, metal, ceramic, composite, etc.)

(Chair: K. Kobayashi and J. C Hemminger) 10:50-12:00

O-32 10:50-11:20

(Invited) L. P. H. Jeurgens* and E. J. Mittemeijer (*Max Planck Institute for Metals Research)

In-situ, real-time investigations of the growth of ultrathin oxide films

O-33 11:20-11:40

K. Jiang, R. Tan, M. Yoshitake and W. Song* (*Ningbo Institute of Material Technology and Engineering, Chinese Academy of Sciences)

Surface and interface characterization of metal clusters on model Al₂O₃/Cu-9%Al(111) catalyst supports using in-situ photoelectron spectroscopy

O-34 11:40-12:00

M.-H. Kim,* J. M. Doh, C. K. Hwa and B.-Y Yu (*Korea Institute of Science and Technology)

SANS & USANS study on the structures of pore walls of porous materials

Lunch 12:00-14:00

Applications I (semiconductor, metal, ceramic, composite, etc.)

(Chair: L. P. H. Jeurgens and T. Nagatomi) 14:00-15:30

O-35 14:00-14:30

(Invited) P. Lejček* and S. Hofmann (*Institute of Physics, AS CR)

Application of quantitative AES to interfacial segregation

O-36 14:30-14:50

K. Tsutsumi,* M. Shima, T. Tazawa and K. Endo (*JEOL Ltd.)

Chemical state of an iron layer produced by Ar sputter coating on an MgO(100) Auger electron spectroscopy with a high energy-resolution of 0.1%

O-37 14:50-15:10

O. Heintz,* H. Evin, C. Föjler, S. Jakani, A. Dhont, S. Claessens and S. Chevalier (*Laboratoire Interdisciplinaire Carnot de Bourgogne UMR5209 CNRS)

In-situ XPS analyses to study oxidation mechanisms. Application to 9%Cr steel

O-38 15:10-15:30

N. Ishikawa,* T. Ogiwara, M. Takeguchi, Y. Oba and T. Inami (*National Institute for Materials Science)

The reduction behavior of CaO containing FeO by C

Break 15:30-15:50

Applications I (semiconductor, metal, ceramic, composite, etc.)

(Chair: P. Lejček and K. Takahashi) 15:50-17:20

O-39 15:50-16:20

(Invited) J. C Hemminger* (*University of California, Irvine)

Ambient pressure XPS and liquid-jet XPS experiments: Probing the liquid/vapor interface of aqueous solutions

O-40 16:20-16:40

M. Grass, M. Park, F. Aksoy, Y. Zhang, Z. Liu and B. S. Mun* (*Hanyang University)

Effect of O₂, CO, and NO on the surface segregation in a Rh₅₀Pd₅₀ bulk crystal and a comparison to Rh₅₀Pd₅₀ nanoparticles

O-41 16:40-17:00

K. Yoshino,* Y. Morita, M. Nishitani, T. Nagatomi, Y. Takai and Y. Yamauchi (*Osaka University)

Effects of heating in air on metastable de-excitation spectroscopy spectra of MgO and CaO films

O-42 Withdrawn

October 6 (Wed), 2010 (Convention Hall: Room B)

Registration 8:00-17:00

Applications II (bio, organic, and energy materials) (Chair: Tae Geol Lee and Yongsup Park) 9:00-10:30

O-43 9:00-9:30

(Invited) C. M. Mahoney,* M. Staymates, M. K McDermott and D. Patwardhan (*National Institute of Standards and Technology)

Surface and in-depth characterization of polymer-based drug delivery devices with cluster secondary ion mass spectrometry

O-44 9:30-9:50

A. J. Roberts,* S. J. Hutton, S. C. Page, I. W. Drummond and K. Takahashi (*Kratos Analytical Ltd.)

Parameters affecting XPS organic depth profiling using a cluster ion source

O-45 9:50-10:10

T. Miyayama,* N. Sanada and M. Suzuki (*ULVAC-PHI Inc.)

XPS and TOF-SIMS study of polyimide and other polymer depth profiling using Ar gas cluster ion beam with low damage

O-46 10:10-10:30

D. Rading,* M. Terhorst and E. Niehuis (*ION-TOF GmbH)

Dual beam depth profiling of organic materials: Variations of analysis and sputter beam conditions

Break 10:30-10:50

Applications II (bio, organic, and energy materials) (Chair: C. M. Mahoney and D. W. Moon) 10:50-12:00

O-47 10:50-11:20

(Invited) T. G. Lee,* H. Min, M. Son, J. G. Son and D. W. Moon (*KRISS)

Label-free nano-surface analyses of organic- and bio-conjugated biochips and nanoparticles

O-48 11:20-11:40

S. Kuckova,* R. Hynek and M. Kodicek (*Institute of Chemical Technology)

Protein identification in insoluble materials by mass spectrometry

O-49 11:40-12:00

Y. Lee,* J. Lee, W. C. Lim and K. Shin (*Korea Institute of Science & Technology)

Investigation of microphase separation of PS-PPrMA diblock copolymer films by time-of-flight secondary ion mass spectrometry

Lunch 12:00-14:00

Applications II (bio, organic, and energy materials) (Chair: R. C. Reedy and Y. Abe) 14:00-15:20

O-50 14:00-14:30

(Invited) Y. Ling* (*National Tsing Hua University)

ToF-SIMS imaging of cellular changes induced by ZnO-containing nanomaterials

O-51 14:30-15:00

(Invited) D. G. Castner* (*University of Washington)

Surface characterization of functionalized nanoparticles

O-52 15:00-15:20

S. Hayashi,* N. Tsuji, S. Nishinomiya and N. Kubota (*Nippon Steel Corporation)

Detection of aromatic hydrocarbon in suspended particulate matter by laser ionization TOF-SNMS

Break 15:20-15:50

Applications II (bio, organic, and energy materials) (Chair: Y. Ling and D. G. Castner) 15:50-17:00

O-53 15:50-16:20

(Invited) R. C. Reedy* (*National Renewable Energy Laboratory)

The application of secondary ion mass spectrometry in photovoltaic research and development at NREL

O-54 16:20-16:40

Y. Yi,* Y. M. Lee, Y. Park and J. W. Kim (*Korea Research Institute of Standards and Science)

Gap state formation by interfacial interaction between Al and 8-hydroxyquinolatholium

O-55 16:40-17:00

R. H. Shin, A. R. Jeong and W. Jo* (*Ewha Womans University)

Nanoscale current mapping and surface potential distribution in photovoltaic Cu(In,Ga)Se₂ thin films using scanning probe microscopy

October 7 (Thu), 2010 (Convention Hall: Room A)

Registration 8:00-11:30

Applications I (semiconductor, metal, ceramic, composite, etc.)

(Chair: Jong Wan Lee and Hyun-Joon Shin) 8:40-9:50

O-56 8:40-9:10

(Invited) K. Yanagiuchi,* S. Hara, K. Hirata, K. Shimazawa, K. Noguchi, S. Isogami, M. Tsunoda, M. Takahashi and T. Nakamura (*TDK Corporation)

Study of the spin polarization of non-magnetic materials inserted into ferromagnetic materials by X-ray magnetic circular dichroism

O-57 9:10-9:30

Y. Ogata, N. A. Tuan, S. Takase and G. Mizutani* (*Japan advanced Institute of Science and Technology)

Correlation between the cross-sectional shapes of Pt nanowires on the faceted MgO(110) template and their optical second harmonic generation

O-58 9:30-9:50

J. Park and Y.-C. Kang* (*Pukyong National University)

Investigation on molybdenum oxynitride thin films deposited by RF sputtering with different gas ratio

Break 9:50-10:10

Theory and simulation (Chair: W. S. M. Werner and Z. J. Ding) 10:10-11:20

O-59 10:10-10:40

(Invited) R. G. Zeng, Z. X. Wang and Z. J. Ding* (*University of Science and Technology of China)

Simulation of particle scattering from solid surfaces by using Bohmian quantum trajectory method

O-60 10:40-11:00

F. Salvat-Pujol* and W. S. M. Werner (*Vienna University of Technology)
Oswald-Kasper-Gaukler (OKG) model for reflection electron energy loss spectroscopy (REELS)

O-61 11:00-11:20

N. Pauly and S. Tougaard* (*IFK, University of Southern Denmark)
Quantitative XPS: Effects of core-hole and surface excitations

Closing Remark 11:20-11:40

K. Yanagiuchi (TDK Corporation)

Lunch 11:40-13:00

Excursion 13:00-18:00

October 7 (Thu), 2010 (Convention Hall: Room B)

Registration 8:00-11:30

Korea-Japan-China special session (Chair: S. Tanuma and Kyung Joong Kim) 8:40-9:25

O-62 8:40-8:55

E.-S. Lee, S.-H. Kim, G. W. Park, T. Lee and D. W. Moon* (*Korean Research Institute of Standards and Science)

TOF-SIMS and CARS for future cardiovascular diagnosis tools

O-63 8:55-9:10

K. J. Kim,* J. S. Jang, D. W. Moon and H. J. Kang (*Korea Research Institute of Standards and Science)

Origin of interface artifacts in SIMS depth profiling of Si/Ge multilayers

O-64 9:10-9:25

(Invited) A. Alkafri, Y. Ichikawa, K. Goto* and Y. Yamauchi (*AIST Chubu-Center)

Thermionic emission for the energy calibration and transmission measurements for the CMA in the absolute AES

Break 9:25-9:45

Korea-Japan-China special session (Chair: S. Hashimoto and H. Yoshikawa) 9:45-11:00

O-65 9:45-10:00

(Invited) M. Takano* (*Panasonic Electronic Devices Co.,Ltd.)

Evaluation of the Ni diffusion to the surface of Au plating for soldering process control

O-66 10:00-10:15

(Invited) T. Ogiwara,* T. Nagatomi, K. J. Kim and S. Tanuma (*National Institute for Materials Science)

High depth resolution Auger depth profiling using a 85°-high-angle inclined holder

O-67 10:15-10:30

S. J. Kang, J. Y. Baik, H.-D. Kim, A. Thakur, H.-J. Shin,* J. G. Chung, E. Lee, J. Lee and J. H. Lee (*Pohang University of Science and Technology)

Surface chemical states of amorphous Ga-In-Zn-O thin film

O-68 10:30-10:45

S. Park, J.-S. Bae and S. Park* (*Pusan National University)

Interface characteristics of yttria-stabilized zirconia thin films

O-69 10:45-11:00

Z. Zhang,* H. Mei, T. Tang and Z. Ding (*University of Science and Technology of China)

Study of XPEEM image for nano structure

Poster Presentation

Instruction

- The size of the poster panel is 120 cm in width and 180 cm in height.
- Location of the poster presentation is Convention Hall: Room C. Presenters are requested to mount their posters on the panels assigned by the poster numbers in the morning of October 5, 2010. The poster presentation will be open during the whole period of the conference.
- The presenters, corresponding to odd or even poster numbers, shall attend their own posters and perform poster discussion during the Poster Presentation 1 or Poster Presentation 2, respectively.
- The presenters are assigned to give their short oral presentation in the afternoon session of October 5, 2010. The presentation time is one minute a poster presentation, including a time for moving to the next speaker. Each presentation is stopped by Chair when one minute has passed. Only the projector is available for the poster short presentation. The next several speakers should wait for their turn in line near the present speaker in order to move to the next presentation.
- The one page PowerPoint file without animation saved as PowerPoint 2003 version should be sent to Dr. Jeong Won Kim (jeongwonk@kriss.re.kr) by e-mail or delivered to the chair persons of the poster presentation sessions by the morning of October 5, 2010. The file name of the PowerPoint file is "P-XXX_presenter-name.ppt". XXX is the presentation number from 001 to 115. The presenter-name should be abbreviated, for instance, as J-W-Kim for Jeong Won Kim. The example of the file name is "P-099_J-W-Kim.ppt".

Poster presentation

Standardization and pre-standardization

- P-001 T. Miyagawa, M. Inoue,* T. Iyasu, Y. Hashimoto, K. Goto, R. Shimizu and T. Nagatomi (*Setunan University)
Measurement of secondary electron yield by charge amplification method
- P-002 S. Fukushima,* Y. Yamauchi, A. Tanaka, K. Watanabe, T. Ogiwara, M. Suzuki and K. Goto (*National Institute for Materials Science)
The preliminary experimental evaluation of the signal dispersion; AES
- P-003 S. Fukushima* and The round-robin group for the evaluation of the signal dispersion (*National Institute for Materials Science)
The Round-Robin test of "Evaluation of the property of dispersion of spectral intensity : XPS"
- P-004 H. Tohma* and Y. Sonobayashi (*NISSAN ARC,LTD.)
Chemical shifts of silver oxides by XPS
- P-005 H. Tohma,* H. Watanabe and Y. Sonobayashi (*NISSAN ARC,LTD.)
Degradation test of Ag₂O₂ powder reagent by XPS
- P-006 N. Suzuki,* F. Kurayama, J. Saito, A. Yamamuro, T. Furusawa and M. Sato (*Utsunomiya University)
Surface damages of silicone and PET films during XPS measurement and those relative damaging factors
- P-007 H. Nonaka,* T. Nakagawa, Y. Fujiwara, N. Saito and T. Fujimoto (*National Institute of Advanced Industrial Science and Technology)
Accuracy of mass peak positions for large molecules
- P-008 Y. Abe* and ToF-SIMS Working Group (*Mitsubishi Chemical Group Science and Technology Research Center, Inc.)
Results of Inter-laboratory tests among SASJ on accurate mass scale calibration of ToF-SIMS
- P-009 C. Lee,* J. Kim, D. Cho, S.-C. Jo and W.-S. Oh (*Samsung Electronics Co., Ltd.)
Study of an interface layer between silicone oxide and indium tin oxide films using XPS and SIMS
- P-010 J. C. Lee,* E. H. Lee, J. G. Chung, B. Anass, J. H. Lee, C. S. Lee, J. S. Kim and K. D. Bae (*Samsung Advanced Institute of Technology, Samsung Electronics)
Study on the influence of etching processes on HfInZnO oxide semiconductor thin film transistor

- P-011 N. Tadokoro,* S. Pannakarn, S. Kunchoo, V. Parnich, K. Takashiba, K. Shimizu and H. Higuchi (*HOYA Corp. VC Company Lens technology center)
Application of lubricants structure on ophthalmic lens
- P-012 Y. Yamada,* G. Kutluk, H. Namatame, M. Taniguchi and S. Yagi (*Nagoya University)
Spectroscopic study on the adsorption reaction of L-Cysteine on Cu nanoparticle surface under in vivo condition

Theory and simulation

- P-013 S. Fukushima,* Y. Sonobayashi and H. Shinotsuka (*National Institute for Materials Science)
The study about the energy sift of Ag 3d between Ag₂O and AgO
- P-014 N. Kato* and M. Kudo (* Seikei University)
Simulation of fragmentation of polyethylene glycole by quantum molecular dynamics for TOF-SIMS spectral analysis
- P-015 H. Shinotsuka,* M. Arai, H. Yoshikawa and S. Tanuma (*National Institute for Materials Science)
First principle calculation of the optical constants in a wide energy range for III-V semiconductors

Data analysis and treatment

- P-016 A. Lea, K. R. Swanson, J. N. Haack, M. H. Engelhard, D. R. Sisk, D. R. Baer,* J. E. Castle and S. Tougaard (*Pacific Northwest National Laboratory)
Near real-time data analysis to enhance information from XPS spectra
- P-017 J. Kawai,* H. Iwasaki and Á. Nagy (*Kyoto University)
IMFP in non-extensive tsallis entropy senario
- P-018 J. S. Jang, H. J. Kang and K. J. Kim* (*Korea Research Institute of Standards and Science)
Mechanism of interface artifacts in SIMS depth profiling of a Si/Ge multilayer by O₂⁺ beam
- P-019 T. Terakawa,* N. Mayama, Y. Kajiwara and M. Owari (*The University of Tokyo)
Study of the field evaporation mechanism of laser-assisted atom probe

Novel techniques and instrumentations

- P-020 K. Goto,* H. Takenaka, S. Tanuma, A. Kurokawa and Y. Yamauchi (*AIST)
Non-destructive AES anallysis: Si/BN
- P-021 M. Inoue,* M. Suganami, Y. Hashimoto, T. Iyasu, H. Saito, K. Moriguchi and T. Tanaka (*Setsunan University)
Application of ionic liquid coating method to observation of non-conductive samples by a mobile scanning electron microscope for elementary science education
- P-022 H. Iwai,* M. Kobata, I. Piš, H. Yoshikawa, S. Tanuma, H. Yamazui, M. Suzuki, H. Matsuda, H. Daimon and K. Kobayashi (*National Institute for Materials Science)
Development of hard x-ray photoemission spectrometer for lab use
- P-023 M. Fujii,* T. Imamura, M. Nojima and M. Owari (*The University of Tokyo)
Evaluation of focused ion beam for shave-off depth profiling
- P-024 M. Nojima,* T. Imoto, M. Fujii, M. Owari and Y. Nihei (*Tokyo University of Science)
Estimation of instrumental factor on shave-off profiling
- P-025 S.-K. Kim,* B.-H. Lee and C.-G. Park (*POSTECH)
New method of nitrogen detection in SiON by SIMS analysis
- P-026 W. S. Kim,* K. S. Yu, K. W. Jung, K. S. Park and D. W. Moon (*K-MAC)
Development of TOF-MEIS imaging system
- P-027 Y. Hanaoka,* N. Mayama, T. Terakawa, T. Yamamoto, Y. Kajiwara, T. Iwata, M. Taniguchi and M. Owari (*The University of Tokyo)
Development of laser-assisted wide angle 3D atom probe

Applications I (semiconductor, metal, ceramic, composite, etc.)

- P-028 C. Jeon, M. Kim, I. Song, H. Shin, W. Song, J. R. Ahn and C.-Y. Park* (*Sungkyunkwan University)
Initial stages of epitaxial graphene growth on SiC(0001)

- P-029 H.-N. Hwang, Y.-D. Kim and C.-C. Hwang* (*Pohang Accelerator Laboratory)
Electronic structure of monolayer graphene on Ni(111)
- P-030 W. Jung, C. Jeon, I. Song, W. Song, D. Jung, H.-N. Hwang, K.-J. Kim, C.-C. Hwang, B. Kim and C.-Y. Park* (*Sungkyunkwan University)
Hole doping of graphene by chemical method
- P-031 Y. J. Cho,* D. W. Moon, H. J. Kang and M.-H. Cho (*Korea Research Institute of Standards and Science)
Interfacial reaction and bandgap change of Hf-silicate thin film grown by ALD on SiGe substrate and annealed in N₂, NH₃ ambient
- P-032 J. Kawai* and S. Takayama (*Kyoto University)
Intrinsic and extrinsic plasmons
- P-033 S. Heo*, J.G. Chung, H.I. Lee, J.C. Lee, G.S. Park, J.S. Oh, H.Y. Cho Park, D. Tahi, S.K. Oh, H. J. Kang, T. Nagatomi and Y. Takai (*Samsung Advanced Institute of Technology)
Band alignment and defect states in amorphous Si-N compounds on Si substrates
- P-034 D. Tahir, L.S. Son, S.S. Lee, H. C. Shin, S. Oh, H.J. Kang,* S. Heo, J. G. Chung, J.C. Lee and S. Tougaard (*Chungbuk national university)
Electronic and optical properties of Al₂O₃/SiO₂ thin films grown on Si substrate
- P-035 J. W. Ma, W. J. Lee, J. M. Bae, M. H. Cho,* C.-H. An, H. Kim and H. J. Cho (*Yonsei University)
Changes in electronic structure and band gaps of La_xAl_yO as a function of post deposition annealing temperature
- P-036 R. Tan,* K. Jiang, M. Yoshitake and W. Song (*Ningbo University)
Effect of various ground method in x-ray photoelectron spectroscopic characterization of HfO₂/Si interfacial electronic structure
- P-037 Y.-B. Park,* S.-W. Park, M.-K. Choi, H.-J. Kim and O. Han (*Hynix Semiconductor Inc.)
Characterization of the ultra-thin residual layer formed in the contact-hole-bottom Si surface after post dry-etch treatment
- P-038 J.-H Kim, S.-J. Kong, J.-K. Ko, Y.-B. Park,* H.-J. Kim and O. Han (*Hynix Semiconductor Inc.)
Quantitative analysis of surface Al contaminant on silicon wafers by TOF-SIMS
- P-039 S. Otomo,* H. Maruya and H. Yoshikawa (*Furukawa Electric Co., Ltd.)
Quadrupole SIMS analysis of Si concentration in GaN layers by a molecular ion detection with a minor isotope
- P-040 T. T. Tham, L. S. Son, S. K. Oh and H. J. Kang* (*Chungbuk National University)
Configurations of water adsorption on Si(100) obtained by STM
- P-041 O. Shamiryan,* I. Maidanchuk, N. Ahn, I. Choi and H. K. Chung (*Samsung Mobile Display Co. Ltd)
Electrical characterization of thin silicon films produced by metal-induced crystallization on insulating substrates by conductive AFM
- P-042 S.-Y. Seo,* I. Y. Kim, S. H. Hong and K. J. Kim (*Korea Research Institute of Standards and Science)
High temperature annealed silicon-rich silicon-nitride thin films: Their microstructure, and optical and electrical properties
- P-043 M. Cho, S. Moon, M. Joo,* H. Shin, J. Lee and K. Park (*LG Electronics Advanced Research Institute)
Damage controlled mechanical polishing for the characterization of very thin inter-layer between thick p-electrode and GaN layers in LEDs
- P-044 Y.-S. Youn, H. Lee and S. Kim* (*KAIST)
A study of adsorption structure: Valine on Ge(100)
- P-045 S. Yang, Y.-S. Youn, Y. Kim, E.-H. Park, S. Kim and H. Lee* (*Sookmyung Women's University)
Bonding configuration of serine on Ge(100) surface: Coverage dependence
- P-046 Y. H. Min, S. J. Jung, Y.-S. Youn, D. H. Kim and S. Kim* (*KAIST)
Adsorption structures of phenylthiol on Ge(100) surface
- P-047 J. Lee, K.-J. Kim and Y. Lee* (*Korea Institute of Science and Technology)
Characterization of fluorocarbon thin films deposited by ICP and PP
- P-048 H. Takenaka,* M. Hatayama, H. Ito, T. Ohchi, A. Takano, S. Kurosawa, H. Itoh, and S. Ichimura (*NTT-AT Nanofabrication Co.)
Development of Si/SiO₂ Multilayer Type AFM Tip Characterizers

- P-049 E. Hwang, Y.-S. Seo, S. Park, J.-S. Bae, J.-S. Ahn, J. Hwang and S. Park* (*Pusan National University)
The growth temperature dependent electrical characteristics of InGaZnO₄ thin films
- P-050 M. Joo,* H. Shin, J. Lee, S. Moon, T. Moon and K. Park (*LG Electronics Advanced Research Institute)
The growth mechanism of Al doped ZnO using oxygen controlled seed layer in Si based thin film solar cells
- P-051 K. Kinoshita,* T. Yoda and S. Kishida (*Tottori University)
Secondary electron image as a probe of resistive switching effect in transition metal oxide films
- P-052 J. H. Park, S. H. Hong, J. S. Jang, K. J. Kim,* D. H. Shin and S. H. Choi (*Korea Research Institute of Standards and Science)
Fabrication and photovoltaic effects of n-type Si QDs/p-crystalline Si structures by using ion beam sputtering and annealing
- P-053 H. J. Yun, J. H. Seo, J. Lee, J. B. Park, Y.-S. Lee and C.-J. Choi* (*Semiconductor Physics Research Center (SPRC), Chonbuk National University)
The XPS and STEM study of annealing-dependent Phosphorus silicate interface and charge transfer in layer for photovoltaic devices
- P-054 J. H. Bihn, J. Y. Park and Y. C. Kang* (*Pukyong National University)
Investigation of MoO_x thin films for CIGS applications by RF sputtering
- P-055 S. H. Hong, J. S. Jang, S. Y. Seo, K. J. Kim,* D. H. Shin and S.-H. Choi (*Korea Research Institute of Standards and Science)
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- P-056 K. A. Lee, C. G. Son, J. H. Choi, Y. J. Hong and E. H. Choi* (*Kwangwoon university)
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- P-057 J. H. Choi, C. G. Son, Y. J. Hong, K. A. Lee, H. S. Uhm and E. H. Choi* (*Kwangwoon Univ.)
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- P-058 S. Heo*, J.G. Chung, H.I. Lee, J.C. Lee, G.S. Park, D. Tahir, S.K. Oh, H.J. Kang, T. Nagatomi and Y. Takai (*Samsung Advanced Institute of Technology)
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- P-060 J.-M. Jo, A. R. Hwang, J. Park, D. Kim, S. W. Koh and Y.-C. Kang* (*Pukyong National University)
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- P-061 A. R. Hwang, J. M. Jo, J. Y. Park and Y.C Kang* (*Pukyong National University)
Characterization and fabrication of ceria nanofibers by electrospinning
- P-062 H. Niwa,* S. Ogawa, G. Kutluk and S. Yagi (*School of Engineering, Nagoya University)
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- P-063 S. Yagi,* C. Tsukada, T. Nomoto, S. Ogawa, H. Niwa, G. Kutluk, H. Namatame and M. Taniguchi (*Nagoya University)
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- P-065 I. Y. Kim, K. J. Kim and J. H. Shin* (*KAIST)
Reducing the optical de-activation of Er³⁺ in SiN_x/SiO₂:Er multilayers
- P-066 H. Ju, S.-K. Kang, Y.-H. Lee, Y.-S. Lee* and S.-K. Rha (*Hanbat National University)
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- P-067 Y.-H. Lee, H. Ju, Y.-S. Lee* and S.-K. Rha (*Hanbat National University)
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- P-069 J. Kim,* B. Lee and M. Moon (*Hyundai HYSCO Co.)
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- P-070 H. D. Kwun, K. H. Kim, J. N. Kim and K. S. Shin* (*Research Institute of Industrial Science and Technology)
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- P-071 S. U. Lee, H. D. Kwun, J. W. Kim, K. S. Shin and J. N. Kim* (*Research Institute of Industrial Science & Technology)
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- P-072 V. Vignal, H. Zhang, O. Delrue, O. Heintz,* I. Popa and J. Peultier (*Laboratoire Interdisciplinaire Carnot de Bourgogne UMR5209 CNRS)
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- P-073 S. M. Lee and K. J. Kim* (*Korea Research Institute of Standards and Science)
Effect of solid angle on electron emission angle in the measurement of film thickness by x-ray photoelectron spectroscopy
- P-074 J.-P. Kim, M.-S. Won,* J.-S. Bae, J. K. Kim, W. B. Kim and J.-H. Yoon (*Korea Basic Science Institute)
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Method of determining groove angle in homogeneous line-and-space patterns by high-resolution Rutherford backscattering spectroscopy
- P-077 H. Tanishiki, T. Ogiwara, T. Nagatomi,* Y. Takai, K. J. Kim and S. Tanuma (*Osaka University)
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- P-078 M. Kubota,* H. Takamizawa, T. Toyama, Y. Shimizu, Y. Ishida, K. Yanagiuchi and Y. Nagai (*TDK Corporation)
Influences of specimen tip diameter and pulsed-laser power on a mass resolution of laser assisted atom probe
- P-079 T. Yamamoto,* Y. Hanaoka, N. Mayama, T. Kaito, T. Adachi, M. Nojima and M. Owari (*The University of Tokyo)
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- P-080 T. Imamura,* M. Fujii, M. Nojima and M. Owari (*The University of Tokyo)
Improvement and evaluation of the nano-beam SIMS control system
- P-081 T. E. Hong,* M. R. Byun, S. R. Baek, E. D. Jeong and H.-S. Yang (*Korea Basic Science Institute)
Optimization of nano SIMS for small area depth profiling
- P-082 S. I. Kim, K. Imura, S. Kim* and H. Okamoto (*Korea Advanced Institute of Science and Technology)
Visualization of optical fields surrounding individual nanovoid linear array structures of gold by near-field two-photon excitation

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- P-083 J. S. Bae, J. P. Kim, K. S. Hong, T. E. Hong, J. S. Jin, E. D. Jeong* and H.-J. Kim (*Korea Basic Science Institute)
Preparation of nano-scale carbon-coated $LiFePO_4$ electrodes for rechargeable Li-ion batteries
- P-084 S. Ogawa,* H. Niwa, K. Nakanishi, T. Ohta and S. Yagi (*Nagoya University)
Influence of CO_2 and H_2O on air oxidation of Mg nanoparticles studied by NEXAFS
- P-085 K. Ahn, J.-H. Jeon, Y.-M. Jeong, J.-H. Yoon and C.-R. Cho* (*College of Nanoscience and Nanotechnology, Pusan National University)
Depth profiling of absorber CIGS thin film by glow discharge spectrometry (GDS)
- P-086 W. C. Lim, J. Lee and Y. Lee* (*Korea Institute of Science & Technology)
Characterization of $Cu(InGa)Se_2$ (CIGS) thin films in solar cell devices by secondary ion mass spectrometry
- P-087 J. Moon, H. J. Kim, J. S. Cho, S. H. Park, B. O., K. H. Yoon, J. Song and J. C. Lee* (*Korea Institute of

- Energy Research)
 Fabrication and analysis of Si nanocrystal in SiC matrix for solar cells
- P-088 S. Jung, S. I. Jung, S. Ahn, J. Gwak, S. K. Ahn, A. Jo, J. Song, K. S. Shin, K. H. Yoon, D. Kim and J. H. Yun* (*Korea Institute of Energy Research)
 Optimization of Na concentration on flexible CIGS thin film solar cells
- P-089 C. H. Jung, Y. K. Lee, A. S. Reddy and J. Y. Park* (*Korea Advanced Institute of Science and Technology)
 Investigation of hot electron characteristics with Pt/TiO₂ and Pt/Si catalytic nanodiodes under exothermic chemical reaction
- P-090 K. Qadir, S. Kim, S. Jin, K. Jung, A. Reddy and J. Y. Park* (*Korea Advanced Institute of Science and Technology)
 Influence of chemical modification of Rh and Ru nanoparticles on catalytic activity of CO oxidation
- P-091 W. Yang and J. Joo* (*KUNSAN NATIONAL UNIVERSITY)
 Resistivity improvement of Al doped ZnO thin film by increasing Ar flow rate in bipolar pulsed dc magnetron sputtering
- P-092 S. H. Park, H. J. Kim, M.-H. Cho,* J. H. Yang, H. Kim and Y. Yi (*Yonsei University)
 Effect of contamination on electronic structure of ZnO/CuPc interface
- P-093 J. H. Lee, J. H. Shin, J. Y. Song and Y. Yi* (*Korea Research Institute of Standards and Science)
 Interfacial electronic structures between ZnO nanowire and organic molecular films
- P-094 H. S. Kim, P. E. Jeon, H. Lee, K. Jeong and Y. Yi* (*Korea Research Institute of Standards and Science)
 Hole injection mechanism of thin LiF layer introduced between pentacene and indium-tin-oxide anode
- P-095 J.-S. Bae,* J. P. Kim, T. E. Hong, J. H. Yoon, M. S. Won, J. H. Jeong and S. Park (*Korea Basic Science Institute)
 Surface analysis and photoluminescent properties of lithium incorporated Y₂O₃:Eu³⁺ phosphor powders
- P-096 J.-H. Kim, J.-K. Kim, J.-A. Hong, J. Seo, S. H. Park and Y. Park* (*Kyung Hee University)
 XPS and AFM studies of P3HT and PCBM thin films prepared by UHV electro spray deposition
- P-097 S. Kwon, S. Choi, H. J. Chung and J. Y. Park* (*Korea Advanced Institute of Science and Technology)
 Probing nanomechanical and charge transport properties on graphene layer with atomic force microscopy
- P-098 S. M. Park, J.-H. Jeon, O. O. Park, K. J. Kim and J. Q. Kim* (*Korea Research Institute of Standards and Science)
 Modification of cathode layer and its influence on interfacial energy level and efficiency in polymer-based photovoltaics
- P-099 Y. H. Kim, B. C. Son and J. W. Kim* (*Korea Research Institute of Standards and Science)
 Photoelectron spectroscopy study of organic hole doping effects on hole-injection layer in inverted OLED
- P-100 J.-H. Kim, H. Kang, J.-K. Kim, Y. Mi Lee, J. Lee, J. W. Kim, Y.-K. Kwon and Y. Park* (*Kyung Hee University)
 Origin of unusual work function modification of interface between highly electron withdrawing molecule and Cu(111)
- P-101 S. Y. Han* (*Korea Research Institute of Standards and Science)
 MALDI mass spectrometry for biologically modified surfaces
- P-102 S. Inoue,* Y. Nakahara, S. Kado, M. Tanaka and K. Kimura (*Kao Corporation)
 2D visualization of mannose distribution using AFM force sensing with probe modified by concanavalin A
- P-103 Y. Morita* and M. Owari (*The University of Tokyo)
 Three-dimensional analysis of composite polymers by dual FIB TOF-SIMS
- P-104 Y. Baba,* T. Sekiguchi, I. Shimoyama and N. Hirao (*Japan Atomic Energy Agency)
 Surface micro-XAFS for real-time observation at nanometer-scale
- P-105 Y. Iijima,* M. Naruse, Y. Sakai and K. Hiraoka (*JEOL Ltd.)
 Depth profiling with XPS of a polyvinyl chloride film etched by charged water droplets produced by electro spray droplet impact
- P-106 N. Tadokoro,* K. Jaisupap, A. Sukbumpeng, S. Pannakarn, S. Khraikratoke and N. Iwata (*HOYA Corp. VC Company Lens technology center)
 Investigation of deformation and crack phenomena on ophthalmic lens by using QUV test
- P-107 H. Kim,* H. Takei and K. Yasuda (*Kanagawa Academy of Science and Technology)

Challenge for simultaneous detection of a lot of biomolecules with high spatial resolution using metal nano-particle label set and field emission scanning electron microscopy

P-108 S. Aoyagi,* T. Matsuzaki, N. Kato and M. Kudo (*Shimane University)

Chemical imaging of biomolecules in skin using TOF-SIMS and multivariate analysis

P-109 Y. Kim,* Y. Morita and M. Owari (*The University of Tokyo)

Three-dimensional analysis of biological samples using dual FIB ToF-SIMS

P-110 Y. J. Park, G. J. Choi, T. G. Lee, W. J. Lee and D. W. Moon* (*Korea Research Institute of Standards and Science)

ToF-SIMS and AFM study of the initial growth mechanisms of hydroxyapatite on the self-assembled collagen nanofibrils

P-111 M. Kim, J. Baik, C. Jeon, I. Song, J. Nam, H.-N. Hwang, C. C. Hwang, C.-Y. Park and J. R. Ahn* (*Sungkyunkwan University)

Biological functionalization of the amine-terminated Si(100) surface by glycine

P-112 C. Tsukada,* S. Ogawa, H. Niwa, T. Nomoto, G. Kutluk, H. Namatame, M. Taniguchi and S. Yagi (*Nagoya University)

NEXAFS and XPS analyses for L-cysteine on Pd nanoparticle surface under water environment

P-113 E.-S. Lee, S.-H. Kim, J. W. Park, T. Lee and D. W. Moon* (*Korea Research Institute of Standards and Science)

Combinatorial analysis of TOF-SIMS and CARS for atherosclerotic lipids in arterial wall

P-114 S. J. Kim, W. Chegal, D. W. Moon and S.-H. Kim* (*Korea Research Institute of Standards and Science)

Surface plasmon resonance based label-free imaging of cell-to-matrix interface

P-115 S. Y. Kim, N. W. Song, S.-H. Kim and D. W. Moon* (*Korean Research Institute of Standards and Science)

Direct observation of shear effect on MT1-MMP dynamics in the membrane interface of living endothelial cell

Late-News Papers

P-116 J. H. Yoon, N. H. Heo,* S. H. Han

AES in-situ fracture analysis of interfacial segregation behavior and carbide interfaces in heat-resistant alloy

Industry Exhibition

Information

- Location of the industry exhibition is the lobby at the front of the Convention Hall of the first basement.
- The industry exhibition is available from October 04, 9:00 a.m. to October 07, 12:00 noon during the conference.

Exhibitors

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IE-02 JEOL Korea

IE-03 Kratos Analytical

IE-04 SPECS GmbH

IE-05 Park Systems.

IE-06 Surface Systems Korea

IE-07 ULVAC-PHI, Inc

IE-08 Tescan Korea