

—ALC'17 Scientific Program—

December 4, 2017 (Monday)

Room A (Jasmine I, II)

Opening ceremony (9:00 – 9:20)

141 Award ceremony & lecture

4a-A-1 (9:20-10:20) -141 award lecture-

The Surface Science of Catalysis and More, Using Ultrathin Oxide Films as Templates: A Perspective

*Hans-Joachim Freund (*Fritz Haber Institute of the Max Planck Society*)

- Break -

4a-A-2 (10:40-11:40) -141 award lecture-

Artificially controlled graded magnonic structures on FeNi films by FIB

J. Gloss, L. Flajšman, M. Horký, V. Křížáková, T. Šikola, M. Urbánek, *P. Varga (*CEITEC BUT*)

Student Award Ceremony & Short Presentations (11:40-12:20)

5p-P-45 Observation of spider silk by femtosecond pulse laser second harmonic generation microscopy

*Yue Zhao, Yanrong Li, Khuat Thi Thu Hien, Goro Mizutani, Harvey N. Rutt (*Japan Advanced Institute of Science and Technology*)

8a-B-3 Chemical State and Stability of Nitrogen Doped in NaTaO₃

*Akiyo Ozawa, Muneaki Yamamoto, Tomoko Yoshida (*Osaka City University*)

7p-A-13 Aldosterone specific visualization in primary aldosteronism using imaging mass spectrometry

*Emi Takeo, Yuki Sugiura, Koshiro Nishimoto, Eiichiro Fukusaki, Shuichi Shimma (*Osaka University*)

7a-B-4 The effect of anodizing potential and electrolyte composition on the ordering of nanoporous anodic alumina studied operando using GTSAXS

*Jonas Evertsson, Gary Harlow, Nikolay Vinogradov, Weronica Linpé, Francesco Carla, Lisa Rullik, Roberto Felici, Edvin Lundgren (*Lund University*)

5p-P-5 Atomistic study of GaSe/Ge(111) interface formed through van der Waals epitaxy

*Takahiro Yonezawa, Tatsuya Murakami, Koichi Higashimine, Antoine Fleurence, Yoshifumi Oshima, Yukiko Yamada-Takamura (*Japan Advanced Institute of Science and Technology*)

4p-P-34 Surface Structure Analysis and Atomic-sites and Valences Separation of Spinel-type Fe Oxide

*Yusuke Hashimoto , Munetaka Taguchi , Hiroyuki Matsuda , Fumihiko Matsui , Hiroshi Daimon (*Nara Institute of Science and Technology*)

4p-P-50 Elementary Excitation of Secondary Electron in Graphene on Nickel

*Kota Shihommatsu, Junro Takahashi, Hiroki Kato, Yoshikazu Homma (*Tokyo University of Science*)

7p-A-11 Mass separation patterning of AuGe alloy using rotating electric fields

*Naoya Kishimoto, Tokio Norikawa, Masashi Nojima (*Tokyo University of Science*)

- Lunch -

Electron and optical spectroscopy

4p-A-1 (14:10-14:40) –invited–

Parameterization of quantitative applications of electron spectroscopies

*Aleksander Jablonski (*Institute of Physical Chemistry, Polish Academy of Sciences*)

4p-A-2 (14:40-15:10) –invited–

Single-molecule optical spectroscopy for investigating energy transfer/conversion with STM

Yousoo Kim (*RIKEN*)

4p-A-3 (15:10-15:30)

Cathodoluminescence imaging for detecting non-metallic inclusions in steel

*Susumu Imashuku, Koichiro Ono, Kazuaki Wagatsuma (*Tohoku University*)

4p-A-4 (15:30-15:50) –sponsored session–

FOCUS GmbH

- Break -

Surface modifications of 2D materials

4p-A-5 (16:10-16:40) –invited–

Femtosecond electronic response of graphene to the strong and localized electric field of a highly charged ion

*Friedrich Aumayr (*TU Wien*)

4p-A-6 (16:40-17:00)

Alternate field evaporation by changing laser pulsing and voltage pulsing dynamically for atom probe analysis

*Masahiro Taniguchi , Osamu Nishikawa (*Kanazawa Institute of Technology*)

4p-A-7 (17:00-17:20)

Scanning Electrochemical Cell Microscopy for Visualization of Lithium-ion (De)intercalation Process in Lithium-ion Batteries Electrodes

*Akichika Kumatani, Yasufumi Takahashi, Hirokazu Munakata, Hitoshi Shiku, Kiyoshi Kanamura, Tomokazu Matsue (*Tohoku University*)

4p-A-8 (17:20-17:40)

Rectification Properties of Boron Nitride Heterojunctions to Silicon

*Kungen Teii , Manabu Ishida , Rina Takahashi , Seiichiro Matsumoto (*Kyushu University*)

Room B (Jasmine III)

Advanced material –cosmic & enviromental–

4p-B-1 (14:10-14:40) –invited–

First 10 million years of the solar system revealed by micro-analyses of primitive meteorites using SIMS

*Kazuhide Nagashima, Gary R. Huss, Alexander N. Krot (*University of Hawaii at Manoa*)

4p-B-2 (14:40-15:10) –invited–

Research for the Energy System of the Future

*Wolfgang Eberhardt (*DESY*)

4p-B-3 (15:10-15:30)

Electron Injection on Metal/n-doped Polymer Semiconductor

*Shin Sakiyama, Akane Yasukochi¹, Takahiro Iwasihta, Katsuhiko Fujita (*Kyushu University*)

4p-B-4 (15:30-15:50)

Electronic Properties of Non-Polar Surfaces of GaN, InN, and In₂O₃

*Holger Eisele, Andrea Lenz, Robert Zielinski, Celina Schulze, Michael Schnedler, Verena Portz, Zbigniew Galazka, Philipp Ebert (*Technische Universität Berlin*)

- Break -

Operand measurements

4p-B-5 (16:10-16:40) –invited–

Synchrotron radiation-based X-ray characterization of Li-ion battery

*Takamasa Nonaka (*Toyota Central R&D Labs., Inc.*)

4p-B-6 (16:40-17:10) –invited–

Ambient Secondary Ion Mass Analysis with MeV-energy Heavy Ion

*Toshio Seki, Kenta Ishii, Masakazu Kusakari, Takaaki Aoki, Jiro Matsuo (*Kyoto University*)

4p-B-7 (17:10-17:30)

The structure of the SnO₂(110)-(4x1) reconstruction

L. R. Merte, M. Jørgensen, K. Pussi, J. Gustafson, M. Shipilin, A. Schaefer, C. Zhang, J. Rawle, C. Nicklin, G. Thornton, R. Lindsay, B. Hammer, *E Lundgren (*Lund University*)

4p-B-8 (17:30-17:50)

Direct observation of bias-dependence potential distribution in metal/HfO₂ gate stack structures by operando hard x-ray photoelectron spectroscopy

*Yoshiyuki Yamashita, Hideki Yoshikawa, Toyohiro Chikyow (*National Institute for Materials Science*)

Poster Session (Orchid, Orchid foyer)

- 4p-P-1 Preparation and Characterizations of Thrombin Surface-Modified Poly(Lactic-co-Glycolic Acid) by Argon Plasma Treatment, and Its Hemostatic Effect**
*Heung Jae Chun, Dae Hyeok Yang, Su Jung You, Jae Kwang Kim, Chun Ho Kim
(*The Catholic University of Korea*)
- 4p-P-2 Preparation and Characterizations of Hydroxyapatite/BMP-2 Surface-Modified Poly-L-Lactic Acid Disc for Dental and Orthopedic Applications**
*Dae Hyeok Yang, Su Jung You, Jae Kwang Kim, Chun Ho Kim, Heung Jae Chun
(*The Catholic University of Korea*)
- 4p-P-3 Structural evaluations of Fe/boron-doped carbon/Fe₃Si spin-valve junctions**
*Kazuki Kudo, Satoshi Takeichi, Kazutoshi Nakashima, Ken-ichiro Sakai, Masahiko Nishijima, Tsuyoshi Yoshitake (*Kyushu University*)
- 4p-P-4 Effects of N-type doping in Bulk heterojunction layer**
*Akane Yasukochi, Yoshinori Kimoto, Katsuhiko Fujita (*Kyushu University*)
- 4p-P-5 Preparation and surface reduction behavior of CeO₂ nanoparticles layer on several crystal substrates**
*Takashi Hattori, Masakuni Ozawa, Masatomo Hattori (*Nagoya University*)
- 4p-P-6 Energy materials, Li-ion batteries, Solid state NMR**
*Minsoo Ji , Youngil Lee (*University of Ulsan*)
- 4p-P-7 Observation of reaction distribution in electrodes of lithium-ion battery using laser-induced breakdown spectroscopy**
*Hiroyuki Taguchi, Susumu Imashuku, Shunsuke Kashiwakura, Kazuaki Wagatsuma, Shun Fujieda, Toru Kawamata, Shigeru Suzuki (*Tohoku University*)
- 4p-P-10 Plasma Deposition of Boron Nitride Films Using Low-Energy Ion Bombardment**
Yuma Kamimura , Masataka Torigoe , *Kungen Teii , Seiichiro Matsumoto (*Kyushu University*)
- 4p-P-11 Magnetoresistance effects in spin-valves comprising N-doped carbon interlayers**
*Kazuki Kudo, Satoshi Takeichi, Kazutoshi Nakashima, Ken-ichiro Sakai, Tsuyoshi Yoshitake (*Kyushu University*)
- 4p-P-12 Quantitative analysis of dopant site occupancies in Zn-doped W-type ferrite magnets using extended statistical ALCHEMI method**
*Yoshihiro Anan, Yoshinori Kobayashi, Masahiro Ohtsuka, Shunsuke Muto
(*Hitachi, Ltd.*)
- 4p-P-13 Bohmian Trajectory Simulation for Electron Backscatter Diffraction**
L. Cheng , *Z.J. Ding (*University of Science and Technology of China*)

4p-P-14 Atomic-Orbital Analysis of Possible High Temperature Superconducting Material $\text{Sr}_{2-x}\text{La}_x\text{IrO}_4$ by Linearly-Polarized-Light Two-Dimensional Photoelectron Spectroscopy

*Rie Horie, Yosuke Kishimoto, Masru Takizawa, Hiroshi Daimon, Jun Akimitsu
(*Okayama University*)

4p-P-15 Electronic state analysis of Li-compounds by synchrotron-radiation photoelectron spectroscopy

*Ryo Ihara, Kei Mitsuhara, Masaru Takizawa (*Ritsumeikan University*)

4p-P-16 Atomic scale characterization of brownmillerite oxides: A combined study using STEM-EELS and first-principles calculation

*Yuji Kunisada, Genki Saito, Kazuki Hayami, Takahiro Nomura, Norihito Sakaguchi
(*Hokkaido University*)

4p-P-17 Calibration and Application of the Fe/O based Spin Detector FERRUM

Matthias Escher, *Michael Merkel, Nils Bernhard Weber, Stephan Borek, Jürgen Braun, Jan Minár, Hubert Ebert, Chanyong Hwang, Christian Datzner, Christian Thiede, Markus Donath (*FOCUS GmbH*)

4p-P-18 Development of an environmental RHEED and its applications to CVD growth monitoring

*Hitoshi Nakahara, Yoshimi Horio, Yahachi Saito (*Nagoya University*)

4p-P-19 Multiway site/element selective chemical analysis of combined X-ray emission/electron energy-loss hyperspectral data using incident electron beam-rocking method

*Masahiro Ohtsuka, Shunsuke Muto, Jakob Spiegelburg, Yoshihiro Anan, Yoshinori Kobayashi (*Nagoya University*)

4p-P-20 Stability of single-atom termination at a nanometer scale pyramidal apex of an Ir-coated W (111) tip

*Chuhei Oshima, Masahiko Tomitori, Tatsuya Shimoda, Anto Yasaka, Hirotaka Asai, Eiji Rokuta (*Waseda University*)

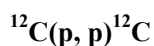
4p-P-21 Molecular dynamics study of structural changes in single-layer MoS_2 under electron irradiation

*Kazuhiro Tada, Yuya Miyashita, Shuichi Yamada, Masaaki Yasuda (*National Institute of Technology, Toyama College*)

4p-P-22 Lithium analysis in Li-ion battery materials by SEM-based approach

*Noboru Taguchi, Hikari Sakaebe, Shingo Tanaka (*National Institute of Advanced Industrial Science and Technology*)

4p-P-23 Quantitative evaluation of vacuum deposited glycine by resonant elastic scattering of



*Yasuhito Gotoh , Noriaki Nyuba , Yuki Haneji , Chikasa Nishimura , Hiroshi Tsuji (*Kyoto University*)

4p-P-24 Study on novel biomarker imaging using high-resolution TOF-SIMS for the diagnosis of cancer cell malignancy

*Keita Kanenari, Masato Morita, Masatoshi Kakihana, Naohiro Kajiwara, Tatsuo Ohira, Norihiko Ikeda (*Kogakuin University*)

4p-P-25 Chemical Structural Analysis of Organosilanes with Bi Cluster TOF-SIMS

Megumi Fukuta , Rie Shishido , *Shigeru Suzuki (*Tohoku University*)

4p-P-27 Surface Action Spectroscopy with Rare Gas Messenger Atoms

Zongfang Wu, Agata Plucienik, Felix E. Feiten, Matthias Naschitzki, Walter Wachsmann, Sandy Gewinner, Wieland Schöllkopf, *Helmut , Kühlenbeck, Hans-Joachim Freund (*Fritz Haber Institute of the Max Planck Society*)

4p-P-28 New Decomposition Methods for Chemical Structure Analysis of Huge Synthetic Polymers

*Makiko Fujii (*Yokohama National University*)

4p-P-29 In-situ atom-probe analysis of field induced chemical etching of tungsten with oxygen and nitrogen

*Shigekazu Nagai , Minoru Wakamoto , Kazuki Ohtani , Tatsuo Iwata , Koichi Hata (*Mie University*)

4p-P-30 Temperature Measurement of an Individual Suspended Single-Walled Carbon Nanotube by Photoluminescence Imaging Spectroscopy

*Kazuma Nagano, Kazuki Yoshino, Tateki Hanashima, Shohei Chiashi, Yoshikazu Homma (*Tokyo University of Science*)

4p-P-31 Investigation of Water Encapsulated in Single-walled Carbon Nanotubes by Photoluminescence Spectroscopy

*Yuta Saito, Takashi Kato, Kazuki Yoshino, Shohei Chiashi, Yoshikazu Homma (*Tokyo University of Science*)

4p-P-32 Polarization Property of Raman Scattering from Suspended Single-walled Carbon Nanotubes

*Yuichiro Tanaka, Takashi Kato, Kazuki Yoshino, Shohei Chiashi, Yoshikazu Homma (*Tokyo University of Science*)

4p-P-33 New investigation method on surface roughness correlation function with the use of X-ray reflectivity

*Yoshikazu Fujii (*Kobe University*)

4p-P-34 Surface Structure Analysis and Atomic-sites and Valences Separation of Spinel-type

Fe Oxide

*Yusuke Hashimoto , Munetaka Taguchi , Hiroyuki Matsuda , Fumihiko Matsui , Hiroshi Daimon (*Nara Institute of Science and Technology*)

4p-P-36 Development of a portable high resolution γ -ray spectrometer using SrI₂(Eu)/MPPC/Raspberry Pi for global radiation monitoring network

*Y. Kimura, S. Nagai, Y. Kamakura, J. Yoshii, R. Shimizu, V. N. Gluchsenko (*Osaka University*)

4p-P-38 XANES analysis of oxygenated graphitic carbons

*Yasuji Muramatsu , Yuki Ota (*University of Hyogo*)

4p-P-39 Surface characterization and physical properties of cross-linked polymer thin films

*Yuki Nohara , Mina Matsuo , Shigeaki Oyama , Masashi Ohno , Katsumi Chikama (*Nissan Chemical Industries, Ltd*)

4p-P-40 Chemical state modification of 4H-SiC by ultraviolet-ray aided machining

*Masaru Takizawa , Akihiro Hata , Kei Mitsuhara , Takeshi Tanaka (*Ritsumeikan University*)

4p-P-41 The electric potential in organic thin film transistor including the buried interfaces observed by operando hard X-ray photoemission spectroscopy measurement

*Takeshi Watanabe, Satoshi Yasuno, Noriyuki Yoshimoto, Ichiro Hirosawa (*Japan Synchrotron Radiation Research Institute*)

4p-P-42 Fabrication of Rh-Pd(PVP) nanoparticle and characterization by NEXAFS and XPS

*Shinya Yagi, Takeshi Kodera, Chie Tsukada, Eiji Ikenaga, Satoshi Ogawa (*Nagoya University*)

4p-P-43 XPS spectral changes of DLC thin films obtained by argon ion sputtering

*Kenji Yamada, Takahiro Imai, Yushi Iijima, Toru Harigai, Yoshiyuki Suda, Hirofumi Takikawa (*National Institute of Technology, Ishikawa College*)

4p-P-44 Surface characterization of silicon spheres for density determination by XPS

*Lulu Zhang, Naoki Kuramoto, Akira Kurokawa, Kenichi Fujii (*National Institute of Advanced Industrial Science and Technology*)

4p-P-45 Scintillation properties of Nd-doped lutetium yttrium aluminum oxide perovskite single crystals doped with different Nd concentrations

*Masaki Akatsuka, Yuki Usui, Daisuke Nakauchi, Naoki Kawano, Go Okada, Noriaki Kawaguchi, Takayuki Yanagida (*Nara Institute of Science and Technology University*)

4p-P-46 Auger-free luminescence of BaF₂ Transparent Ceramic

*Takumi Kato, Naoki Kawano, Go Okada, Noriaki Kawaguchi, Kentaro Fukuda, Takayuki Yanagida (*Nara Institute of Science and Technology*)

- 4p-P-47 Probe electrospray ionization of mixture solutions using metal needles with different tip conditions**
*Satoshi Ninomiya, Shunpei Iwamoto, Lee Chuin Chen, Kenzo Hiraoka (*University of Yamanashi*)
- 4p-P-48 Flash desorption mass spectrometry of solid materials using a pre-heated knife-edge filament**
*Satoshi Ninomiya, Dilshadbek T. Usmanov, Kenzo Hiraoka (*University of Yamanashi*)
- 4p-P-49 Redox Phenomena Induced by X-rays in KBr:Sm**
*Go Okada, Yutaka Fujimoto, Naoki Kawano, Noriaki Kawaguchi, Safa Kasap, Takayuki Yanagida (*Nara Institute of Science and Technology*)
- 4p-P-50 Elementary Excitation of Secondary Electron in Graphene on Nickel**
*Kota Shihommatsu, Junro Takahashi, Hiroki Kato, Yoshikazu Homma (*Tokyo University of Science*)
- 4p-P-51 Scintillation of neodymium doped multi component garnet crystals**
*Takayuki Yanagida, Hiroki Sato, Naoki Kawano, Go Okada, Noriaki Kawaguchi (*Nara Institute of Science and Technology*)
- 4p-P-52 Sum frequency generation investigation of the orientation of 3-Aminopropyltriethoxysilane on the Si(111) substrates**
*Khuat Thi Thu Hien, Phan Trong Tue, Goro Mizutani, Harvey N. Rutt (*Japan Advanced Institute of Science and Technology*)
- 4p-P-53 Development of an ion beam source for SIMS in atmospheric pressure**
*Haruka Koreeda, Tetsuo Sakamoto (*Kogakuin University*)
- 4p-P-54 Hard Coating of Ultrananocrystalline Diamond/Nonhydrogenated amorphous Carbon Composite Films on Cemented Carbide**
*Tsuyoshi Yoshitake, Mohamed Egiza, Koki Murasawa, Mohamed Ali, Hiroshi Naragino, Aki Tominaga, Yasuo Fukui, Hidenobu Gonda, Masatoshi Sakurai (*Kyushu University*)
- 4p-P-55 Characterization of Electrical Double Layer (EDL) at Solid/Liquid Interface using Medium Energy Ion Scattering (MEIS)**
*Heejin Lim, KangWon Jung, DaeWon Moon (*Daegu Gyeongbuk Institute of Science , Technology*)
- 4p-P-56 Ambient Mass Spectrometry for Monitoring Microbial Volatile Metabolites from Solid-derived Fungi Using a DART Ion Source**
*Takae Takeuchi, Yuri Tanaka, Tohru Yamagaki, Motoshi Sakakura (*Nara Women's University*)

December 5, 2017 (Tuesday)

Room A (Jasmine I, II)

Plenary Lectures

5a-A-1 (9:00-9:50) -plenary-
New trends in atomic level characterization with synchrotron radiation and free electron lasers
*Tetsuya Ishikawa (*RIKEN*)

5a-A-2 (9:50-10:40) -plenary-
Big-Data Routes for Atomic-Level Characterization of Novel Materials
*Matthias Scheffler (*Fritz-Haber-Institut der Max-Planck-Gesellschaft*)

- Break -

Characterization by photon

5a-A-3 (11:00-11:30) –invited–
Introduction of Cathodoluminescence spectroscopy and its Applications
Yoshiteru Yasuda, Seiji Higuchi (*Horiba*)

5a-A-4 (11:30-11:50)
Local control of the magnetic anisotropy by photon and electron beam induced CO dissociation
Francesca Genuzio, Pietro Genoni, Tevik Onur Menteş, Benito Santos, Alessandro Sala,
*Andrea Locatelli (*Elettra - Sincrotrone Trieste S.C.p.A.*)

5a-A-5 (11:50-12:10)
Establishment of technological infrastructures for the creation of CNF/CNT hybrid nanostructures
*Yoichi Ogata, Hajime Sasaki, Bunshi Fugetsu, Ichiro Sakata (*The University of Tokyo*)

5a-A-6 (12:10-12:30) –sponsored session-
Scienta Omicron, Inc.

- Lunch -

3D atomic visualization and characterization of functionally active site

5p-A-1 (14:10-14:40) –invited–
Determining atomic and electronic structure in complex materials and heterostructures with element- and site- specificity
*Charles S. Fadley (*University of California Davis*)

5p-A-2 (14:40-15:10) –invited–
Principles of Atomic Resolution Holography and New Atomic Image Reconstruction Algorithm
*Tomohiro Matsushita (*Japan Synchrotron Radiation Research Institute*)

5p-A-3 (15:10-15:30)

A valence selective x-ray fluorescence holography study of an yttrium oxide thin film

*Jens Ruediger Stelhorn, Shinya Hosokawa, Naohisa Happo, Hiroo Tajiri, Tomohiro Matsushita, Kenichi Kaminaga, Tomoteru Fukumura, Tetsuya Hasegawa, Kouichi Hayashi
(*Kumamoto University*)

5p-A-4 (15:30-15:50)

Time-Resolved Local Structure Imaging by Micro-Photoelectron Holography and Photoemission Electron Microscopy at SPring-8

*Toyohiko Kinoshita (*Japan Synchrotron Radiation Research Institute (JASRI)*)

- Break -

3D atomic visualization and characterization of functionally active site

5p-A-5 (16:10-16:40) –invited–

Atomic level structure of the interface between titanium oxides and liquid water

*Geoff Thornton (*UCL*)

5p-A-6 (16:40-17:10) –invited–

Local dopant site structure analysis in perovskite titanates

*M. Lippmaa (*University of Tokyo*)

5p-A-7 (17:10-17:30)

3D structures of atomically dispersed metals on a TiO₂(110) surface premodified with a functional organic molecule studied by polarization- dependent total reflection fluorescence (PTRF)-XAFS

*Satoru Takakusagi, Kiyotaka Asakura (*Hokkaido University*)

5p-A-8 (17:30-17:50)

Application of X-ray fluorescence imaging to protein crystals

*Ayana Sato-Tomita, Naoya Shibayama, Naohisa Happo, Tomohiro Matsushita, Kouichi Hayashi, Yuji. C. Sasaki (*Jichi Medical University*)

Room B (Jasmine III)

LEEM & PEEM

5a-B-1 (11:00-11:30) –invited–

Oxide Thin Film Growth for Application in Au Nanoparticle Catalysis

Zichun Miao , Ka Man Yu , *Michael Altman (*Hong Kong University of Science and Technology*)

5a-B-2 (11:30-11:50)

Surface characterization of an industrial aluminum alloy by XPEEM, XPS, and XRR during heat treatment

*Lisa Rullik, Florian Bertram, Yuran R. Niu, Jonas Evertsson, Jan-Olov Nilsson, Alexei A. Zakharov, Anders Mikkelsen, Edvin Lundgren (*Lund University*)

5a-B-3 (11:50-12:10)

Nucleation, morphology and structure of sub-nm thin ceria islands on Rh(111)

*Jens Falta, Jan Höcker, Sanjaya D. Senanayake, Jerzey T. Sadowski, Jan Ingo Flege (*University of Bremen*)

5a-B-4 (12:10-12:30)

Reactive diffusion dynamics of quasi-free-standing silicide monolayer with high surface conductivity

*Zheng Wei, Lin Zhu, Guodong Shi, Xiaodong Yang, Meng Li, Lei Yu, Bo Shang, Rei Hobara, Nakamura Tomonori, Shuji Hasegawa, Wen-Xin Tang (*Chongqing University*)

- Lunch -

Time-resolved measurements and imaging

5p-B-1 (14:10-14:40) –invited–

Subfemtosecond Dynamics of Orbital Angular Momentum in Nanoplasmonic Spirals

*Frank Meyer zu Heringdorf (*University of Duisburg-Essen*)

5p-B-2 (14:40-15:10) –invited–

Imaging and tailoring chiral magnetism in epitaxial multilayers

*Andreas Schmid, Gong Chen (*Lawrence Berkeley National Lab*)

5p-B-3 (15:10-15:30)

Simulation-based Feasibility Assessment of an Electron-Beam Array made with Multi-hole Permanent Magnets

*Takeharu Goji Etoh, Kazuhiro Shimonomura, Katsushige Tsuno, Kazuki Hiraoka (*Ritsumeikan University*)

5p-B-4 (15:30-15:50)

3D imaging of change in the hydration structure at phyllosilicate crystal-electrolyte solution interfaces by FM-AFM

*Yuki Araki, Kei Kobayashi, Hirofumi Yamada (*Kyoto University*)

- Break -

Time-resolved measurements and imaging

5p-B-5 (16:10-16:40) –invited–

Optically excited structural transition in atomic wires on surfaces at the quantum limit: a femtosecond ultrafast surface electron diffraction study

*Michael Horn von Hoegen (*Universität Duisburg-Essen*)

5p-B-6 (16:40-17:10) –invited–

Progress on developing Ultrafast Spin-Polarized Low Energy Electron Microscopy

Lei Yu, Weishi Wan, Lin Zhu, Xiaodong Yang, Zheng Wei, Jefferson Zhe Liu, Jun Feng, Kai Kunze, Oliver Schaff, Yoshihiro Arai, Yasue Tsuneo, Takanori Koshikawa, Ruud Tromp, *Wen-xin Tang (*Chongqing University*)

5p-B-7 (17:10-17:30)

Temperature dependent local atomic structures in the traditional Fe₆₅Ni₃₅ Invar alloy by x-ray fluorescence holography

Yuki Ideguchi, Jens R. Stellhorn, *Shinya Hosokawa, Naohisa Happo, Tomohiro Matsushita, Kunio Yubuta, Koji Kimura, Koichi Hayashi (*Kumamoto University*)

5p-B-8 (17:30-17:50)

In plane local atomic configuration of Mg-Zn-Y long period stacking ordered alloys studied by X-ray fluorescence holography

*Koji Kimura, Takumi Nishioka, Kouichi Hayashi, Koji Hagihara, Hitoshi Izuno, Naohisa Happo, Yuta Yamamoto, Eiji Abe, Shinya Hosokawa, Motohiro Suzuki (*Nagoya Institute of Technology*)

Poster Session (Orchid, Orchid foyer)

- 5p-P-1 Theoretical study of electric power generation using valley indices in TMDCs**
*Satoru Konabe, Takahiro Yamamoto (*Tokyo University of Science*)
- 5p-P-2 Spin polarization of field-emitted electrons from graphene edges**
*Shigekazu Nagai, Hiromu Ikemizu, Kazuya Kunoh, Koichi Hata, Yudai Watanabe, Toru Hoshino, Masaru Irita, Hitoshi Nakahara, Yahachi Saito (*Mie University*)
- 5p-P-3 Electronic and chemical state analyses of oxidizing graphene**
*Kota Takaoka, Shiro Entani, Seiji Sakai, Kei Mitsuhara, Masaru Takizawa (*Ritsumeikan University*)
- 5p-P-4 SPM imaging of DNA on Graphene surface**
*Hiroyuki Tanaka, Masateru Taniguchi (*Osaka University*)
- 5p-P-5 Atomistic study of GaSe/Ge(111) interface formed through van der Waals epitaxy**
*Takahiro Yonezawa, Tatsuya Murakami, Koichi Higashimine, Antoine Fleurence, Yoshifumi Oshima, Yukiko Yamada-Takamura (*Japan Advanced Institute of Science and Technology*)
- 5p-P-6 Study of the solid-liquid interface for a lithium-metal secondary battery application**
*Mitsunori Kitta, Masahiro Shikano, Hikaru Sano (*AIST*)
- 5p-P-7 Observation of Second Harmonic Generation from the Stepped Au/TiO₂(320) Interface**
*Haque MD Ehasanul, Daiki Kobayshi, Yuki Tomatsu, Khuat Thi Thu Hien, Goro Mizutani, Harvey N. Rutt (*Japan Advanced Institute of Science and Technology*)
- 5p-P-8 Effects of Mg diffusion on the characteristics of metal-semiconductor-metal photodetectors with MgZnO/ZnO bi-layer**
*Jun-Dar Hwang, Jun-Shou Lin (*Chiayi University*)
- 5p-P-9 Study of surface orientation of polyimide chains giving high and low pretilt angle using optical second harmonic generation**
*Yousuke Inomata, Shinya Asakura, Khaut Thi Thu Hien, Goro Mizutani, Yoshitaka Murakami, Takashi Okada (*Japan Advanced Institute of Science and Technology, JSR Co., Ltd.*)
- 5p-P-10 Atomic-scale friction phenomena on polymer surface: Molecular dynamics study**
*Akinori Iwai, Kazuhiro Tada, Hiroaki Kawata, Yoshihiko Hirai, Masaaki Yasuda (*Osaka Prefecture University*)
- 5p-P-11 Structural analysis and suppression of Jahn-Teller distortion of Cu-ferrite nanoparticles surrounded by amorphous SiO₂ for medical application**
*Koki Fujiwara, Shinji Kimura, Shunta Miyano, Taisei Ide, Yoshiyuki Hosokai, Akihito

Usui, Yoshio Machida, Haruo Saito, Yuko Ichiyanagi (*Yokohama National University*)

5p-P-12 Ferromagnetic behavior and electronic characterization of ZnO nanoparticles for imaging probes

*Taisei Ide, Kiminori Hyodo, Koki Fujiwara, Tatsuya Hashimoto, Daiki Aihara, Akito Oshima, Kouhei Kanda, Yuko Ichiyanagi (*Yokohama National University*)

5p-P-13 Study of carbon-nanotube-composite papers aiming to materialize "paper antenna" for IoT

*Yuki Ikezoe, Takahide Oya (*Yokohama National University*)

5p-P-14 Electronic state and growth mode analysis of Cu nanoparticles on rutile TiO₂(110)

*Kei Mitsuhashi, Toshitaka Aoki, Masaru Takizawa (*Ritsumeikan University*)

5p-P-15 Bulk synthesis of linear carbon-chains confined inside single-wall carbon nanotubes by vacuum discharge

Satoshi Toma, Koji Asaka, Masaru Irita, *Yahachi Saito (*Nagoya University*)

5p-P-16 Magnetism of magnetic molecule absorbed on metal surfaces

*Susumu Shiraki (*Nippon Institute of Technology*)

5p-P-17 Electrochemical properties of Li₄Ti₅O₁₂ and LiTi₂O₄ epitaxial thin films synthesized with pulsed laser deposition

*Susumu Shiraki, Yoshitaka Takagi, Ryota Shimizu, Taro Hitosugi (*Nippon Institute of Technology*)

5p-P-18 Effects of hydrogenation on thermal transport in ultrananocrystalline diamond/amorphous carbon composite films

*Satoshi Takeichi, Takashi Nishiyama, Mitsuru Tabara, Shuichi Kawawaki, Masamichi Kohno, Koji Takahashi, Tsuyoshi Yoshitake (*Kyushu University*)

5p-P-19 Photodetection properties of heterojunction diodes comprising boron-doped ultrananocrystalline diamond films prepared by coaxial arc plasma deposition and n-type silicon substrates

*Satoshi Takeichi, Naofumi Nishikawa, Yuki Katamune, Tsuyoshi Yoshitake (*Kyushu University*)

5p-P-20 Surface chemical states of gold nanoparticles prepared by solution plasma in CsCl aqueous solution

*Chie Tsukada, Hikaru Yoshida, Satoshi Ogawa, Akitaka Yoshigoe, Shinya Yagi, Tsuyoshi Yaita (*Nagoya University*)

5p-P-21 Fabrication of coherent electron sources made with reservoirs of palladium oxide.

*Hirofumi Asai, Ryota Kawai, Fumiya Matsubara, Hidekazu Murata, Eiji Rokuta, Chuhei Oshima (*Meijo University*)

- 5p-P-22 Nitriding of gallium oxide photocatalysts for visible light response**
*Yuma Kato, Muneaki Yamamoto, Akiyo Ozawa, Yu Kawaguchi, Tomoko Yoshida (*Osaka City University*)
- 5p-P-23 Effects of the crystalline structure of Ga₂O₃ on the photocatalytic activity for CO₂ reduction with water**
*Yu Kawaguchi, Muneaki Yamamoto, Akiyo Ozawa, Yuma Kato, Tomoko yoshida (*Osaka City University*)
- 5p-P-24 Observation of self-standing films of binary 8CB/7AB7 liquid crystals by using low energy SEM**
*Fumiya Matsubara, Shin-ya Sugisawa, Natsumi Sasaki, Hirotaka Asai, Hidekazu Murata, Eiji Rokuta, Chuhei Oshima, Yuka Tabe (*Meijo University*)
- 5p-P-25 Investigation on the structural, dielectric and impedance analysis of lanthanum substituted lithium cobalt oxide**
*Misbah Mumtaz, M.A. Rafique, M.M. Hasan (*Pakistan Institute of Engineering and Applied Sciences*)
- 5p-P-26 The Observation of Catalytic Reaction Products with Atom Probe Tomography Apparatus**
*Takumi Suzuki, Yun Kim, Takuya Egawa, Masanori Owari (*The University of Tokyo*)
- 5p-P-27 Si Doping Effects on Mechanical Properties of Ultrananocrystalline Diamond/Amorphous Carbon Composite Films Deposited on Cemented Carbide Substrates by Coaxial Arc Plasma Deposition**
*Tsuyoshi Yoshitake, Mohamed Egiza, Koki Murasawa, Mohamed Ali, Hiroshi Naragino, Aki Tominaga, Yasuo Fukui, Hidenobu Gonda, Masatoshi Sakurai (*Kyushu University*)
- 5p-P-28 Electron scattering simulation to design Faraday cup**
*Takatoshi Donga, Yuka Ito, Masatoshi Kotera (*Osaka Institute of Technology*)
- 5p-P-29 Development of a voltage applying and heating specimen holder for observation of solid oxide fuel cell's reactions in environmental TEM**
*Takafumi Ishida, Hideto Hirosima, Kimitaka Higuchi, Takayoshi Tanji, Masahiro Tomita, Koh Saitoh (*Nagoya University*)
- 5p-P-30 Measurement of the flare electron current distribution with various accelerating voltage in scanning electron microscope**
*Yoshifumi Hagiwara, Kentaro Morimoto, Yuka Ito, Masatoshi Kotera (*Osaka Institute of Technology*)
- 5p-P-31 Contribution of flare electrons on enormous large areal positive charging**
*Shota Nishimura, Takuya Kawamoto, Hideaki Mizuno, Masaki Moriyama, Masatoshi Kotera (*Osaka Institute of Technology*)

- 5p-P-32 Robustness Calculation of Magnetic Sectors for SEM/LEEM/PEEM**
*Yasuhiro Shirasaki, Momoyo Enyama (*Hitachi, Ltd.*)
- 5p-P-33 Scanning confocal electron microscopy (SCEM) using 4D-dataset acquisition**
*Masaki Takeguchi, Takumi Hamaoka, Kazutaka Mitsuishi, Ayako Hashimoto (*National Institute for Materials Science*)
- 5p-P-34 Three-dimensional trajectory simulation of scattered electrons in scanning electron microscope specimen chamber**
*Kazumasa Terada, Yoshifumi Hagiwara, Masatoshi Kotera (*Osaka Institute of Technology*)
- 5p-P-35 Data acquisition electronic system for time-of-flight sputtered neutral mass spectrometer**
*Ken-ichi Bajo, Osamu Fujioka, Satoru Itose, Morio Ishihara, Kiichiro Uchino, H. Yurimoto (*Hokkaido University*)
- 5p-P-36 Observation of the Gas Adsorption on the Surface of Catalytic Materials by Atom Probe Tomography**
*Takuya Egawa, Yun Kim, Takumi Suzuki, Masanori Owari (*The University of Tokyo*)
- 5p-P-38 Development of Multi-color Ti:Sa Lasers for Micro-imaging of "Difficult-to-Analysis" Nuclides by means of Resonant Laser SNMS**
*Masato Morita, Keita. Kanenari, Kosuke Saito, Toshihide Kawai, Takeo Okumura, Volker Sonnenschein, Hideki Tomita, Tetsuo Sakamoto (*Kogakuin University*)
- 5p-P-39 Chromosome imaging by TOF-SNMS**
*Kosuke Nagata, Ken-ichi Bajo, Chie Takeuchi, Hideyuki Mitomo, Tomoya Kotani, Kuniharu Ijio, Hisayoshi Yurimoto (*Hokkaido University*)
- 5p-P-41 Emission trajectory calculation of ions from Shave-off cross section for realization of 3D Shave-off method**
*Yuto Takagi, Kang Sohee, Takeki Azuma, Kohei Matsumura, Bunbunoshin Tomiyasu, Masanori Owari (*University of Tokyo*)
- 5p-P-42 Compact nano-resolution X-ray microscope based on carbon nanotube FE-SEM**
*Masaru Irita, Shintarou Yamazaki, Hitoshi Nakahara, Yahachi Saito (*Nagoya University*)
- 5p-P-43 Influence of Shot Peening on Hot Work Tool Steel**
*Sachin Vishwas Patil, Valmik Bhavar, Prakash Kattire, Sandeep Thakare, P.P.Date, R. K. P. Singh, (*Kalyani Center for Technology, Innovation (KCTI)*)
- 5p-P-44 Microscopic MALDI-imaging mass spectrometry reveals specific distribution of phytochemicals in *Zingiberaceae***
*Shuichi Shimma, Takehito Sagawa (*Osaka University*)

- 5p-P-45 Observation of spider silk by femtosecond pulse laser second harmonic generation microscopy**
*Yue Zhao, Yanrong Li, Khuat Thi Thu Hien, Goro Mizutani, Harvey N. Rutt (*Japan Advanced Institute of Science and Technology*)
- 5p-P-46 Experimental Investigations on Electron Beam Welding of SAE 15B41 Steel**
*Sandeep Thakare, Valmik Bhavar, Prakash Kattire, Sachin V. Patil, Vinayak Pawar, Dr. R. K. P. Singh (*Bharat forge limited*)
- 5p-P-47 Initial growth of PTCDI-C8 molecular layers on Si(110)**
Katarzyna Lament , Piotr Mazur , Miłosz Grodzicki , Radosław Wasielewski , Wojciech Kaminski , *Antoni Ciszewski (*University of Wroclaw*)
- 5p-P-48 The imaging contrasts of anatase-TiO₂ (001) (1×4) surface using non-contact atomic force microscopy**
*Daiki Katsube, Yuji Miyato, Hayato Yamashita, Satoshi Abo, Masayuki Abe (*Osaka University*)
- 5p-P-49 Frequency modulation atomic force microscopy (FM-AFM) observation of adsorbed films on diamond-like carbon (DLC) surfaces**
*Hikaru Okubo, Sasaki Shinya (*Tokyo University of Science*)
- 5p-P-50 Effect of pH on two-dimensional crystal formation of streptavidin**
Zipeng Cui, Kei Kobayashi, Yoshiki Hirata, *Hirofumi Yamada (*Kyoto University*)
- 5p-P-51 Room temperature 2D Fermi surface of SrTiO₃**
*Nicholas Barrett, Claire Mathieu, Sara Gonzalez, Vitaliy, Claus Schneider (*CEA Saclay*)
- 5p-P-52 Linear and non-linear optical spectroscopy of monolayer transition-metal dichalcogenides under a microscope**
*Yuhei Kikuchi, Yoshihiro Miyauchi, Takanori Suzuki, Masatoshi Tanaka, Shinya Ohno (*Yokohama National University*)
- 5p-P-53 Mapping micro- and nano-scale structures at Graphite surface by photoelectron diffraction**
*Fujita Yoshiki, Yasunori Senba, Yoshinori Kotani, Takayuki Muro, Tomohiro Matsushita, Fumihiko Matsui (*Nara Institute of Science and Technology*)
- 5p-P-54 Impurity positions and lattice distortions in a Mn doped Bi₂Te₃ topological insulator studied by x-ray fluorescence holography**
*Shinya Hosokawa, Jens R. Stellohn, Tomohiro Matsushita, Naohisa Hoppo, Koji Kimura, Koichi Hayashi, Mamoru Kitaura, Minoru Sasaki (*Kumamoto University*)
- 5p-P-55 Local structural analysis of In doped Bi₂Se₃ topological insulator using X-ray fluorescence holography**
*Koji Kimura, Kouichi Hayashi, Lada V. Yashina, Naohisa Hoppo, Yoshihiro Ebisu,

Takumi Nishioka, Yuta Yamamoto, Toru Ozaki, Shinya Hosokawa, Hiroo Tajiri (*Nagoya Institute of Technology*)

5p-P-56 PESCATORA: Projector for ESCA to Real Space Analysis

*Fumihiko Matsui, Hiroshi Ota, Yoshiki Fujita, Takuya Shimano, Yoshinori Yoshida, Daisuke Take, Kenji Sugita, Yoshiki Oyama, Takuya Kishimoto, Hiroaki Nishikawa, Hiroyuki Matsuda (*Nara Institute of Science and Technology*)

5p-P-57 Atomic scale analyses of As doped in Si by soft X-ray photoelectron spectroscopy and spectro-photoelectron holography

*Kotaro Natori, Tatsuhiro Ogawa, Takuya Hoshii, Tomohiro Matsushita, Takayuki Muro, Toyohiko Kinoshita, Yoshitada Morikawa, Kuniyuki Kakushima, Fumihiko Matsui, Kouichi Hayashi, Hitoshi Wakabayashi, Kazuo Tsutsui (*Tokyo Institute of Technology*)

5p-P-58 Local dopant structure of Ag-doped Bi₂Se₃ topological insulator by photoelectron diffraction

*Takuya Shimano, Fumihiko Matsui, Kaya Kobayashi, Teppei Ueno, Eri Uesugi, Yoshihiro Kubozono (*Nara institute of science and technology*)

December 6, 2017 (Wednesday)

Room A (Jasmine I, II)

Tutorial

6a-A-1 (9:00-10:00) –tutorial-
Extreme-high-vacuum technology and high-energy-resolution electron spectroscopy
*Chuhei Oshima (*Waseda University*)

Plenary lecture

6a-A-2 (10:00-10:50) –plenary-
Field Emission from carbon nanotube and graphene: Its Application and Related Phenomena
Yahachi Saito (*Nagoya University*)

-Break-

141 award lecture

6a-A-3 (11:10-12:10) -141 award lecture-
A small world
Wolf-Dieter Schneider (*Fritz-Haber-Institute of the Max-Planck-Society*)

-Break-

6a-A-4 (12:20-12:50) -invited-
Bottom-Up Construction and Atomic-Level Characterization of Spin Chains on Superconducting Substrates for Topological Quantum Computation
*Roland Wiesendanger (*University of Hamburg*)

Room B (Jasmine III)

6a-B-1 (12:20-12:50) -invited-
A new spin on photoemission
*C.M. Schneider (*Research Center Juelich*)

Conference Photo (12:50-13:10)

December 7, 2017 (Thursday)

Room A (Jasmine I, II)

Transmission electron microscopy

7a-A-1 (9:00-9:30) -invited-

Development of a New Cs-Corrector with Electrostatic Field formed by Annular and Circular Electrodes

*Tadahiro Kawasaki, Ryuji Yoshida, Takeharu Kato, Tsunenori Nomaguchi, Shunichi Motomura, Toshihide Agemura, Tetsuji Kodama, Masahiro Tomita, Takashi Ikuta (*Japan Fine Ceramics Center*)

7a-A-2 (9:30-10:00) -invited-

Prospects and Results of Aberration-Corrected Low-Voltage Electron Microscopy – the SALVE Project

*Harald Rose (*University of Ulm*)

7a-A-3 (10:00-10:20)

Development of a Real-Time Wave Field Reconstruction System for Environmental TEM Observation

Takahiro Tamura, Yoshihide Kimura, *Yoshizo Takai (*Osaka University*)

7a-A-4 (10:20-10:40)

Development of a High Speed Electron Beam Blanking System for TEM

*Yukari Watanabe, Yoshihide Kimura, Yoshizo Takai (*Osaka University*)

-Break-

Transmission electron microscopy

7a-A-5 (11:00-11:30) -invited-

New visions by high voltage electron holography

*Toshiaki Tanigaki (*Hitachi, Ltd.*)

7a-A-6 (11:30-12:00) -invited-

Analytical and in-situ applications using aberration corrected scanning transmission electron microscope

*Ichiro Ohnishi (*JEOL Ltd.*)

7a-A-7 (12:00-12:20)

In situ observation of the Fe₂O₃ and Si or SiO₂ reaction in TEM

*Nobuhiro Ishikawa, Tadashi Mitsui, Masaki Takeguchi, Kazutaka Mitsuishi (*National Institute for Materials Science*)

7a-A-8 (12:20-12:40) –sponsored session-

JEOL Ltd.

- Lunch -

Biological material

7p-A-1 (14:10-14:40) –invited–

Reductionism converged into artificial intelligence: mass spectrometry based-diagnosis of cancer

*Sen Takeda (*University of Yamanashi*)

7p-A-2 (14:40-15:10) –invited–

Quantum Technology based Life Science

*Mitsutoshi Setou (*International Mass Imaging Center*)

7p-A-3 (15:10-15:30)

Quantification of Carbon Nanotubes Uptaken by Macrophage Cells Using Optical Absorption Method

*Minfang Zhang, Mei Yang, Masako Yudasaka, Toshiya Okazaki (*AIST*)

7p-A-4 (15:30-15:50) –sponsored session–

SHIMADZU CORP.

- Break -

Biological material

7p-A-5 (16:10-16:40) –invited–

Fluorine Incorporated Amorphous Carbon nano-coatings for Artificial Heart (Ventricular Assist Device)

Terumi Hasebe (*Tokai University*)

7p-A-6 (16:40-17:00)

Development of sugar chains in rice seeds studied by confocal SFG microscopy

*Akira Matsubara, Sharmin Sultana, Wataru Kouyama, Khuat Thi Thu Hien, Goro Mizutani, Yasunori Nakamura (*Japan Advanced Institute of Science and Technology*)

-Dinner-

Ion beam

7p-A-7 (18:30-19:00) –invited–

Electronic stopping of protons in metals and in metal oxides

Dietmar Roth, Barbara Bruckner, Marcos Vicinius Moro, Daniel Primetzhofer, *Peter Bauer (*Johannes Kepler University Linz*)

7p-A-8 (19:00-19:30) –invited–

Nano-Scale Ion Beam Analysis and Applications to Biological Systems

Vachislav Manichev, Leonard C. Feldman, *Torgny Gustafsson (*Rutgers University*)

7p-A-9 (19:30-19:50)

Low Energy Ion Scattering Studies of Topological Insulator Surfaces

*Jory A. Yarmoff, Weimin Zhou, Haoshan Zhu (*University of California, Riverside*)

7p-A-10 (19:50-20:20) –invited–

Application of atom probe tomography to fundamental issues of steel materials

*Jun Takahashi (*Nippon Steel, Sumitomo Metal Corporation*)

7p-A-11 (20:20-20:40)

Mass separation patterning of AuGe alloy using rotating electric fields

*Naoya Kishimoto, Tokio Norikawa, Masashi Nojima (*Tokyo University of Science*)

7p-A-12 (20:40-21:00)

Ultra-high-speed CCD image sensors for Imaging TOF MS

*Kazuhiro Shimonomura, Anh Quang Nguyen, Kohsei Takehara, Luc Haspeslagh, Paul Goetshalckx, Piet De Moor, Naoki Hayashi, Yo Mitsui, Tomohiro Takahashi, Akihiko Iguchi, Tsutomu Mihara, Takeharu Goji Etoh (*Ritsumeikan University*)

7p-A-13 (21:00-21:20)

Aldosterone specific visualization in primary aldosteronism using imaging mass spectrometry

*Emi Takeo, Yuki Sugiura, Koshiro Nishimoto, Eiichiro Fukusaki, Shuichi Shimma (*Osaka University*)

Room B (Jasmine III)

Characterization by X-ray

7a-B-1 (9:00-9:30) -invited-

Taming 4f electrons in endohedral single molecule magnets

*Thomas Greber (*University of Zurich*)

7a-B-2 (9:30-10:00) -invited-

N and O K-edge linearly polarized X-ray absorption near edge structure of Ta-based oxynitride thin films

*Tetsuya Hasegawa, Daichi Oka, Fumihiko Matsui, Hideyuki Kamisaka, Tamio Oguchi, Takayuki Muro, Kouichi Hayashi, Yasushi Hirose (*The University of Tokyo*)

7a-B-3 (10:00-10:20)

Combining High Energy X-Ray Diffraction Techniques with Laser-Induced Fluorescence in Operando Catalysis

*Uta Hejral, Johan Gustafson, Stefano Albertin, Olivier Balmes, Jianfeng Zhou, Tim Wiegmann, Jakub Drnec, Sara Blomberg, Johan Zetterberg, Mikhail Shipilin, Sebastian Pfaff, Edvin Lundgren (*Lund University*)

7a-B-4 (10:20-10:40)

The effect of anodizing potential and electrolyte composition on the ordering of nanoporous anodic alumina studied operando using GTSAXS

*Jonas Evertsson, Gary Harlow, Nikolay Vinogradov, Weronica Linpé, Francesco Carla, Lisa Rullik, Roberto Felici, Edvin Lundgren (*Lund University*)

-Break-

Graphene & related 2D material

7a-B-5 (11:00-11:30) -invited-

Helical molecules at surfaces: selective chemistry and molecular machines

*Karl-Heinz Ernst (*Empa, Swiss Federal Laboratories for Materials Science and Technology*)

7a-B-6 (11:30-12:00) -invited-

Computational study of temperature distribution in electron-irradiated graphene

Yasuyuki Ueno, Hiroaki Kawata, Yoshihiko Hirai, *Masaaki Yasuda (*Osaka Prefecture University*)

7a-B-7 (12:00-12:20)

Structures and electronic properties of perovskite quantum dots on TiO₂ Rutile surface

*Sergey Gusarov (*National Institute for Nanotechnology*)

7a-B-8 (12:20-12:40)

Electronically induced surface reactions of organic molecules on silicon studied by means of STM

Gerson Mette, Marcel Reutzler, Tamam Bohamud, Alexa S. Adamkiewicz, Ulrich Höfer,
*M. Dürr (*Justus Liebig University Giessen*)

- Lunch -

Characterizations of Water at Surface and Interface

7p-B-1 (14:10-14:40) –invited–

Vibrational Spectroscopic Study on the Phase Transition of Water in Nanospaces and at Interfaces

*Hiroharu Yui (*Tokyo University of Science*)

7p-B-2 (14:40-15:10) –invited–

The strong effect of water on friction at the nano scale

*Robert W. Carpick, Kathryn Hasz, Zhijiang Ye, Ashlie Martini (*University of Pennsylvania*)

7p-B-3 (15:10-15:30)

Effect of water on interfacial structure of room-temperature ionic liquids

*Shouhei Kawada, Eri Kodama, Keisuke Sato, Hikaru Okubo, Shinya Sasaki
(*Tokyo University of Science*)

7p-B-4 (15:30-15:50)

Computational Exploration of Microscopic Structures of Water on Graphene

*Kenji Sasaoka, Yusei Kioka, Yuki Maekawa, Takahiro Yamamoto (*Tokyo University of Science*)

- Break -

7p-B-5 (16:10-16:40) –invited–

Investigation of liquid interface structure with ion beam analysis

HeeJin Kim, KwangWon Chung, *DaeWon Moon (*DGIST*)

7p-B-6 (16:40-17:00)

Micorbeam hard X-ray photoelectron and ion-beam analyses of Nb hydrides formed in supercritical water

*Kazuo Soda, Shinya Sugiura, Kanta Yamaguchi, Masahiko Kato, Ken Niwa, Masashi Hasegawa, Kohtaku Suzuki, Tatsuya Ishigami, Eiji Ikenaga (*Nagoya University*)

-Dinner-

Fundamental phenomena

7p-B-7 (18:30-19:00) –invited–

Vacuum characteristics of low-carbon steels and its application to a field emission

electron gun

Boklae Cho (*Korea Research Institute of Standards and Science*)

7p-B-8 (19:00-19:30) –invited–

High-brightness electron and ion sources based on thermally stable nanoemitters

*Ing-Shouh Hwang, Wei-Tse Chang, Hong-Shi Kuo, Tsu-Yi Fu, Chun-Yueh Lin, Jin-Long Hou, Wei-Chiao Lai, Yu-Fong Yu, Tien T. Tsong (*Academia Sinica*)

7p-B-9 (19:30-19:50)

Observation of dc field-evaporated ion species from transition metal nitride thin film deposited on tungsten-tip

*Chikasa Nishimura, Yuki Haneji, Hiroshi Tsuji, Yasuhito Gotoh (*Kyoto University*)

7p-B-10 (19:50-20:20) –invited–

Photoemission and Double photoemission with Femtosecond High-Harmonic Laser Radiation

Cheng-Tien Chiang, Andreas Trützscher, Robin Kamrla, Michael Huth, Frank O. Schumann, Jürgen Kirschner, *Wolf Widdra (*Universität Halle-Wittenberg*)

7p-B-11 (20:20-20:40)

Germanene: the germanium analogue of graphene

*Harold J.W. Zandvliet (*MESA+ Institute for Nanotechnology, University of Twente*)

7p-B-12 (20:40-21:00)

Application of XAFS/EELS spectroscopy to the quantitative chemical state analysis of nitrogen in titanium oxide photocatalysts

*Tomoko Yoshida, Muneaki Yamamoto, Akiyo Ozawa, Yuma Kato, Shinya Yagi (*Osaka City University*)

December 8, 2017 (Friday)

Room A (Jasmine I, II)

Scanning probe microscopy

8a-A-1 (9:00-9:30) –invited–

Atomic-layer superconductors

*Shuji Hasegawa (*University of Tokyo*)

8a-A-2 (9:30-9:50)

Functional visualization of biomolecules by frequency modulation AFM and 3-dimensional force mapping

Hiroaki Kominami, Kei Kobayashi, *Hirofumi Yamada (*Kyoto University*)

8a-A-3 (9:50-10:10)

One-dimensional chains of endofullerene nanomagnets

*Rasmus Westerström, Fabian Fritz, Christin Schleier, Alexey Popov, Carola Meyer (*Lund University*)

8a-A-4 (10:10-10:30)

Iron-based magnetic nanoparticles with tuned composition and crystal structure

Calle Preger, Claudiu Bulbucan, Matthias Muntwiler, Rasmus Westerström, *Maria E. Messing (*Lund University*)

– Break –

Scanning probe microscopy

8a-A-5 (10:50-11:20) –invited–

Influence of external forces on the vibrational modes of an adsorbed molecule

Norio Okabayashi, Angelo Peronio, Magnus Paulsson, Toyoko Arai, *Franz J. Giessibl (*University of Regensburg*)

8a-A-6 (11:20-11:50) –invited–

Development of high performance spin-polarized photocathode and its application

*Xiuguang Jin, Masao Suzuki, Tsuneo Yasue, Takanori Koshikawa, Yoshikazu Takeda (*High Energy Accelerator Research Organization*)

8a-A-7 (11:50-12:10)

Electrical Transport Measurements with atomic precision by 4-probe SPM

*Markus Maier, Juergen Koebler, Roland Thiel, Alexandre Priou, Dirk Stahl, Mathias Fenner, Thomas Roth (*Scienta Omicron GmbH*)

8a-A-8 (12:10-12:30)

Development of Application Technique of Kelvin Probe Force Microscope for Advanced Semiconductor Devices

*See Kei Lee, Mitsuo Koike, Hiroki Kawai, Kazuya Matsuzawa, Hiroki Tanaka (*Toshiba Corporation Corporate Research , Development Center*)

Closing Ceremony (12:40-13:00)

Room B (Jasmine III)

Advanced material characterization

8a-B-1 (9:00-9:30) –invited–

Microscopic distribution of different elements in stainless steels analyzed by Bi cluster TOF-SIMS

Rie Shishido, Masahito Uchikoshi, *Shigeru Suzuki (*Tohoku University*)

8a-B-2 (9:30-9:50)

Study for X-ray Generation by Irradiating Pyroelectric Element with UV Laser Beam

*Tomimasa Konishi, Toshiyuki Ishida (*BSR Co., LTD.*)

8a-B-3 (9:50-10:10)

Chemical State and Stability of Nitrogen Doped in NaTaO₃

*Akiyo Ozawa, Muneaki Yamamoto, Tomoko Yoshida (*Osaka City University, "Sakai Chemical Industry, Co., Ltd."*)

8a-B-4 (10:10-10:30)

A New Line Defect in NdTiO₃ Determined by Analytical Scanning Transmission Electron Microscopy

*Jong Seok Jeong, Mehmet Topsakal, Peng Xu, Bharat Jalan, Renata M. Wentzcovitch, K. Andre Mkhoyan (*University of Minnesota*)

- Break -

Advanced material characterization

8a-B-5 (10:50-11:20) –invited–

Applications of Electron Spectroscopy to Oxide Thin Film Devices

*Hee Jae Kang (*Chungbuk National University*)

8a-B-6 (11:20-11:50) –invited–

Ion-solid interaction studied by TOF-MEIS: from electronic excitations to photon and particle emission

Svenja Lohmann, Mauricio Sortica, Valentina Paneta, Barbara Bruckner, Peter Bauer, *Daniel Primetzhofer (*Uppsala University*)

8a-B-7 (11:50-12:10)

Nanostructured Aluminum Oxides and Metal Electrodeposition

*Gary S. Harlow, Nikolay A. Vinogradov, Jonas Evertsson, Francesco Carla, Lisa Rullik, Roberto Felici, Edvin Lundgren (*Lund University*)

8a-B-8 (12:10-12:30)

Structure of 1D Aluminum Oxyhydroxide γ -AlOOH (Pseudoboehmite)

*Zheng Liu, Takashi Yumura, Iijima Sumio (*National Institute of Advanced Industrial*)

Science and Technology (AIST)

Closing Ceremony (12:40-13:00) in Room A