Program

Nov. 3 (Mon)

Hall C (3F)

3aC1 Plenary Session

Chair: K. Fukui (Osaka Univ.)

9:40-10:40 3aC1-1(PL) Topological Electromagnetic Responses from Surface/Interface States

Y. Tokura[1,2]
[1]RIKEN CEMS, Japan, [2]Univ. of Tokyo, Japan

10:40-11:40 3aC1-2(PL) Nanorings and Other Things: Bio-Inspired Nanostructured Interfaces

R.M. Corn, K. Cho, J.B. Wood, M. Toma and G. Loget
Univ. of California-Irvine, USA

Hall A (1F)

3pA1 Surface Structure_1

Chair: T.O. Mentes (Sincrotrone Trieste), Y. Mizuno (Kyushu Univ.)

13:10-13:50 3pA1-1(I) Ultrathin Silicate Films on Metals

S. Shaikhutdinov
Fritz Haber Inst., Germany

13:50-14:10 3pA1-2 Structure of cerium oxide film on Rh(111) studied by STM, LEED, XPS, and DFT+U

L.H. Chan and J. Yuhara
Nagoya Univ., Japan

14:10-14:30 3pA1-3 Two Dimensional Alloy of Pb-Sn monolayer films on Ag(111)

J. Yuhara and T. Ako
Nagoya Univ., Japan

14:30-14:50 3pA1-4 Two-dimensional Tl/Sn binary layer on Si(111)

D.V. Gruznev[1,2], A.V. Matetskii[1,2], L.V. Bondarenko[1,2], A.Y. Tupchaya[1], C.-R. Hsing[3], C.-M. Wei[3], Y.-L. Wang[3], A.V. Zotov[1,2] and A.A. Saranin[1,2]
[1]Inst. of Automation and Control Processes, Russia, [2]Far Eastern Federal Univ., Russia, [3]Inst. of Atomic and Molecular Sciences, Academia Sinica, Taiwan

14:50-15:10 3pA1-5 Structure and Transport Properties of Cu-Doped Bi_2Se_3 Films

T. Shirasawa[1,2], M. Sugiki[1], T. Hirahara[3,4], M. Aitani[3], T. Shirai[3], S. Hasegawa[3] and T. Takahashi[1]
[1,3]Univ. of Tokyo, Japan, [2]JST, PRESTO, Japan, [4]Tokyo Inst. Tech., Japan

3pA2 Surface Structure_1 (Continued)

Chair: S. Shaikhutdinov (FHI) , M. Yoshimura (Toyota Technol. Inst.)

15:30-15:50 3pA2-1 LEED structural analysis of monolayer h-BN grown by CVD

H. Hibino[1], C.M. Orofeo[1], H. Kageshima[2], S. Suzuki[1] and S. Mizuno[3]
[1]NTT Basic Research Labs., Japan, [2]Shimane Univ., Japan, [3]Kyushu Univ., Japan

15:50-16:10 3pA2-2(T) Ion Implantation beneath a Corrugated Monolayer of Boron Nitride: Nanotents, "Can-Opener" Effect and Self-Healing

H. Cun[1], M. Iannuzzi[2], A. Hemmi[1], S. Roth[1], J. Osterwalder[1] and T. Greber[1]
[1,2]Univ. Zürich, Switzerland

16:10-16:30 3pA2-3 Orbital-Selective Tunneling Process Observed in Atomic-Layer Iron Nitride

Y. Takahashi[1], K. Ienaga[1], N. Kawamura[1,2], T. Miyamachi[1] and F. Komori[1]
[1]Univ. of Tokyo, Japan, [2]STRL, JBC, Japan

16:30-16:50 3pA2-4 Formation of β-$FeSi_2$(100) Nano-Carpet on Si(001) Substrate

K. Hattori[1], M. Someta[1], N. Hirota[1], K. Ohta[1], S. Takemoto[1], H. Daimon[1], K. Kurushima[2], Y. Otsuka[2] and O. Romanyuk[3]
[1]Nara Inst. of Science and Technology, Japan, [2]Toray Research Center Inc., Japan, [3]Academy of Sciences of the Czech Republic, Czech Republic

16:50-17:30 3pA2-5(I) Low-dimensional bimetallic alloys: structure and magnetism at the nanoscale

T.O. Menteş[1], E. Vescovo[2], J.M. Ablett[3], M.A. Niño[4] and A. Locatelli[1]
[1]Elettra Sincrotrone Trieste, Italy, [2]National Synchrotron Light Source, USA, [3]Synchrotron Soleil, France, [4]IMDEA – Nanoscience, Spain

Hall B (1F)

3pB1 Surface Chemistry_1

Chair: Y. Morikawa (Osaka Univ.), Y. Takakuwa (Tohoku Univ.)

13:10-13:30 3pB1-1 Atomic scale interface of RuO_2/water under electrochemical conditions from first principle calculations

E. Watanabe[1], H. Ushiyama[1,3], M. Björketun[2], J. Rossmeisl[2] and K. Yamashita[1,3]
[1]The Univ. of Tokyo, Japan, [2]Technical Univ. of Denmark, Denmark, [3]Kyoto Univ., Japan

13:30-13:50 3pB1-2 Adsorption on ferromagnetic platinum

M.C.S. Escaño[1] and H. Kasai[2]
[1]Univ. of Fukui, Japan, [2]Osaka Univ., Japan

13:50-14:10 3pB1-3(T) Mechanisms of the On-Surface Ullmann Coupling – Influence of Metal Adatoms

J. Björk and S. Stafström
IFM, Linköping Univ., Sweden

14:10-14:30 3pB1-4 Water-adsorption-induced trapping of photo-generated electrons in anatase-TiO_2 nanoparticles

T. Sugimoto, K. Shirai, K. Watanabe and Y. Matsumoto
Kyoto Univ., Japan

14:30-15:10 3pB1-5(I) Functionalities of Surface-Confined Molecular Networks at the Liquid/Solid Interfaces

K. Tahara[1], K. Katayama[1], J. Adisoejoso[2], K. Inukai, B. Li[2], S.D. Feyer[2] and Y. Tobe[1]
[1]Osaka Univ., Japan, [2]K.U. Lue, Belgium, [3]JST, PRESTO, Japan

3pB2 Surface Chemistry_1 (Continued)

Chair: D. Fujita (NIMS), J. Nakamura (Tsukuba Univ.)

15:30-15:50 3pB2-1 Interrelation between morphology and chemical state of size-selected Pt_n clusters on Al_2O_3/NiAl(110)

A. Beniya[1], N. Isomura[1], H. Hirata[2] and Y. Watanabe[1]
[1]Toyota Central R&D Labs., Inc., Japan, [2]Toyota Motor Corporation, Japan

15:50-16:10 3pB2-2 High Speed AFM Study of Structural Effects on the Dissolution of Shape-controlled Pt Nanoparticles

N. Hoshi, Y. Yamada, M. Kameyama and M. Nakamura
Chiba Univ., Japan

16:10-16:30 3pB2-3 Diffusion behavior of metal ions at Ionic Liquid/Electrode Interface during Electrodeposition Studied by In-situ Electrochemical XPS

A. Imanishi[1], M. Hirogaki[1], T. Tsuda[2], S. Kuwabata[2] and K. Fukui[1]
[1,2]Osaka Univ., Japan

16:30-16:50 3pB2-4 Electrocatalytic Reduction of Oxygen at Various Types of Boron Nitride on Gold

G. Elumalai[1,2], H. Noguchi[1,2,3], T. Masuda[1] and K. Uosaki[1,2,3]
[1]GREEN, NIMS, Japan, [2]Hokkaido Univ., Japan, [3]WPI-MANA, NIMS, Japan

16:50-17:10 3pB2-5 In-situ X-ray reflectivity observation of oxide growth during anodic oxidation of Si

W. Voegeli[1], E. Arakawa[1], C. Kamezawa[1,2], R. Iwami[1], T. Shirasawa[3,4] and T. Matsushita
[1]Tokyo Gakugei Univ., Japan, [2]Photon Factory, KEK, Japan, [3]Univ. of Tokyo, Japan, [4]JST, PRESTO, Japan

17:10-17:30 3pB2-6 **Potential-Dependent Electric Double Layer Structures at Liquid / Electrode Interfaces by Electrochemical Frequency Modulation AFM**

K. Fukui[1], T. Utsunomiya[1,2], T. Enoki[3], H. Hara[1], T. Uemura[4], J. Takeya[4], A. Imanishi[1] and Y. Yokota[1]
[1]Osaka Univ., Japan, [2]Kyoto Univ., Japan, [3]Tokyo Tech, Japan, [4]Univ. Tokyo, Japan

Hall C (3F)

3pC1 & 3pC2 Topical Session: Novel Electronic States -Topological Insulator Materials-

Chair: I. Matsuda (the Univ. of Tokyo), A. Kimura (Hiroshima Univ.)

13:30-13:50 3pC1-1 **Introductory**

I. Matsuda[1], A. Kimura[2]
[1]The Univ. of Tokyo, Japan, [2]Hiroshima Univ., Japan

13:50-14:30 3pC1-2(I) **Topological Surface States and Helical Dirac Fermions: Discovery and Recent Results**

M.Z. Hasan,
Princeton Univ., USA

14:30-15:10 3pC1-3(I) **Visualizing Electronic Structures of Topological Quantum Materials**

Y. Chen
Oxford Univ., UK

15:30-16:10 3pC2-1(I) **Interaction-induced quantum anomalous Hall phase in (111) bilayer of $LaCoO_3$**

Y. Wang, Z. Wang, Z. Fang and X. Dai
Beijing National Laboratory for Condensed Matter Physics and Inst. of Physics, Chinese, Academy of Sciences, China

16:10-16:50 3pC2-2(I) **Quantized anomalous Hall Effect in magnetically doped topological insulators**

Q.K. Xue
Tsinghua Univ., China

Room D (5F)

3pD1 Green Technologies_1

Chair: M. Machida (Kumamoto Univ.), J. Nakamura (Tsukuba Univ.)

13:10-13:50 3pD1-1(I) **How to develop post lithium ion battery– Lithium Ion Battery**

H. Zhou
AIST, Japan

13:50-14:10 3pD1-2 **Universal electronic structures of iron-based phosphate/pyrophosphate cathodes for lithium- and sodium-ion batteries studied by resonant photoemission spectroscopy**

M. Oshima[1], K. Horiba[2], S. Itoh[3], S. Kurosumi[3], N. Nagamura[4], S. Toyoda[5], H. Kumigashira[2], N. Furuta[3], S. Nishimura[3], A. Yamada[3] and N. Mizuno[3]
[1,3]The Univ. of Tokyo, Japan, [2]Photon Factory & CMRC, IMSS, KEK, Japan, [4]IMRAM, Tohoku Univ., Japan, [5]Kyoto Univ., Japan

14:10-14:30 3pD1-3 **In-situ TEM observation of the Structure Change at the Interface between Li ion battery Cathode and Electrolyte during charge-discharge cycles**

S. Lee[1,2], Y. Oshima[2,3] and K. Takayanagi[1,2]
[1]Tokyo Tech., Japan, [2]JST-CREST, Japan, [3]JAIST, Japan

14:30-14:50 3pD1-4 **AES quantitative analysis of a complex oxide $LiCoO_2$, a cathode material of lithium ion bettery, with the help of the standard spectra of component oxides**

A. Tanaka, K. Tsutsumi and M. Shima
JEOL Ltd., Japan

14:50-15:10 3pD1-5 **Lubricating Mechanism of Halogen-free Ionic Liquids**

S. Kawada[1], Y. Ichise[1], S. Watanabe[1], C. Tadokoro[2] and S. Sasaki[2]
[1,2]Tokyo Univ. of Science, Japan

3pD2 Development on Instrumentation & Characterization_1

Chair: K. Akagi (Tohoku Univ.), R. Berndt (Univ. of Kiel)

15:30-16:10 3pD2-1(I) The origin of high resolution AFM/STM imaging and beyond

P. Jelinek[1,2]
[1]*Inst. of Physics of the AS CR, Prague, Czech Republic,* [2]*Osaka Univ., Japan*

16:10-16:30 3pD2-2 Detail Analysis of X-ray Energy Dependent Force Spectra in XANAM Measurements by using a qPlus-Sensor Probe

S. Suzuki[1], S. Mukai[2], W.-J. Chun[3], M. Nomura[4] and K. Asakura[2]
[1]*Nagoya Univ., Japan,* [2]*Hokkaido Univ., Japan,* [3]*ICU, Japan,* [4]*KEK-PF, Japan*

16:30-16:50 3pD2-3 All optical non-contact Atomic Force Microscope working with high frequency non-flexural modes towards shorter range chemical contrast

P. E. Allain[1,2], D. Damiron[1,2], Y. Miyazaki[1], D. Kobayashi[1], K. Nagao[1], K. Edagawa[1], N. Sasaki[3] and H. Kawakatsu[1,2]
[1,2]*The Univ. of Tokyo, Japan,* [3]*Univ. of Electro-Communications, Japan*

16:50-17:10 3pD2-4 Relationship between surface structures/charges and local hydration structures studied by FM-AFM in liquids

K. Umeda[1], K. Kobayashi[1,2] and H. Yamada[1]
[1,2]*Kyoto Univ., Japan*

17:10-17:30 3pD2-5 Real time chemical contrast technique by direct detection of local minima of frequency shifts

Y. Miyazaki[1], P.E. Allain[1,2], D. Damiron[1,2], Y. Toriyama[1], D. Kobayashi[1], K. Nagao[1], K. Edagawa[1], N. Sasaki[3] and H. Kawakatsu[1,2]
[1]*The Univ. of Tokyo, Japan,* [2]*LIMMS/CNRS-IIS, Japan,* [3]*Univ. of Electro-Communications, Japan*

Room D (6F)

3pE1 Nanomaterials : Fabrication and Functionality_1

Chair: T. Ogino (Yokohama National Univ.), G. Eda (National Univ. of Singapore)

13:10-13:30 3pE1-1 Artificially modified graphene heterojunction with isotopes

Y. Anno, K. Takei, S. Akita and T. Arie
Osaka Prefecture Univ., Japan

13:30-13:50 3pE1-2 Directivity of Stacked Graphene Patterns for THz Light

S. Suzuki and H. Hibino
NTT Basic Research Labs., Japan

13:50-14:10 3pE1-3 Precise analysis of buffer layer at graphene/SiC interface by surface-enhanced Raman scattering spectroscopy using gold nanoparticles

Y. Sekine[1], H. Hibino[1], K. Oguri[1], A. Iwamoto[2], M. Nagase[2], H. Kageshima[1] and T. Akazaki[1]
[1]*NTT Basic Research Labs., Japan,* [2]*Tokushima Univ., Japan*

14:10-14:30 3pE1-4 Fabrication of Nanopores on Suspended Graphene Films Using Catalyst Nanoparticles Deposited by Atomic Force Microscopy

D. Mashiyama, K. Yokota, R. Seino, M. Zikri and T. Ogino
Yokohama National Univ., Japan

14:30-14:50 3pE1-5 Graphene growth on the buffer layer of SiC(0001) by molecular beam epitaxy

F. Maeda, M. Takamura and H. Hibino
NTT Basic Research Labs., Japan

14:50-15:10 3pE1-6 Roll-to-roll large-area nanowires for flexible transparent electrode

Y.-J. Oh[1,2] and B.-Y. Wang[1]
[1]*KIST, Korea,* [2]*KUST, Korea*

3pE2 Nanomaterials : Fabrication and Functionality_1 (Continued)

Chair: T. Ishida (AIST), Y. Sugimoto (Osaka Univ.)

15:30-16:10 3pE2-1(I) Band nesting and photocarrier relaxation in transition metal dichalcogenide nano-sheets

G. Eda[1,2]

[1,2]National Univ. of Singapore, Singapore

16:10-16:30 3pE2-2 Terahertz emission from semi-insulating InP surface coated with WS_2 nanosheets prepared by liquid phase exfoliation

F.R. Bagsican[1], I. Kawayama[1], H. Murakami[1], A. Winchester[2], S. Ghosh[2], S. Talapatra[2] and M. Tonouchi[1]

[1]Osaka Univ., Japan, [2]Southern Illinois Univ.-Carbondale, USA

16:30-16:50 3pE2-3 Direct structural evidences of $Ge_{1-x}Mn_x$ nanocolumn multi-layers epitaxial growth on Ge(001)

T.G. Le[1], M.A. Nguyen[1] and V.L. Thanh[2]

[1]Hong Duc Univ., Viet Nam, [2]AIX-Marseille Univ., France

16:50-17:10 3pE2-4 Catalytic nucleation in Fe nanowire growth by chemical vapor deposition

T. Shimada, A. Kawahito, T. Yanase and T. Nagahama

Hokkaido Univ., Japan

17:10-17:30 3pE2-5 Fabrication and Characterizations of Carbon Nanotube/TiO_2 Nanocomposites Fibers with Poly(vinyl alcohol) by Electrospinning

M. Wongaree[1,2], S. Chuangchote[3] and S. Chiarakorn[4,5]

[1,3,4,5]King Mongkut's Univ. of Technology Thonburi, Thailand, [2]Center for Energy and Environment, Ministry of Education, Thailand

3PA Poster Session (Candidates for Best Poster Award)

Frontiers in Dynamics on Surfaces

3PA-1 **Interference of Energy Absorption Processes of Molecule and Interface Plasmon in Scanning Tunneling Microscope-induced Light Emission**

K. Miwa[1], H. Imada[1], M. Sakaue[2], H. Kasai[2] and Y. Kim[1]
[1]RIKEN, Japan, [2]Osaka Univ., Japan

3PA-2 **Photoinduced Carrier Dynamics on Clean and Sputtered Rutile TiO_2(110) Surfaces - Time-Resolved Soft X-ray Photoelectron Spectroscopy Study**

M. Emori[1], K. Ozawa[2], R. Yukawa[3], S. Yamamoto[3], K. Fujikawa[3], Sh. Yamamoto[3], R. Hobara[3], H. Sakama[1] and I. Matsuda[3]
[1]Sophia Univ., Japan, [2]Tokyo Inst. of Technology, Japan, [3]Univ. of Tokyo, Japan

Nanomaterials: Fabrication and Functionality

3PA-3 **$Ag_n(NO_3)_{n+1}$ cluster colloids synthesized by a novel laser ablation method**

T. Nishi, Y. Akimoto, S. Kajiya, N. Takahashi, K. Okamoto and Y. Watanabe
TOYOTA CRDL., Inc., Japan

3PA-4 **The Growth of Multi-Walled Carbon Nanotubes with Core-Sheath Structure by Chemical Vapor Deposition**

T. Hasegawa[1], D.J. Arenas[2] and H. Kohno[3]
[1]Osaka Univ., Japan, [2]Univ. of North Florida, USA, [3]Kochi Univ. of Technology, Japan

3PA-5 **In-situ transmission electron microscopy observations of bending of individual carbon nanotetrahedron/ribbon structures**

Y. Masuda[1] and H. Kohno[2]
[1]Osaka Univ., Japan, [2]Kochi Univ. of Technology, Japan

3PA-6 **Influence of crystal facets on the physical/optical properties and the photocatalytic activity of decahedral-shaped anatase titania particles**

M. Takase, K. Kobayashi, K. Matsui, S. Kimura, A. Uotani and B. Ohtani
Hokkaido Univ., Japan

3PA-7 **Anion Doped Oxide Organic Nano Composite via an Advanced Microwave Route for Energy Utilization**

S. Takayama[1], M. Senna[2], M. Fuji[3], T. Shirai[3] and S. Sano[4]
[1]NIFS, Japan, [2]Univ. of Keiou, Japan, [3]Nagoya Inst. of Technology, Japan, [4]AIST, Japan

3PA-8

3PA-9 **Stability of Single-Atom Contacts under AC Biases**

S. Murayama, S. Kurokawa and A. Sakai
Kyoto Univ., Japan

3PA-10 **Single-Atom Conductance of Y**

Y. Ishino, Y. Ishida, S. Kurokawa and A. Sakai
Kyoto Univ., Japan

3PA-11 **Formation of Palladium Nano Clusters on Reduced Graphene Oxide Served as the Catalyst of Methanol Synthesis**

X. Zhang[1,2], A. Okonogi[1], T. Kondo[1] and J. Nakamura[1,2]
[1]Univ. of Tsukuba, Japan, [2]JST, ACT-C, Japan

3PA-12 **Study on crystal growth of homogeneous Ni nanowires**

T. Fujimoto[1], S. Ogawa[1], T. Yoshida[1,2] and S.Yagi[1,2]
[1]Nagoya Univ., Japan, [2]EcoTopia Science Inst., Nagoya Univ., Japan

3PA-13 **Hydrogen Storage Property of the Pd nanoparticle with clean surfaces studied by QCM**

S. Ogawa[1], T. Fujimoto[1], N. Uchiyama[2], T. Kanai[2], C. Tsukada[1], T. Yoshida[1,3] and S. Yagi[1,3]
[1]Nagoya Univ., Japan, [2]ATSUMITEC Co., Ltd., Japan, [3]EcoTopia Inst., Nagoya Univ., Japan

3PA-14 **Water-assisted control of multilayer graphene growth**

M. Inoue, Y. Anno, K. Takei, S. Akita and T. Arie
Osaka Prefecture Univ., Japan

3PA-15 **XPS Study of Bi-based High Temperature Superconducting Whisker Grown by Vapor-Liquid Hybrid Growth Method**

T. Nishio, N. Kataoka, R. Matsumoto and H. Tanaka
National Inst. of Technology, Yonago College, Japan

3PA-16 **Al Metamaterial Perfect Absorber for Surface-enhanced Infrared Spectroscopy**

K. Chen[1,2], D.D. Thang[1,2,3], S. Ishii[1,2], L. Gandham[1,2] and T. Nagao[1,2]
[1]NIMS, Japan, [2]CREST, JST, Japan, [3]Nara Inst. of Science and Technology, Japan

3PA-17 **Quasi-two dimensional hybrid films of graphene and carbon nanotubes fabricated via controlled surface precipitation of carbon in low vacuum**

D.D. Nguyen, and M. Yoshimura
Toyota Technological Inst., Japan

3PA-18 **PEEM and micro PES study of Graphene growth on Ni(110) substrate**

R. Kadowaki[1], M. Kuriyama[1], T. Abukawa[1], K. Sagisaka[2] and D. Fujita[2]
[1]Tohoku Univ., Japan, [2]NIMS, Japan

3PA-19 **Charged Iridium complexes: Design, Synthesis and Theoretical Studies for blue LECs**

K. Wongkhan[1], M. Srikaew[1], B. Somchob[1], S. Sahasithiwat[2], Y. Tantirungrotechai[3] and R. Jitchati[1]
[1]Ubon Ratchathani Univ., Thailand, [2]National Metal and Materials Technology Center, Thailand, [3]Thammasat Univ., Thailand

3PA-20 **Transmission Electron Microscopy of Iron-Based Alloys-Encapsulating Carbon Nanocapsules**

E. Hayaki[1] and T. Kizuka[2]
[1,2]Univ. of Tsukuba, Japan

Surface Electronic States

3PA-21 **The electronic structure of a (1×1)TiO_2 ultrathin film on Ag(110) : LEED, PES, and NEXAFS study**

Y. Sugizaki[1], S. Ishida[1], T. Nakamura[1], T. Chikaba[1], S. Yoshikawa[1], M. Seimiya[1], A. Tanimoto[1], Y. Kakefuda[1], K. Edamoto[1,2] and K. Ozawa[3]
[1,2]Rikkyo Univ., Japan, [3]Tokyo Inst. Technol, Japan

3PA-22 **Voltage-induced reversible and irreversible changes in the magnetic coercivity of Fe/ZnO heterostructures**

C.-C. Hsu, P.-C. Chang, C.-C. Shieh, C.-J. Tsai, F.-Y. Lo and W.-C. Lin
National Taiwan Normal Univ., Taiwan

3PA-23 **Impact of Surface Conditions on the Superconductivity of Si(111)-($\sqrt{7}\times\sqrt{3}$)-In**

S. Yoshizawa[1], H. Kim[2], T. Kawakami[1], Y. Nagai[3], T. Nakayama[1], X. Hu[1], Y. Hasegawa[2] and T. Uchihashi[1]
[1]MANA, NIMS, Japan, [2]Univ. of Tokyo, Japan, [3]CCSE, JAEA, Japan

3PA-24 **The structure and electronic states of Fe_3O_4(111) surfaces**

K. Asakawa[1], K. Takeyasu[1], M. Matsumoto[2], T. Kawauchi[1] and K. Fukutani[1]
[1]The Univ. of Tokyo, Japan, [2]Tokyo Gakugei Univ., Japan

3PA-25 **Electronic structures of metal/$SrTiO_3$(001) interfaces studied by X-ray photoemission spectroscopy**

K. Akikubo[1], S. Yamamoto[1], R. Yukawa[1], M. D'Angelo[2] and I. Matsuda[1]
[1]Univ. of Tokyo, Japan, [2]INSP, Univ. of Paris, France

3PA-26 **Magnetic Properties of Iron Ultrathin Films Intercalated in graphene/Ni(111)**

W. Tadano[1], M. Sawada[2], H. Namatame[2] and M. Taniguchi[1,2]
[1,2]Hiroshima Univ., Japan

3PA-27 **Observation of Fe/$BaTiO_3$ interface state by x-ray absorption spectroscopy**

M. Sakamaki and K. Amemiya
Inst. of Materials Structure Science, High Energy Accelerator Research Organization, Japan

3PA-28 **Magnetic response of scanning tunneling spectra of a Kondo lattice: iron phthalocyanine molecular lattice on Au(111)**

N. Ohta, N. Tsukahara, N. Takagi and M. Kawai
The Univ. of Tokyo, Japan

3PA-29 **Quantitative Evaluation of Valence Band Elemental Density of States by Photoelectron Diffraction Spectroscopy**

H. Nishikawa[1], F. Matsui[1], N. Maejima[1], H. Matsui[1], T. Matsushita[2], M. Shimomura[3] and H. Daimon[1]
[1]Nara Inst. of Science and Technology, Japan, [2]JASRI/SPring-8, Japan, [3]Shizuoka Univ., Japan

3PA-30 **Determination of the Dzyaloshinskii-Moriya interaction by field-induced domain wall annihilation measurement**

R. Hiramatsu[1], K.-J. Kim[1], Y. Nakatani[2], T. Moriyama[1] and T. Ono[1]
[1]ICR, Kyoto Univ., Japan, [2]Univ. of Electro-communications, Japan

3PA-31 **Photocurrent generation by conductor/insulator/conductor junctions**

S. Ishii[1,2], T. Nagao[1,2] and A. Otomo[3]
[1]MANA-NIMS, Japan, [2]CREST, Japan, [3]NICT, Japan

3PA-32 **The depth distribution of the induced magnetic moments of the Pt layer in the Fe/Pt multilayers investigated by RXMS**

M. Lee, N. Hosoito, T. Konishi and A. Yoshida
Nara Inst. of Science and Technology, Japan

3PA-33 **Reflection damping of quantum interference on Cu(111) by single molecules and atoms**

N.K.M. Nazriq and T.K. Yamada
Chiba Univ., Japan

3PA-34 **First Principles Study of Magnetic Properties of Co/Ni Multi-Layer on Cu(111)**

K. Kojima[1], W.A. Diño[1,2], T. Koshikawa[3] and H. Kasai[1,2]
[1,2]Osaka Univ., Japan, [3]Osaka Electro-Communication Univ., Japan

3PA-35 **Metal Adsorption Effect on the Band Structure of Ge(001) within Subsurface Region**

T. Sakata, S.N. Takeda, K. Irie and H. Daimon
NAIST, Japan

3PA-36 **Subband calculation using empirical potential profile of Si (111) 4×1-In space charge layer**

N.I. Ayob, S.N. Takeda, T.J. Inagaki and H. Daimon
NAIST, Japan

3PA-37 **Growth and electronic structures of well-defined organic pn-heterojunctions formed on the pentacene single crystal surface**

M. Yamamoto[1], Y. Uragami[1], J. Niederhausen[2], H. Glowatzki[2], J.P. Rabe[2], N. Koch[2], K. Mase[3], K.R. Koswattage[1], Y. Nakayama[1] and H. Ishii[1]
[1]Chiba Univ., Japan, [2]Humboldt Univ., Germany, [3]KEK, Japan

Surface Chemistry

3PA-38 **Kinetic Model of Enhanced Formic Acid Degradation via Fenton-like System employing Zero Valent Iron Nanoparticles**

L.H. Ho, D. He, A.M. Jones, C.K. Duesterberg and D.T. Waite
The Univ. of New South Wales, Australia

3PA-39 **Synthesis of Alq_3 by the Reaction of 8-Quinolinol with Anodic Porous Alumina**

S. Yamaguchi and K. Matsui
Kanto Gakuin Univ., Japan

3PA-40 **STM study of NO reduction on Cu(110) by coadsorbed water molecules**

A. Shiotari, S. Hatta, H. Okuyama and T. Aruga
Kyoto Univ., Japan

3PA-41 **Structural Properties and Control of GaN Porous Nanostructures Formed by Photo-assisted Electrochemical Process**

A. Watanabe, Y. Kumazaki, Z. Yatebe and T. Sato
Hokkaido Univ., Japan

3PA-42 **Preparation and characterisation of a boron nitride nanolayer on Rh surfaces**

A.P. Farkas[1], J. Kiss[1] and Z. Kónya[2]
[1,2]Univ. of Szeged, Hungary

3PA-43 **Adsorption states and reactivity of C_2H_4 on Cu(410) stepped surface**

T. Makino and M. Okada
Osaka Univ., Japan

3PA-44 **First-principles Simulations of an H_2O Dissociation and Hydroxyl Adsorption in Water-bilayer on Pt(322) Surface**

H. Kizaki[1], I. Hamada[2] and Y. Morikawa
[1]Osaka Univ., Japan, [2]NIMS, Japan

3PA-45 **Interfacial structure of ionic liquids near metal electrodes: a surface-enhanced infrared study**

K. Motobayashi[1], K. Minami[2], N. Nishi[2], T. Sakka[2] and M. Osawa[1]
[1]Hokkaido Univ., Japan, [2]Kyoto Univ., Japan

3PA-46 **Tip-induced nanolithography at ionic liquid/rubrene single crystal interfaces by FM-AFM**

K. Bando[1], H. Hara[1], Y. Morino[1], A. Imanishi[1], Y. Yokota[1], Y. Okada[2], H. Matsui[2], T. Uemura[2,3], J. Takeya[2,3] and K. Fukui[1]
[1]Osaka Univ., Japan, [2]Univ. Tokyo, Japan, [3]ISIR, Osaka Univ., Japan

3PA-47 **Interfacial molecular and electronic structures of CO adsorbed at Pt/electrolyte interface probed by double-resonant sum frequency generation spectroscopy**

S. Yang[1,2], H. Noguchi[1,2] and K. Uosaki[1,2]
[1]Hokkaido Univ., Japan, [2]NIMS, Japan

3PA-48 **Immobilization of oligonucleotide on oxide surface through organic layers as an anchor**

A. Narita, K. Fujii, A. Yokoya, Y. Baba and I. Shimoyama
JAEA, Japan

3PA-49 **Automatic Background Estimation of XPS spectrum using Dynamic Shirley Method**

R. Matsumoto[1], H. Tanaka[1], H. Yoshikawa[2], S. Tanuma[2] and K. Yoshihara[3]
[1]National Inst. of Technology, Yonago College, Japan, [2]NIMS, Japan, [3]Omicron NanoTechnology Japan, Japan

3PA-50 **Effect of Modified Urethane Acrylate on Physical Properties of Optical Clear Resin**

J.H. Kim, Y.S. Park, J.S. Song and S.Y. Jeong
KNW, Musan Industrial Estate, Korea

3PA-51 **In Situ UV-Vis Spectroelectrochemical Study of Viologen Monolayer in The Presence of $PtCl_4^{2-}$ as Hydrogen Evolving Molecular Catalyst**

C. Kurniawan[1,2], H. Noguchi[1,2,3] and K. Uosaki[1,2,3]
[1]Hokkaido Univ., Japan, [2]GREEN-NIMS, Japan, [3]WPI-MANA-NIMS, Japan

3PA-52 **The role of absorbed hydrogen in catalytic butene hydrogenation on Pd(110)**

S. Ohno, M. Wilde and K. Fukutani
The Univ. of Tokyo, Japan

3PA-53 **Surface and electrochemical studies of solid electrolyte interfaces in Li-O_2 batteries**

R. Dhiman and E. Skou
Univ. of Southern Denmark, Denmark

Biointerface and Biomolecular Electronics

3PA-54 **Surface modification in aqueous solution using TiO_2 photocatalysis and a linker protein L2 for patterning primary neurons**

K. Sekine[1], H. Yamamoto[2], S. Kono[1], T. Ikeda[3], A. Kuroda[3] and T. Tanii[1]
[1]Waseda Univ., Japan, [2]Tohoku Univ., Japan, [3]Hiroshima Univ., Japan

3PA-55 **The effect of molecular density of oligo(ethylene glycol)-terminated alkanethiols on the interfacial behavior of water molecules, protein adsorption, and cell adhesion**

T. Sekine[1], N. Ganbaatar[1], A. Tsunoi[1], C. Sato[2], M. Tanaka[2], T. Yano[1], M. Hara[1] and T. Hayashi[1]
[1]Tokyo Tech., Japan, [2]Yamagata Univ., Japan

3PA-56 **Single particle tracking of Qdot-conjugated lipid bilayer on graphene oxide for evaluation of membrane fluidity**

Y. Okamoto, T. Motegi, S. Iwasa, A. Sandhu and R. Tero
Toyohashi Univ. Tech., Japan

Development on Instrumentation & Characterization

3PA-57 **The Performance Enhancement of Scanning Tunneling Microscope by Graphene Probes**

J.T.H. Tsai, L.-D. Change and K.-W. Chiu
National Ocean Univ., Taiwan

3PA-58 **Observation of Carrier Delocalization at Insulator/Organic Semiconductor Interface in Thin Film Transistors Using Charge Modulation Spectroscopy**

K. Miyata[1], S. Tanaka[1], Y. Ishino[1], T. Sugimoto[1], K. Watanabe[1], M.J. Kang[2], K. Takimiya[3], H. Kuwabara[4], M. Hamada[4], T. Uemura[5], J. Takeya[5] and Y. Matsumoto[1]
[1]Kyoto Univ., Japan, [2]Hiroshima Univ., Japan, [3]RIKEN, Japan, [4]Nippon Kayaku, Japan, [5]Univ. of Tokyo, Japan

3PA-59 **Materials Characterization System using Soft X-Ray Absorption Spectroscopy and Reflectivity Measurements in BL10/NewSUBARU**

T. Uemura, Y. Muramatsu, K. Nambu, Y. Fukuyama, T. Harada and H. Kinoshita
Univ. of Hyogo, Japan

3PA-60 **Composite Divertor Materials for Fuel Recovery of Fusion Reactors**

S. Mera, Y. Takahashi, A. Onozato, A. Sakai, T. Iijima, S. Tanaka, A. Tonegawa and Y. Matsumura
Tokai Univ., Japan

3PA-61 **Measurement of UHV-Raman spectroscopy on strained Si**

H. Momono, S.N. Takeda, H. Kumeda, K. Maeda, K. Takeuchi, H. Nakao, A. Kevin. R. Ang, T. Sakata and H. Daimon
NAIST, Japan

3PA-62 **Rotatable High-Resolution ARPES System at HiSOR: Development of Quick Fermi Surface Mapping**

H. Iwasawa[1], K. Shimada[1], E.F. Schwier[1], M. Zheng[2], Y. Kojima[2], Y. Aiura[3], H. Namatame[1] and M. Taniguchi[1,2]
[1,2]Hiroshima Univ., Japan, [3]AIST, Japan

3PA-63 **Direct Observation of Electronic Structure of Nylon-6, 6 Thin Film Studied by High Sensitivity Photoemission and Photoelectron Yield Spectroscopy**

T. Sato[1], K.R. Koswattage[2], Y. Nakayama[1] and H. Ishii[1,2]
[1]AIS, Chiba Univ., Japan, [2]CFS, Chiba Univ., Japan

3PA-64 **Thiol molecules on a tip as a temperature sensor for tip-enhanced Raman spectroscopy measurements of heat sensitive materials**

M. Mochizuki, T. Yano, M. Hara and T. Hayashi
Tokyo Inst. of Technology, Japan

3PA-65 **Effect of ambient air pressure and initial temperature of carbon surface on laser-induced incandescence**

K. Zelenska[1], S. Zelensky[1], A. Kopyshinsky[1] and T. Aoki[2]
[1]Taras Shevchenko National Univ. of Kyiv, Ukraine, [2]Shizuoka Univ., Japan

Surface Structure

3PA-66 **Mathematical Analysis and Numerical Computation for Describing Crystal Surface Growth**

S. Azizi and A. Yagi
Osaka Univ., Japan

3PA-67 **Direct Observation of Enhanced Electron Emission Sites in Pt Ion Implanted/Post-annealed Ultra nanocrystalline Diamond Films**

K. Panda, E. Inami[1], K.J. Sankaran[2], Y. Sugimoto[1], N.-H. Tai[2] and I.-N. Lin[3]
[1]Osaka Univ., Japan, [2]National Tsing Hua Univ., Taiwan, [3]Tamkang Univ., Taiwan

3PA-68 **Sensitive Hydrogenation Effect on Magnetic behavior of Co-Pd alloy thin films**

H.Y. Huang, C.J. Tsai[1], B.Y. Wang[2], C.H. Kao[3], W.F. Pong[3] and W.-C. Lin[1]
[1]National Taiwan Normal Univ., Taiwan, [2]National Changhua Univ. of Education, Taiwan, [3]Tamkang Univ., Taiwan

3PA-69 **Electron energy loss study of Pd and Pt phthalocyanine on Ag(111)**

J. Sforzini[1,2] F.C. Bocquet[1,2] and F.S. Tautz[1,2]
[1]Peter Grünberg Institut (PGI-3), Forschungszentrum Jülich, Germany, [2]JARA, Fundamentals of Future Information Technology, Germany

3PA-70 **Diffusion behaviors by adsorbed coronene on metal surfaces studied by low-temperature STM**

T. Nezu and T. Yokoyama
Yokohama City Univ., Japan

3PA-71 **STM study of Ni2MnGa(100) surface in the premartensite phase**

J. Nayak, A. Rai and S.R. Barman
UGC-DAE Consortium for Scientific Research, India

3PA-72 **Elucidation of the carbon nanostructures formed on the noble metal surface**

D. Yamamoto, S. Kurokawa and A. Sakai
Kyoto Univ., Japan

3PA-73 **Coverage-induced structural changes of tetracene on Ag(110) studied by low-temperature STM**

K. Takasugi and T. Yokoyama
Yokohama City Univ., Japan

3PA-74 **Local Structure of Cs^+ and Na^+ ions adsorbed on Calcium Silicate Hydrate Crystal: Investigations by Molecular Dynamics and Metadynamics**

K. Kobayashi[1], Y. Liang[1], I.C. Bourg[2], T. Sakka[1] and T. Matsuoka[1]
[1]Kyoto Univ., Japan, [2]LBNL, USA

3PA-75 **Improvement of 4H-AlN/4H-SiC(11-20) interface based on photoelectron diffraction spectroscopy analysis**

N. Maejima[1], F. Matsui[1], M. Horita[1], H. Matsui[1], T. Ota[1], R. Ishi[1], M. Fujita[1], K. Yasuda[1], T. Matsushita[2] and H. Daimon[1]
[1]NAIST, Japan, [2]JASRI/SPring-8, Japan

3PA-76 **Electronic State Analysis of ZrB_2, NbB_2(0001) Surface Termination**

R. Horie[1], F. Matsui[1], M.Takizawa[2], T. Aizawa[3], S. Otani[3], H. Namba[2] and H. Daimon[1]
[1]NAIST, Japan, [2]Ritsumeikan Univ., Japan, [3]NIMS, Japan

3PA-77 **Optical Device based on Localized Surface Plasmon Resonance using Nanostructure Template**

S. Yeom, D.C. Han, H.J. Shin, D. Lee, M. An and C. Seo
GERI, Korea

3PA-78 **Streak camera RHEED for the surface structure dynamics**

K. Mukojima, S. Kanzaki, K. Kawanishi, K. Sato and T. Abukawa
Tohoku Univ., Japan

Green Technologies

3PA-79 **Visible-light photocatalytic activity of a Cu supported TiO_2 prepared with cuprous acetate**

T. Nakano, S. Kogoshi and N. Katayama
Tokyo Univ. of Science, Japan

3PA-80 **Development of In-Situ TOF-SIMS Measurement System for Characterization of All-Solid-State Li-ion Battery**

H. Masuda[1], N. Ishida[1], Y. Ogata[2] and D. Fujita[1]
[1]NIMS, Japan, [2]Taiyo Yuden, Co. Ltd., Japan

3PA-81 **The formation of oxynitride and visible light photoresponse of Nitrogen-implanted Nb:$SrTiO_3$(100) substrate by N_2^+ ion sputtering**

S. Shimizu, F. Komori, M. Lippmaa and J. Yoshinobu
The Univ. of Tokyo, Japan

3PA-82 **Nanocomposite Thin Film of TiO_2 Photocatalyst and Polytetrafluoroethylene for Superhydrophobic Surface with Photocatalytic Properties**

K. Irikawa[1], Y. Shimizu[1], T. Kamegawa[1,2] and H. Yamashita[1,3]
[1]Osaka Univ., Japan, [2]Osaka Pref. Univ., Japan, [3]Kyoto Univ., Japan

3PA-83 **Efficient removal and decomposition of cyclic siloxane in gas phase on TiO_2 photocatalysts hybridized with various adsorbents**

H. Kita, A. Amazutsumi, Y. Horiuchi, M. Matsuoka and M. Takeuchi
Osaka Prefecture Univ., Japan

3PA-84 **Oxidative addition Reactions of Suzuki-Miyaura Cross Coupling with Ligand-free Pd in aqueous solution**

T. Hirakawa[1], Y. Uramoto[1], A. Takeda[1], D. Mimura[1], T. Ikeda[2], S. Yanagisawa[3], K. Inagaki[1] and Y. Morikawa[1]
[1]Osaka Univ., Japan, [2]JAEA, Japan, [3]Univ. of Ryukyus, Japan

3PA-85 **Li K-edge mapping study for $LiCoO_2$ using STEM-EELS measurement**

N. Taguchi[1], H. Sakaebe[1], T. Akita[1], K. Tatsumi[1] and Z. Ogumi[2]
[1]AIST, Japan, [2]Kyoto Univ., Japan

3PN Poster Session (Normal Session)

Nanomaterials: Fabrication and Functionality

3PN-1 **Direct Immobilization of Gadolinium Complex on Silica Particles and Their MRI Properties**

Y. Kobayashi[1], K. Shibuya[1], T. Nakagawa[2], Y. Kubota[2], K. Gonda[2] and N. Ohuchi[2]
[1]Ibaraki Univ., Japan, [2]Tohoku Univ., Japan

3PN-2 **Molecular Dynamics Study of Thermal Conductivity in Semiconductor Nanowires: Effects of Rotational Twins**

T. Akiyama, K. Nakamura and T. Ito
Mie Univ., Japan

3PN-3 **Functional Surface Micro-Patterns by Dewetting of Polymer Thin Films**

M. Ghezzi[1,2] and C. Neto[1]
[1]The Univ. of Sydney, Australia, [2]CSIRO Material Science and Engineering, Australia

3PN-4 **Continuous Production of Nano CuO in a Rotating Packed Bed**

M.-S. Wu and C.-C. Lin
Chang Gung Univ., Taiwan

3PN-5 **Raman scattering in few-layer zirconium trisulfides and triselenides**

K. Osada[1], M. Tanaka[1], T. Suzuki[2] and S. Ohno[1]
[1]Yokohama National Univ., Japan, [2]National Defence Academy, Japan

3PN-6

3PN-7 **Effect of Nanostructured TiO_2 Morphology on Electronic Structure**

T. Toyoda[1,4], W. Yindeesuk[1], T. Okuno[1], M. Akimoto[1], K. Kamiyama[2], S. Hayase[3,4] and Q. Shen[1,4]
[1]The Univ. of Electro-Communications, Japan, [2]Bunkoukeiki, Co. Ltd., Japan, [3]Kyushu Inst. of Technology, Japan, [4]CREST, JST, Japan

3PN-8 **Catalytic growth of carbon nanotetrahedron/nanoribbon structures**

H. Kohno
Kochi Univ. of Technology, Japan

3PN-9 **Effect of silver and zirconium dopants on TiO_2 photocatalytic reactivity under visible light**

P. Sanitnon[1,2], S. Chiarakorn[3,4] and C. Chawengkijwanich[5]
[1,2,3,4]King Mongkut's Univ. of Technology Thonburi, Thailand, [5]NSTDA, Thailand

3PN-10 **Elucidation of adsorbed DNA and RNA bases on gold nanoparticles**

T. Mukaiyama, T. Yajima and M. Futamata
Saitama Univ., Japan

3PN-11 **Cobalt / Fluoride Heterostructures: Control of Magnetic Properties by Tailored MBE-growth**

N.S. Sokolov[1], A.G. Banshchikov[1], D.A. Baranov[1], S.I. Pavlov[1], S.V. Gastev[1], S.M. Suturin[1], K.V. Koshmak[1,2], V.V. Fedorov[1] and L. Pasquali[2]
[1]Ioffe Inst., Russia, [2]Univ. of Modena & Reggio Emilia, Italy

Surface Electronic States

3PN-12 **Semimetal to Semiconductor transition conductivity, interface and acceptor states in infrared detector HgTe/CdTe nanostructure superlattice**

A. Idbaha[1], A. Nafidi[1], D. Barkissy[1], A. Boutramine[1], H. Chaib[1], A. Saba[1] and B.S. Mari[2]
[1]Ibn Zohr Univ., Morocco, [2]Universitat Politècnica de València, Spain

3PN-13 **Temperature dependence of critical points, optical properties and electronic structures of ferroelectric $Pb(Mg_{1/3}Nb_{2/3})O_3$−$PbTiO_3$**

J.J. Zhu[1,2], Z.G. Hu[2] and J.H. Chu[1,2]
[1]Shanghai Inst. of Technical Physics, China, [2]East China Normal Univ., China

3PN-14 **Comparison of the electronic structures of $Ni_2P(0001)$ and $Fe_2P(0001)$: Soft X-ray photoelectron spectroscopy study**

K. Edamoto, S. Ishida, Y. Sugizaki and T. Nakamura
Rikkyo Univ. Japan

3PN-15 **First-Principles Study on Electron States in Nanofacet Formed on SiC(0001) Surface**

K. Sawada, J. Iwata and A. Oshiyama
The Univ. of Tokyo, Japan

3PN-16 **Resistivity behaviors of hydrogen-free amorphous carbon nitride film under different gas exposure conditions**

N. Tamura, M. Aono, N. Kitazawa and Y. Watanabe
National Defense Academy, Japan

3PN-17 **Electronic States of Non-Freestanding Topological Crystalline Insulator Thin Films**

K. Kobayashi
Ochanomizu Univ., Japan

3PN-18 **An Improved Method for Calculating Electron Inelastic Mean Free Paths**

B. Da[1], H. Shinotsuka[1], H. Yoshikawa[1], Z.J. Ding[2] and S. Tanuma[1]
[1]NIMS, Japan, [2]USTC, China

3PN-19 **Change in the surface electronic structure of Fe_2P (0001) induced by P segregation**

S. Ishida, Y. Sugizaki, T. Nakamura and K. Edamoto
Rikkyo Univ., Japan

3PN-20 **Magnetic anisotropy of an iron(II) phthalocyanine molecule on Cu(110) (2×1)-O**

N. Tsukahara, M. Kawai and N. Takagi
The Univ. of Tokyo, Japan

Biointerface and Biomolecular Electronics

3PN-21 **Interference between Chronoamperometric L-Glutamate Currents and Simultaneously Recorded Field Excitatory Postsynaptic Potentials**

R. Matsumura, A. Hirano-Iwata, H. Yamamoto and M. Niwano
Tohoku Univ., Japan

3PN-22 **Sensitive and Multi Bio-detection with a Plasmonic Chip by the Surface Plasmon-field Enhanced Fluorescence Imaging**

K. Tawa[1,2], M. Tsuneyasu[1,2], C. Sasakawa[1], N. Naruishi[1] and Y. Yoshida[1]
[1]AIST, Japan, [2]Kwansei Gakuin Univ., Japan

3PN-23 **Asymmetry detection of ultra-macromolecule sacran by femtosecond SHG microscopy**

Y. Zhao, K.T.T. Hien, G. Muzitani, R. Mishima, M. Okajima and T. Kaneko
JAIST, Japan

3PN-24 **Control of Vesicle Fusion into Bilayer Lipid Membranes Using Electrostatic Interaction**

A. Oshima, A. Tanaka, Y. Kashimura and K. Sumitomo
NTT Basic Research Labs., Japan

3PN-25 **Electrodeposition of phospholipid polymer to titanium to improve the platelet adhesion**

Y. Fukuhara[1], Y. Inoue[1], Y. Tsutsumi[2], P. Chen[2], K. Ishihara[1] and T. Hanawa[1,2]
[1]The Univ. of Tokyo, Japan, [2]Tokyo Medical and Dental Univ., Japan

3PN-26 **Analysis of the microstructure of lotus leaf and the structural modification**

M. Yamamoto[1], N. Nishikawa[1], H. Mayama[2], S. Nakamura[3], S. Yokojima[4] and K. Uchida[1]
[1]Ryukoku Univ., Japan, [2]Asahikawa Medical Univ., Japan, [3]RIKEN Research Cluster for Innovation, Japan, [4]Tokyo Univ. of Pharmacy and Life Sciences, Japan

3PN-27 **Sealed microwells with lipid bilayers on a Si substrate for detecting ion channel activity**

Y. Kashimura, R. Forbes, A. Oshima and K. Sumitomo
NTT Basic Research Labs., Japan

3PN-28 **Observation of Exosomes Adsorbed to Solid Surfaces using Atomic Force Microscopy**

K. Yokota[1], S. Matsumura[2], K. Suga[2], K. Shiba[2] and T. Ogino[1]
[1]Yokohama National Univ., Japan, [2]Cancer Inst., Japan

3PN-29 **Observation of spontaneous polarization domains on $LiTaO_3$ surfaces**

T. Nakayama, A. Isobe and T. Ogino
Yokohama National Univ., Japan

3PN-30 **New design of colormetric bio-sensor by use of multilayered metallic nanoparticle sheets**

S. Shinohara, D. Tanaka, K. Okamoto and K. Tamada
Kyushu Univ., Japan

Surface Structure

3PN-31 **Surface potential investigation of fullerene derivative film on platinum electrode under UV irradiation by Kelvin probe force microscopy using a piezoelectric cantilever**

N. Satoh[1,2], S. Katori[1,3], K. Kobayashi[1], K. Matsushige[1] and H. Yamada[1]
[1]Kyoto Univ., Japan, [2]Chiba Inst. of Tech., Japan, [3]Tsuyama Nat. Coll. of Tech., Japan

3PN-32 **Evaluation on ZnO-MgO mixed thin films grown by metal-organic decomposition**

N. Nishimoto[1], J. Fujihara[2], K. Kitahara[2] and K. Yoshino[1]
[1]Shimane Inst. for Industrial Technology, Japan, [2]Shimane Univ., Japan

3PN-33 **Ab Initio-Based Approach to Structural Change in InAs(001)-(2×3) Wetting Layer Surfaces during MBE Growth**

T. Ito, T. Akiyama and K. Nakamura
Mie Univ., Japan

3PN-34 **Thermal evolution of Fe on Ge(111)-c(2×8) surface and the effect of (√3×√3) Ag-Ge buffer layer**

H.-C. Hsu
National Taiwan Normal Univ., Taiwan

3PN-35 **Scanning Probe Microscopy Analysis of Adsorption of Volatile Organic Compounds on Carbonaceous Films with a Microcolumnar Layer**

I. Sugimoto[1], Y. Suda[1], H. Muramatsu[1] and K. Takahashi[2]
[1]Tokyo Univ. of Technology, Japan, [2]Doshisha Univ., Japan

3PN-36 **Structural Relaxation on a Highly-Compressed Cu(001) Surface**

M. Yamada, T. Miyamachi and F. Komori
Univ. of Tokyo, Japan

3PN-37 **Structure determination of a new SiON single layer on SiC(0001) by LEED analysis**

S. Mizuno, R. Kohmatsu and T. Nakagawa
Kyushu Univ., Japan

3PN-38 **Characterization of Zr/O/W Schottky Emitter surface using AES and TOF-SIMS**

S. Matsunaga and S. Katagiri
Central Research Laboratory, Hitachi Ltd., Japan

3PN-39 **Systematic theoretical investigations on surface reconstruction and adatom kinetics on AlN semipolar surfaces**

Y. Takemoto, T. Akiyama, K. Nakamura and T. Ito
Mie Univ., Japan

3PN-40 **First-principles Study of Graphene on SiC(000-1) C face**

H. Kageshima[1] and H. Hibino[2]
[1]Shimane Univ., Japan, [2]NTT Basic Research Labs., Japan

3PN-41 **Formation of a Comb-Like Pattern on a Ga Deposited Si(111) Vicinal Face**

K. Kishi[1], M. Kawaguchi[2], H. Miura[3], M. Sato[1] and M. Uwaha[3]
[1]Kanazawa Univ., Japan, [2]Nagoya Univ., Japan, [3]Nagoya City Univ., Japan

3PN-42 **Structure Determination of Silicene on Ag(111) by Low-Energy Electron Diffraction**

K. Kawahara[1], T. Shirasawa[2], R. Arafune[3], C.-L. Lin[1], T. Takahashi[2], M. Kawai[1] and N. Takagi[1]
[1,2]The Univ. of Tokyo, Japan, [3]WPI-MANA, NIMS, Japan

3PN-43 **Periodic ripples at the surfaces of Ag ultra-thin-films on Si(111)√3×√3-B substrates**

Y. Yoshiike, I. Kokubo, Y. Aoki, K. Nakatsuji and H. Hirayama
Tokyo Inst. of Technology, Japan

3PN-44 **Two-dimensional silicon layer growth on Si(111)√3×√3-Ag substrates**

T. Yamagami, J. Sone, Y. Aoki, K. Nakatsuji and H. Hirayama
Tokyo Inst. of Technology, Japan

3PN-45 **RHEED Patterns Calculated for Pt Nano Clusters on TiO_2(110) Substrate**

Y. Horio[1], Y. Watanabe[2], Y. Takakuwa[3] and S. Ogawa[3]
[1]Daido Univ., Japan, [2]Toyota Central R&D Lab., Japan, [3]Tohoku Univ., Japan

3PN-46 **A STM study of Bi(110) ultra-thin films grown on Si(111)√3x√3-B surfaces**

I. Kokubo, Y. Yoshiike, Y. Aoki, K. Nakatsuji and H. Hirayama
Tokyo Inst. of Technology, Japan

3PN-47 **Comparison of ToF-SIMS data of polymers using different multivatiate analysis**

Y. Yokoyama[1], H. Iwai[2] and S. Aoyagi[1]
[1]Seikei Univ., Japan, [2]NIMS, Japan

3PN-48 **STM Investigation of Self-Assembled Monolayers of Pigment Red 254 and Its Alkyl-Derivatives at the Solution-HOPG Interface**

A. Honda, Y. Tamaki and K. Miyamura
Tokyo Univ. Sci., Japan

3PN-49

3PN-50 **Synthesis of SiOC(-H) films by the remote-type atmospheric pressure plasma enhanced chemical vapor deposition method**

T. Mori, T. Masuko and T. Suzuki
Keio Univ., Japan

3PN-71 **Film growth of Single layer β-AlN Grown on Sapphire by Pulsed Laser Deposition**

T. Yoshida[1,2], Y. Ueda[1], A. Tominaga[1], T. Okajima[3] and T. Yoshitake[1]
[1]Kyushu Univ., Japan, [2]Kurume Nat. Coll. Tech., Japan, [3]SAGA Light Source, Japan

3PN-72 **Dispersion of Organic Compounds in Water with Ultrafine Bubbles**

M. Kiuchi[1], M. Iwamatsu[1] and T. Takeuchi[2]
[1]AIST, Japan, [2]Nara Women's Univ., Japan

3PN-73 **PEEM study of Ag Micro-Films on Si surfaces**

T. Wakita, Y. Muraoka and T. Yokoya
Okayama Univ., Japan

3PN-74 **The gas distributions of He and Ne at metal surface in the field ion microscope**

K. Saito and A. Kobayashi
Osaka City Univ., Japan

Green Technologies

3PN-51 **Exfoliation of Graphene from C_{60} monolayer**

M. Ishikawa[1], K. Miura[1] and N. Sasaki[2]
[1]Aichi Univ. of Edu., Japan, [2]Univ. of Electro-Commun., Japan

3PN-52 **Conduction type control of hydrogenated amorphous carbon by fluorine doping**

Y. Terada and K. Akimoto
Univ. of Tsukuba, Japan

3PN-53 **Increase of adsorption amount of a Ru dye on the TiO_2 nanoporous film by sulfur-compound treatment**

H. Ota, D.M.B.P. Ariyasinghe and M. Shimomura
Shizuoka Univ., Japan

3PN-54 **The Effect of Ligands the Direct Oxidation of Benzene to Phenol over V Complexes Encapsulated in Y-zeolite Catalysts**

A. Okemoto, Y. Inoue, K. Taniya, Y. Ichihashi and S. Nishiyama
Kobe Univ., Japan

3PN-55 **In Situ Observation of Frictional Interface between Elastomeric Asperity Array and Glass: Transitions between Stick-slip and Steady Sliding**

T. Nitta, K. Nishio, Y. Hibi and T. Kato
Gifu Univ., Japan

3PN-56 **Electrodeposited TaO_x Nanoparticles on Carbon Black for PEFC Cathodes Catalysts**

J. Kubota[1,2], J. Seo[1], T. Arashi[1], Y. Kawasaki[1], K. Takanabe[3] and K. Domen[1]
[1]The Univ. of Tokyo, Japan, [2]Kyoto Univ., Japan, [3]KAUST, Saudi Arabia

3PN-57 **Fabrication of Si nanostructures for anode material of lithium ion battery**

D. Yamaura, K. Ito and T. Ogino
Yokohama National Univ., Japan

3PN-58 **In Situ Observation of Frictional Interface between Elastomeric Asperity Array and Glass: Dependence between Frictional Force and Real Contact Area**

Y. Hibi and T. Nitta
Gifu Univ., Japan

3PN-59 **Film growth of hydrogenated amorphous carbon by UV laser irradiation**

M. Shiga and K. Akimoto
Univ. of Tsukuba, Japan

3PN-60 **Initial interfacial structure and dynamics of dye sensitizer under photo-excitation studied by ultrafast infrared spectroscopy**

H. Noguchi, M. Ito and K. Uosaki
GREEN, NIMS, Japan

3PN-61 **Friction and Stiffness Surface Image using an Oscillating Tuning Fork**

S. Tanahara[1], D. Inoue[1], S. Machida[1], Y. Ikada[1], J. Taniguchi[1], M. Suzuki[1], M. Ishikawa[2] and K. Miura[2]
[1]Univ. of Electro-Communications, Japan [2]Aichi Univ. of Education, Japan

3PN-62 **First-Principles Study of the Adsorption/Dissociation Reactions of Water on a Fe/Co-Al_2O_4 Cluster**

M. Misawa[1], A. Koura[1], F. Shimojo[1], R.K. Kalia[2], A. Nakano[2] and P. Vashishta[2]
[1]Kumamoto Univ., Japan, [2]Univ. of Southern California, USA

3PN-63 **X-ray absorption study of perovskite cobaltite $Pr_{1-x}Sr_xCoO_3$**

K. Yoshii and D. Matsumura
Japan Atomic Energy Agency, Japan

3PN-64

3PN-65

3PN-66 **Reaction of Self-Assembled Monolayer with Plasma Generated in Solution**

M. Shinohara, Y. Yoshida, Y. Matsuda and H. Fujiyama
Nagasaki Univ., Japan

3PN-67 **A Possible Origin of Network Flexibility in Hydrogenated Amorphous Silicon (a-Si:H)**

Y. Toyoshima
AIST, Japan

3PN-68 **Computational Study for Carbon Deposit Mechanism on Nickel Catalyst Surface**

D.Tsushima, Y. Kotani and T. Ogura
Kwansei Gakuin Univ., Japan

Development on Instrumentation & Characterization

3PN-69 Characteristics of electron beam ion source under modulated operation

M. Sakurai[1], H.A. Sakaue[2], K. Sasaki[1] and T. Miyamoto[1]
[1]Kobe Univ., Japan, [2]National Inst. for Fusion Science, Japan

Nov. 4 (Tue)

Hall C (3F)

4aC1 Plenary Session

Chair: K. Fukui (Osaka Univ.)

8:40-9:40 4aC1-1(PL) Soft X-ray nano-spectroscopy for green devices towards *in situ and operando*

M. Oshima
The Univ. of Tokyo, Japan

Hall A (1F)

4aA2 Nanomaterials : Fabrication and Functionality_2

Chair: T. Ishida (AIST), T. Shimada (Hokkaido Univ.)

10:00-10:40 4aA2-1(I) Surface Contact Stress in Semiconductors: A Mystery of Electrical Current Spike ond Nanoscale Confinement

R. Nowak[1] and D. Chrobak[1,2]
[1]Nordic Hysitron Laboratory, Aalto Univ., Finland, [2]Univ. of Silesia, Poland

10:40-11:00 4aA2-2(T) Competing Force- and Current-Induced Atom Switching at Bi-stable All-Si Tetramer

S. Yamazaki[1], K. Maeda[1], Y. Sugimoto[1], M. Abe[1], P. Pou[2], L. Rodrigo[2], R. Perez[2], P. Mutombo[3], P. Jelinek[1,3] and S. Morita[1]
[1]Osaka Univ., Japan, [2]Univ. Autonoma de Madrid, Spain, [3]Academy of Science of the Czech Republic, Czech Republic

11:00-11:20 4aA2-3 Room Temperatur Chiral Switch of Nanocluster Created by Atom Manipulation

E. Inami[1], I. Hamada[2], K. Ueda[1], M. Abe[3], S. Morita[4] and Y. Sugimoto[1]
[1,3,4]Osaka Univ., Japan, [2]NIMS, Japan

11:20-11:40 4aA2-4 A new structural model for Al_{23}^- magic cluster: A face-sharing bi-icosahedral motif

K. Koyasu[1,2] and T. Tsukuda[1,2]
[1]The Univ. of Tokyo, Japan, [2]Kyoto Univ., Japan

4pA1 Surface Electronic States_1

Chair: D. Hugo (PSI), S.J. Tang (National Tsing Hua Univ.)

13:10-13:50 4pA1-1(I) Exploring the Electronic Origin of New Paradigms in Information Technology

C.M. Schneider
Peter-Gruenberg Inst., Forschungszentrum Juelich, Germany

13:50-14:30 4pA1-2(I) Local Electronic Structure Measurement of Epitaxially Grown Graphene and Topological Insulators

Y. Kuk[1] and J.A. Stroscio[2]
[1]Seoul National Univ., Korea, [2]NIST, USA

14:30-14:50 4pA1-3 Edge state of Bi thin film studied by spin-resolved ARPES

A. Takayama[1], T. Sato[2], S. Souma[3], T. Oguchi[4] and T. Takahashi[2,3]
[1]Tokyo Univ., Japan, [2]Tohoku Univ., Japan, [3]WPI-AIMR, Japan, [4]ISIR, Japan

14:50-15:10 4pA1-4 Spin electronic structure of Bi thin film fabricated on Si(557) surface

T. Okuda[1], M. Nurmamat[1], T. Shishidou[2], H. Namatame[1] and M. Taniguchi[1,3]
[1,2,3]Hiroshima Univ., Japan

4pA2 Surface Electronic States_1 (Continued)

Chair: Q.K. Xue (Tsinghua Univ.), T. Okuda (Hiroshima Univ.)

15:30-15:50 4pA2-1(T) Angle dependent suppression of electron backscattering in the topological surface states

S. Kim[1], S. Yoshizawa[1], Y. Ishida[1], K. Eto[2], K. Segawa[2], Y. Ando[2], S. Shin[1,3] and F. Komori[1]
[1]Univ. Tokyo, Japan, [2]ISIR, Osaka Univ., Japan, [3]JST-CREST, Japan

15:50-16:10 4pA2-2 Adsorption, diffusion and intercalation of alkali metal atoms deposited on the stepped Bi_2Se_3 surface: an ab initio study

A.G. Ryabishchenkova[1], M.M. Otrokov[2,1], M.A. Gosalvez[2,3,4], V. M. Kuznetsov[1] and E.V. Chulkov[2,3,4]
[1]Tomsk State Univ., Russia, [2]Donostia International Physics Center (DIPC), Spain, [3]Univ. of the Basque Country UPV/EHU, Spain, [4]Centro de Fisica de Materiales CFM-Materials Physics Center MPC, Centro Mixto CSIC-UPV/EHU, Spain

16:10-16:30 4pA2-3 Electron-Phonon Scattering between Unoccupied Electronic States of Graphite Probed by Angle- Resolved Photoelectron and Electron Energy Loss Spectroscopies

S. Tanaka[1], M. Matsunami[2], S. Kimura[2,3], M. Arita[4], K. Shimada[4], S. Shimizu[5], K. Mukai[5] and J. Yoshinobu[5]
[1,3]Osaka Univ., Japan, [2]IMS, Japan, [4]Hiroshima Univ., Japan, [5]Univ. of Tokyo, Japan

16:30-16:50 4pA2-4 Achieving high-quality single atom N-doping of graphene/SiC(0001) by ion implantation and subsequent thermal stabilization

M. Telychko[1], P. Mutombo[1], M. Ondráček[1], P. Hapala[1], F. Bocquet[2], J. Kolorenč[3], M. Vondráček[3], P. Jelínek[1,4] and M. Švec[1]
[1,3]Inst. of Physics, Academy of Sciences of the Czech Republic, Czech Republic, [2]Peter Grünberg Institut (PGI-3), Germany, [4]Osaka Univ., Japan

16:50-17:10 4pA2-5 Low-Energy Inverse Photoemission Study of Image Potential States of Shuttlecock-shaped Phthalocyanines

H. Yoshida, R. Shiraishi and N. Sato
Kyoto Univ., Japan

17:10-17:30 4pA2-6 Selective Detection of Angular-Momentum-Polarized Auger Electrons from Ni magnetic thin film on the Cu(001) surface

F. Matsui[1], T. Ohta[1], N. Maejima[1], H. Matsui[1], H. Nishikawa[1], H. Daimon[1] and T. Matsushita[2]
[1]Nara Inst. of Science and Technology, Japan, [2]JASRI/SPring-8, Japan

Hall B (1F)

4aB2 Frontiers in Dynamics on Surfaces_1

Chair: J. Yoshinobu (Tokyo Univ.), K. Fukutani (Tokyo Univ.)

10:00-10:40 4aB2-1(I) Ultrafast Surface Reaction and Desorption Probed by X-ray Free-Electron Laser

H. Ogasawara
SLAC National Accelerator Laboratory, USA

10:40-11:00 4aB2-2 Carrier Dynamics on Oxide Surfaces Studied by Time-Resolved Soft X-ray Photoelectron Spectroscopy

S. Yamamoto[1], R. Yukawa[1], M. Emori[2], K. Ozawa[3], M. Ogawa[1], K. Fujikawa[1], Sh. Yamamoto[1], R. Hobara[1], S. Kitagawa[4], H. Daimon[4] and I. Matsuda[1]
[1]Univ. of Tokyo, Japan, [2]Sophia Univ., Japan, [3]Tokyo Inst. of Technology, Japan, [4]NAIST, Japan

11:00-11:20 4aB2-3 Tracking molecular dynamics during photoinduced desorption

K. Watanabe[1], K. Inoue[1], T. Yasuike[2], T. Sugimoto[1] and Y. Matsumoto[1]
[1]Kyoto Univ., Japan, [2]The Open Univ. of Japan, Japan

11:20-11:40 4aB2-4 Probing Ultrafast Coherent Phonon Dynamics with Optical Pump-probe Scanning Tunneling Microscopy

Z. Wang, T. Kishizawa, M. Shigeno, S. Yoshida, O. Takeuchi and H. Shigekawa
Univ. of Tsukuba, Japan

4pB1 Frontiers in Dynamics on Surfaces_2

Chair: Y. Morikawa (Osaka Univ.), H. Ogasawara (Stanford Synchrotron Radiation Lightsource)

13:10-13:30 4pB1-1(T) Laser-induced field emission from a tungsten tip in weak and strong optical fields

H. Yanagisawa[1,2], C. Hafner[1], S. Schnepp[1], A. Landsman[1], M. Hengsberger[2], L. Gallmann[1] and J. Osterwalder[2]
[1]ETH Zurich, Switzerland, [2]Univ. of Zurich, Switzerland

13:30-13:50 4pB1-2 Ultrafast carrier dynamics in an epitaxial graphene studied by time- and angle-resolved photoemission spectroscopy

T. Someya[1], H. Fukidome[2], Y. Ishida[1], R. Yoshida[1], T. Iimori[1], R. Yukawa[1], K. Akikubo[1], Sh. Yamamoto[1], S. Yamamoto[1], T. Yamamoto[1,3], T. Kanai[1], K. Funakubo[2], M. Suemitsu[2], J. Itatani[1], F. Komori[1], S. Shin[1] and I. Matsuda[1]
[1]The Univ. of Tokyo, Japan, [2]Tohoku Univ., Japan, [3]Tokyo Univ. of Science, Japan

13:50-14:10 4pB1-3 Theoretical Investigation on the Behavior of Li^+ and O_2^- in a Model Li-air Battery

S. Jung, F. Federici and K. Akagi
Tohoku Univ., Japan

14:10-14:30 4pB1-4 Large scale non-adiabatic DFT molecular simulations: polymerization of C_{60} molecules via the cycloaddition reaction

V. Zobač[1], P. Hapala[1], J.P. Lewis[2], P. Jelinek[1] and J. Ortega[3]
[1]Inst. of Physics of the ASCR, Czech Republic, [2]West Virginia Univ., USA, [3]Univ. Autónoma de Madrid, Spain

14:30-15:10 4pB1-5(I) Structure and dynamics of water at surfaces

A. Michaelides
Univ. College London, UK

4pB2 Frontiers in Dynamics on Surfaces_2 (Continued)

Chair: K. Watanabe (Kyoto Univ.), X.Y. Zhu (Columbia Univ.)

15:30-15:50 4pB2-1(T) Direct Evidence for Eley-Rideal Mechanism of CO_2 Hydrogenation on Cu surfac

J. Quan[1], T. Ogawa[1], T. Kondo[2] and J. Nakamura[2]
[1,2]Univ. of Tsukuba, Japan

15:50-16:10 4pB2-2 Multiple Vibrational Excitation of CO on Porphyrin layer on Cu(110): STM and SFG study

T. Omiya[1,2], H. Arnolds[1], R. Raval[1] and Y. Kim[2]
[1]Univ. of Liverpool, UK, [2]RIKEN, Japan

16:10-16:30 4pB2-3 Rotational distribution of molecular hydrogen scattered from oxygen-vacancy-controlled $SrTiO_3$(001) surfaces

K. Takeyasu, S. Ogura and K. Fukutani
Univ. Tokyo, Japan

16:30-16:50 4pB2-4 Quantum State-Resolved Gas/Surface Reactivity: Probing the Role of Vibration in Dissociative Chemisorption

H. Ueta, P.M. Hundt, M.E.V. Reijzen, H.J. Chadwick and R.D. Beck
EPFL, Switzerland

16:50-17:30 4pB2-5(I) Application of a state-selected O_2 beam to the analysis of surface reaction dynamics

M. Kurahashi
NIMS, Japan

4aC2 Surface Chemistry_2

Chair: N. Hoshi (Chiba Univ.), T. Matsumoto (Osaka Univ.)

10:00-10:20 4aC2-1 Atomic Scale Characterization of Oxidized Epitaxial Graphene on SiC Substrate
M.Z. Hossain and M.B.A. Razak
Gunma Univ., Japan

10:20-10:40 4aC2-2 Key Role of Surface Segregation for Controlled Graphene Growth
D. Fujita, K. Sagisaka and H. Guo
NIMS, Japan

10:40-11:00 4aC2-3 Single-molecule Luminescence Spectroscopy of Phthalocyanine using STM
H. Imada[1], M. Imai[2], K. Miwa[1], T.K. Shimizu[3], M. Kawai[2] and Y. Kim[1]
[1]RIKEN, Japan, [2]The Univ. of Tokyo, Japan, [3]NIMS, Japan

11:00-11:40 4aC2-4(I) Tailoring the properties of oxide materials via doping
N. Nilius
Carl von Ossietzky Univ., Germany

4pC1 & 4pC2 Topical Session: Novel Biosensing Based on Nano-structures

Chair: A. Hirano-Iwata (Tohoku Univ.), O. Niwa (NIMS)

13:40-13:50 4pC1-1 Introductory
A. Hirano-Iwata
Tohoku Univ., Japan

13:50-14:30 4pC1-2(I) Single Molecule DNA and RNA Sequencing by Gating Nanopore systems
T. Kawai
Osaka Univ., Japan

14:30-15:10 4pC1-3(I) Nanoporous crossbar arrays for localized electrochemical sensing on a chip.
B. Wolfrum[1,2], M. Hüske[1] and K. Krause[1]
[1]Inst. of Bioelectronics PGI-8/ICS-8, Forschungszentrum Jülich, Germany, [2]RWTH Aachen Univ., Germany

15:30-16:10 4pC2-1(I) Detection of biomolecular recognition using bio-transistors
Y. Miyahara, A. Matsumoto, T. Goda, M. Tabata and M. Sanjoh
Tokyo Medical and Dental Univ., Japan

16:10-16:50 4pC2-2(I) Graphene/MoS_2 2D Monolayer Stacking for Ultrasensitive Detection
L.-J. Li[1,2]
[1]Inst. of Atomic and Molecular Sciences, Academia Sinica, Taiwan, [2]King Abdullah Univ. of Science and Technology, Saudi Arabia

4aD2 Development on Instrumentation & Characterization_2

Chair: J. Schnadt (Lund Univ.), D. Fujita (NIMS)

10:00-10:20 4aD2-1 Development of Single-Molecule Tunnel-Current based Identification Method by Using Metal Nano -Gap Structures
T. Ohshiro, M. Tsutsui, K. Yokota, T. Kawai and M. Taniguchi
Osaka Univ., Japan

10:20-10:40 4aD2-2 Single Organic Molecule Measured by Atomic Force Microscopy at Room Temperature
K. Iwata[1], S. Yamazaki[2] and Y. Sugimoto[1]
[1,2]Osaka Univ., Japan

10:40-11:00 4aD2-3 A General Method for Intra-molecular Resolution with Atomic Force Microscopy using commercial Si cantilevers

O. Stetsovych, C. Moreno, T.K. Shimizu and O. Custance
NIMS, Japan

11:00-11:40 4aD2-4(I) STM-based Spectroscopies of Single Dopants and Quantum Noise

H. Zheng[1], M. Gruyters[1], A. Weismann[1], A. Burtzlaff[1], J. Kröger[1,2], E. Pehlke[1], M. Brandbyge[3] and R. Berndt[1]
[1]Christian-Albrechts-Universität zu Kiel, Germany, [2]Technische Univ. Ilmenau, Germany, [3]Technical Univ. of Denmark, Denmark

4pD1 Green Technologies_2

Chair: J. Kubota (Tokyo Univ.), H. Xu (South Univ. Sci. Technol.)

13:10-13:50 4pD1-1(I) Interfacial Structure of Thermostable Rh/Metal Phosphate Catalysts for Automotive Applications

M. Machida[1,2]
[1]Kumamoto Univ., Japan, [2]Kyoto Univ., Japan

13:50-14:10 4pD1-2 Nitrogen-doped Carbons as Non-Precious Electrocatalysts

S.M. Lyth, J. Liu and K. Sasaki
Kyushu Univ., Japan

14:10-14:30 4pD1-3 In-situ time-resolved XAFS analysis of Pt/C cathode catalyst degradation in polymer electrolyte fuel cells by anode gas exchange cycles

K. Higashi[1], G. Samjeske[1], S. Takao[1], S. Nagamatsu[1], K. Nagasawa[1], O. Sekizawa[1], T. Kaneko[1], T. Uruga[1,2] and Y. Iwasawa[1]
[1]The Univ. of Electro-Communications, Japan, [2]JASRI/SPring-8, Japan

14:30-15:10 4pD1-4(I) Sites for Methane Activation on pure and Li-doped MgO Surfaces

J. Sauer, M. Baldofski and K. Kwapien
Humboldt Univ. Germany

4pD2 Green Technologies_2 (Continued)

Chair: H. Noguchi (NIMS), A. Imanishi (Osaka Univ.)

15:30-15:50 4pD2-1 Surface Potential Mapping of Operating PentaceneOrganic Thin-film Transistors at Various Temperatures

T.-L. Huang, T. Kimura, K. Kobayashi and H. Yamada
Kyoto Univ., Japan

15:50-16:10 4pD2-2 Calculation of Exciton Dissociation rates into Hot Charge-Transfer States in Model Organic Photovoltaic Interfaces

H. Vazquez[1] and A. Troisi[2]
[1]Inst. of Physics, Academy of Sciences of the Czech Rep., CZ, [2]Univ. of Warwick, UK

16:10-16:30 4pD2-3 Photoexcited Carriers on Anatase and Rutile TiO_2 Surfaces – Effect of Surface Space Charge Layer on Carrier Lifetimes

K. Ozawa[1], M. Emori[2], S. Yamamoto[3], R. Yukawa[3], S. Yamamoto[3], R. Hobara[3], K. Fujikawa[3], H. Sakama[2] and I. Matsuda[3]
[1]Tokyo Inst. of Technology, Japan, [2]Sophoa Univ., Japan, [3]The Univ. of Tokyo, Japan

16:30-16:50 4pD2-4 Spontaneous water dissociation on the non-polar surface of GaN

S.-Y. Wu[1], L.-W. Lan[1], Y.-W. Chen[2], J.-L. Kuo[2], Y.-L. Lai[3], Y.-J. Hsu[3], H. Lee[4], P.-Y. Cai[4], M.-F. Luo[4] and C.-C. Kuo[1]
[1]National Sun Yat-sen Univ., Taiwan, [2]Inst. of Atomic and Molecular Sciences, Academia Sinica, Taiwan, [3]National Synchrotron Radiation Research Center, Taiwan, [4]National Central Univ., Taiwan

16:50-17:30 4pD2-5(I) Understanding Stabilization Forces on ZnO Polar Surfaces

H. Xu and S. Y. Tong
South Univ. of Science and Technology of China, China

4aE2 Biointerface and Biomolecular Electronics_1

Chair: Y. Miyahara (Tokyo Medical and Dental Univ.), K. Tamada (Kyushu Univ.)

10:00-10:40 4aE2-1(I) From Nano- to Bio-Interfaces, Lessons Learned

F. Stellacci
EPFL, Switzerland

10:40-11:00 4aE2-2 Nanobiodevice for mimicking synaptic connections with living neurons

K. Sumitomo, N. Kasai, Y. Kashimura, A. Tanaka, A. Oshima, T. Goto, T. Teshima, S. Tsukada and H. Nakashima
NTT Basic Research Labs., Japan

11:00-11:20 4aE2-3 Direct Single-molecule Detection of DNA through Electron Transfer Induced by Hybridization

T. Nishino, P.T. Bui, H. Shiigi and T. Nagaoka
Osaka Prefecture Univ., Japan

11:20-11:40 4aE2-4 A Bio-Inspired Method for Direct Micropatterning of Superhydrophilicity onto Superhydrophobic Surface Based on Inkjet Printing

L. Zhang, J. Wu and P. Wang
King Abdullah Univ. of Science and Technology, Saudi Arabia

4pE1 Surface Structure_2

Chair: S. Shaikhutdinov (FHI), J. Yuhara (Nagoya Univ.)

13:10-13:50 4pE1-1(I) Surface structure determination by three-dimensional Patterson map: Au and In on Si(111) surface

T. Abukawa
Tohoku Univ., Japan

13:50-14:10 4pE1-2 Structure determination of multilayer silicene grown on Ag(111) films by electron diffraction: Evidence for Ag segregation at the surface

T. Shirai[1], T. Shirasawa[2], T. Hirahara[1,3], N. Fukui[1], T. Takahashi[2] and S. Hasegawa[1]
[1,2]Univ. Tokyo, Japan, [3]Tokyo Inst. Tech., Japan

14:10-14:30 4pE1-3(T) Silicene versus Two-Dimensional Ordered Silicide: Atomic and Electronic Structure of Si-(√19x√19)R23.4° /Pt(111)

M. Švec[1], P. Hapala[1], M. Ondráček[1], P. Merino[2], M. Blanco-Rey[3,4], P. Mutombo[1], M. Vondráček[1], Y. Polyak[1], V. Cháb[1], J.A. Martín Gago[2,5] and P. Jelínek[1,6]
[1]Inst. of Physics AS CR, Czech Republic, [2]Centro de Astrobiología INTA-CSIC, Spain, [3]Departamento de Física de Materiales UPV/EHU, Spain, [4]Donostia International Physics Center, Paseo Manuel de Lardizabal, Spain, [5]CSIC-ICMM, C/Sor Juana Ines de la Cruz, Spain, [6]Osaka Univ., Japan

14:30-14:50 4pE1-4 Growth of silicon layer on Ag(111) and formation of Si-Ag surface alloy at high temperature

M.S. Rahman, T. Nakagawa and S. Mizuno
Kyushu Univ., Japan

14:50-15:10 4pE1-5 Correlation between Morphology and Transport Properties of Quasi-free-standing Monolayer Graphene

Y. Murata[1], T. Mashoff[2], M. Takamura[3], S. Tanabe[3], H. Hibino[3], F. Beltram[1,2] and S. Heun[1]
[1]NEST, Istituto Nanoscienze-CNR and Scuola Normale Superiore, Italy, [2]Center for Nanotechnology Innovation @ NEST, Istituto Italiano di Tecnologia, Italy, [3]NTT Basic Research Labs., Japan

4pE2 Surface Structure_2 (Continued)

Chair: T. Abukawa (Tohoku Univ.), K. Hattori (NAIST)

15:30-15:50 4pE2-1 Vertical heights of Quasi-Free-standing Monolayer Graphenes on SiC(0001): a comparative XSW study of H- and Ge-intercalation

F.C. Bocquet[1,2], J. Sforzini[1,2], T. Denig[3], A. Stöhr[3], T.-L. Lee[4], S. Subach[1,2], U. Starke[3] and F.S. Tautz[1,2]

[1]Peter Grünberg Institut (PGI-3), Forschungszentrum Jülich, Germany, [2]JARA, Fundamentals of Future Information Technology, Germany, [3]Max Plank Inst. for Solid Research, Germany, [4]Diamond Light Source Ltd, United Kingdom

15:50-16:10 4pE2-2(T) Initial Stage for Intercalation of Noble Metallic Atom on Graphene: Clue from Graphene Core Exciton

Y.-J. Chan[1], C.-H. Huang[1], S.-Y. Wu[1], T.-H. Wu[1], P.-Y. Cheng[2], D.-H. Wei[2], C.-B. Wu[3], V. Yeh[4] and C.-C. Kuo[1]

[1]National Sun Yat-sen Univ., Taiwan, [2]National Synchrotron Radiation Research Center, Taiwan, [3]Chung Yuan Christian Univ., Taiwan, [4]National Dong Hwa Univ., Taiwan

16:10-16:30 4pE2-3 Polarization dependence of sum frequency generation on a regular step H-Si(111) surface

K.T.T. Hien[1], Y. Miyauchi[2], M.A. Sattar[1] and G. Mizutani[1]

[1]JAIST, Japan, [2]National Defense Academy of Japan, Japan

16:30-16:50 4pE2-4 Surface morphology shape variations of Ge layers prepared at high temperatures on Si

A.A. Shklyaev

Rzhanov Inst. of Semiconductor Physics SB RAS, Russia

16:50-17:10 4pE2-5 Atomic-scale observation of hydration structure of step front of calcite

Y. Araki[1], K. Tsukamoto[2], N. Oyabu[3], K. Kobayashi[3] and H. Yamada[3]

[1]Kobe Univ., Japan, [2]Tohoku Univ., Japan, [3]Kyoto Univ., Japan

17:10-17:30 4pE2-6 Surface phonon dispersion of the hydrogen-terminated Si(110)-(1×1) surface: Experiment and theory

S.Y. Matsushita[1], C. Hu[2], E. Kawamoto[1], H. Kato[2], K. Watanabe[2] and S. Suto[1]

[1]Tohoku Univ., Japan, [2]Tokyo Univ. of Sci., Japan

4PN Poster Session

Frontiers in Dynamics on Surfaces

4PN-1(T) Electron-spin dependent $^4He^+$ ion scattering on epitaxially-grown Bi surfaces

S. Ichinokura[1], T. Hirahara[2], S. Hasegawa[1], O. Sakai[3] and T.T. Suzuki[3]
[1]Univ. of Tokyo, Japan, [2]Tokyo inst. of Tech., Japan, [3]NIMS, Japan

4PN-2 Potential effects in the interaction of highly charged ions with solid surfaces

M. Sakurai[1], D. Kato[2], H.A. Sakaue[2], K. Sasaki[1] and T. Miyamoto[1]
[1]Kobe Univ., Japan, [2]National Inst. for Fusion Science, Japan

4PN-3

4PN-4 Positron-annihilation-induced ion desorption from TiO_2 (110)

T. Tachibana[1], T. Hirayama[1] and Y. Nagashima[2]
[1]Rikkyo Univ., Japan, [2]Tokyo Univ. of Science, Japan

4PN-5 Ultrafast carrier dynamics in an epitaxial graphene studied by time- and angle- resolved photoemission spectroscopy

T. Someya[1], H. Fukidome[2], Y. Ishida[1], R. Yoshida[1], T. Iimori[1], R. Yukawa[1], K. Akikubo[1], S. Yamamoto[1], Sh. Yamamoto[1], T. Yamamoto[1,3], T. Kanai[1], K. Funakubo[2], M. Suemitsu[2], J. Itatani[1], F. Komori[1], S. Shin[1] and I. Matsuda[1]
[1,3]The Univ. of Tokyo, Japan, [2]Tohoku Univ., Japan

4PN-6

4PN-7 Ab Initio Dynamics of Electron Wave-Packet Scattering with Nanostructures

Y. Ueda, K. Tsubonoya, C. Hu and K. Watanabe
Tokyo Univ. of Science, Japan

4PN-8 Microwave Excited Ultra High Frequency Sound Wave for Material Processing

M. Sato[1], S. Takayama[2] and J. Fukushima[3]
[1]Chubu Univ. Kasugai Aichi, Japan, [2]NIFS, Japan, [3]Tohoku Univ., Japan

4PN-9 Magnetic Domain Structure of Co/Ni Multilayers Studied with High Brightness and Highly Spin-Polarized LEEM

M. Suzuki[1], K. Kudo[2], K. Kojima[3], T. Yasue[1], N. Akutsu[1], H. Kasai[3], W.A. Diño[3], E. Bauer[4] and T. Koshikawa[1]
[1]Fundamental Electronics Research Inst., Osaka Electro-Communication Univ., Japan, [2]Ochanomizu Univ., Japan, [3]Osaka Univ., Japan, [4]Department of Physics and Astronomy, USA

4PN-10 Charge Separation and Transfer in PbS Quantum Dot Solids

Y. Kuga[1], J. Chang[1], T. Toyoda[1], S. Hayase[2] and Q. Shen[1]
[1]Univ. Electro-Commun., Japan, [2]Kyushu Inst. Tech., Japan

4PN-11 Nanoplasmon Dynamics and Field Enhancement of Graphene Flakes by First-Principles Simulations

N. Yamamoto, S. Hagiwara, C. Hu and K. Watanabe
Tokyo Univ. of Science, Japan

4PN-12 Behavior of plasma-generated water cluster ions at chemically-modified Si surfaces investigated by surface infrared spectroscopy

A. Hirano-Iwata[1], Y. Kimura[2], K. Okada[1], N. Yamashita[1], M. Teng[1], M. Niwano[1] and K. Nishikawa[3]
[1]Tohoku Univ., Japan, [2]Tokyo Univ. of Technology, Japan, [3]Sharp Corporation, Japan

4PN-13 Oxidation of Ni_3Al(210) surface at room temperature using supersonic oxygen molecular beam: Real-time photoemission spectroscopic study with synchrotron radiation

Y. Xu[1], J. Sakurai[1], Y. Teraoka[2], A. Yoshigoe[2], M. Demura[1] and T. Hirano[1]
[1]NIMS, Japan, [2]Japan Atomic Energy Agency, Japan

Nanomaterials: Fabrication and Functionality

4PN-14 **Correlation between growth time and carrier density in epitaxial graphene on 6H-SiC**

T. Miyamoto, K. Konishi and T. Sato
Hokkaido Univ., Japan

4PN-15 **Acrylic Copolymer-Conjugated Polymer Composite Nanofibers**

A.S. Sarac
Istanbul Technical Univ., Turkey

4PN-16 **STM Observation of the MoS_2 Surface Treated with Inward-Plasma Etching**

T. Kubo[1], J. Miyawaki[1], T. Shimizu[1], S. Shimbori[2], S. Takahashi[2] and A. Ando[3]
[1,3]AIST, Japan, [2]Sanyu Co., Ltd., Japan

4PN-17 **The growth rate and the electrochemical properties of boron doped diamond films prepared by hot-filament chemical vapor deposition methods**

H. Nagasaka, T. Miyamoto[2], Y. Teranishi, Y. kondo and T. Shimizu[2]
[1]TIRI, Japan, [2]Tokyo Metropolitan Univ., Japan

4PN-18 **Growth, structure and magnetic properties of 2D nanomaterials composed of Co, Fe and Cu and layered on Si(100)**

N.I. Plusnin[1], V.M. Ilyaschenko[1], P.A. Usachev[2] and V.V. Pavlov[2]
[1]Inst. of Automation and Control Processes of FEB RAS, Russia, [2]Ioffe Physical-Technical Inst. of RAS, Russia

4PN-19 **Enhanced Electromagnetic Wave Absorbing Properties of Co-CNF Composite via Magnetic and Dielectric Loss**

J.R. Choi, W.-J. Kim, U.H. Choi, S.C. Cho, B.M. Jung, J.W. Yi, J.B. Kim, S.-K. Lee and S.B. Lee
KIMS, Korea

4PN-20 **Photoluminescence and photovoltaic properties of nanoparticle and nanotube TiO_2**

M. Akimoto[1], T. Toyoda[1,4], T. Okuno[1], Y. Ogomi[2,4], S. Hayase[2,4], K. Yoshino[3,4] and Q. Shen[1,4]
[1]The Univ. of Electro-Communications, Japan, [2]Kyushu Inst. of Technology, Japan, [3]Miyazaki Univ., Japan,[4]CREST, JST, Japan

4PN-21 **Thermal Stability of Self-Assembled-Monolayer-Covered Ag Nanoparticles**

S. Takahashi, N. Tsukida, H. Suzuki, T. Tanabe and T. Wadayama
Tohoku Univ., Japan

4PN-22 **Water Dispersion Enhancement of Multi-walled Carbon Nanotube by non-Destroy Structure Functionalization**

M. Seneewong-Na-Ayutthaya and T. Pongprayoon
King Mongkut's Univ. of Technology North Bangkok, Thailand

4PN-23 **Electromagnetic absorbing composite film using ferrite/graphene oxide particles**

B.M. Jung, S.-B. Lee, J.-W. Yi and J.-H. Byun
Korea Inst. of Materials Science, Korea

4PN-24 **Optimization of re-growth of single-wall carbon nanotubes by chemical vapor deposition.**

C. Yamada, H. Wang, M. Ito, H. Kato and Y. Homma
Tokyo Univ. of Science, Japan

4PN-25 **Characterization of counter ions in solutions using thiol molecules adsorbed on silver nanoparticles**

S. Handa, Y. Yu and M. Futamata
Saitama Univ., Japan

4PN-26 **Electron Diffraction Analysis of Electron-Beam-Irradiated C_{60} Single Crystal Films**

H. Masuda[1], H. Yasuda[2] and J. Onoe[3]
[1]NIMS, Japan, [2]Osaka Univ., Japan, [3]Nagoya Univ., Japan

4PN-27 **Morphology and structure of metal clusters on diversely oriented $SrTiO_3$ surfaces**

M. Tanaka
NIMS, Japan

4PN-28

4PN-29 **Effect of nano-structural properties on Tc, flux pinning and irreversibility line in high critical temperature superconductors**

K. Khallouq[1], A. Nafidi[1], A. Aboulkassim[1], R. Morghi[1], A. Saba[1] and B.S. Mari[2]

[1]Univ. Ibn Zohr., Morocco , [2]Univ. Politècnica de València, Spain

4PN-30 **Synthesis and Analysis of Lead Zirconate Titanate Nanofibers by Electrospinning**

S. Choi, J. Park, E. Jeong, S.-W. Koh and Y.-C. Kang

Pukyong National Univ., Korea

4PN-31 **Fabrication of Si nanoguide structures with a few tens of nm pitch using ultraviolet nanoimprint lithography**

A.N. Hattori[1], S. Ito[2], R. Okubo[2], M. Nakagawa[2] and H. Tanaka[1]

[1]Osaka Univ., Japan, [2]Tohoku Univ., Japan

4PN-32 **Fabrication of germanium nanostructures by wet chemical etching for lithium ion batteries**

K. Ito, D. Yamaura, Z. Lu and T. Ogino

Yokohama National Univ., Japan

4PN-33 **D.C. current in resonant level model**

S. Itoh

Kyoto Univ. of Education, Japan

4PN-34 **Formation of Nanodiamond Powder Prepared Using A Coaxial Arc Plasma Gun**

H. Naragino[1], A. Tominaga[1], S. Hattori[2] and T. Yoshitake[1]

[1]Kyushu Univ., Japan, [2]Kyoto Prefectural Technology Center for Small and Medium Enterprises, Japan

4PN-35 **Bonding in hydrogen-platinum Kubas complexes on defective graphene layers**

I. López-Corral[1], R. Faccio[2] and A. Juan[1]

[1]UNS-CONICET, Argentina, [2]NanoMat, UdelaR, Uruguay

4PN-36 **Electronic and Structural Modulations of Chemically Exfoliated MoS_2 Nanosheets via Stacking and Heating**

K. Fukuda, S. Toyoda, A. Nakata, M. Morita, Y. Uchimoto and E. Matsubara

Kyoto Univ., Japan

4PN-37 **Repetition Rate Effects on Mechanical Properties of Ultrananocrystalline Diamond/ hydrogenated Amorphous Carbon Fabricated by Arc Plasma Deposition**

T. Yoshida[1,2], K. Hanada[1], H. Setoyama[3], K. Sumitani[3] and T. Yoshitake[1]

[1]Kyushu Univ., Japan, [2]Kurume Nat. Coll. Tech., Japan, [3]SAGA Light Source, Japan

4PN-38 **Water Adsorption and Desorption on Vertically-aligned Single-walled Carbon Nanotubes**

J. Kuwabara[1], S. Chiashi[2], G. Yamaguchi[1], H. Kato[1] and Y. Homma[1]

[1]Tokyo Univ. of Science, Japan, [2]The Univ. of Tokyo, Japan

4PN-39 **Synthesis of copper nanocubes by polyol method**

M.S. Hosseini[1] and P. Marashi[2]

[1,2]Amirkabir Univ. of Technology, Iran

4PN-40 **Effect of Underlayer on Growth of Carbon Nanotubes Filled with Iron Nanowires**

N. Kubonaka, H. Sato and Y. Fujiwara

Mie Univ., Japan

Surface Electronic States

4PN-41 **A Model for Triboluminescence from Fracture Surfaces of Silica Glass**

H. Kanehira and S. Shimamura

Yamaguchi Univ., Japan

4PN-42 ***Operando* ARPES study for electronic structure of single crystalline ultrathin organic semiconductor film in organic FETs**

N. Nagamura[1], Y. Kitada[1], I. Honma[1], M. Oshima[2], Hi. Matsui[3], J. Soeda[3,4], T. Okamoto[3], J. Takeya[3], M. Nakatake[5], K. Shimada[5] and M. Taniguchi[5]
[1]Tohoku Univ., Japan, [2]SRRO, The Univ. of Tokyo, Japan, [3]The Univ. of Tokyo, Japan, [4]Osaka Univ., Japan, [5]Hiroshima Univ., Japan

4PN-43 **Analysis of Potential Distribution in Organic Field Effect Transistors during Operation by the Operand Scanning Photoelectron Microscopy**

Y. Kitada[1], N. Nagamura[1], I. Honma[1], K. Horiba[2], H. Matsui[3], J. Tsurumi[3], T. Okamoto[3], J. Takeya[3] and M. Oshima[4]
[1]Tohoku Univ., Japan, [2]IMSS, KEK, Japan, [3,4]The Univ. of Tokyo, Japan

4PN-44 **Electrical conductance through Rashba-type spin-split states on Pb/Ge(111)**

S. Hatta, T. Noma, H. Okuyama and T. Aruga
Kyoto Univ., Japan

4PN-45 **A Study on Electron Dynamics in a Nanoscale Device by Open System Schrödinger Equation Approach with and without Wide Band Limit Approximation**

K. Sasaoka, K. Kato, S. Souma and M. Ogawa
Kobe Univ. Japan

4PN-46 **Optical Second Harmonic Investigation of the ITO/MTDATA/Al OLED Device**

M.S. Ullah, S.Z.N. Demon, K. Matsumoto, K.T.T. Hien, G. Mizutani, H. Sakai, T. Matsushima and H. Murata
Japan Advanced Inst. of Science and Technology (JAIST), Japan

4PN-47 **Electronic states of MnN superstructure on Cu(001)**

K. Nakatsuji[1], T. Iimori[2], Y. Takagi[3], T. Yokoyama[3] and F. Komori[2]
[1]Tokyo Inst. of Technology, Japan, [2]Univ. of Tokyo, Japan, [3]Inst. for Molecular Science, Japan

4PN-48 **Bonding character of Ni-O surface complex studied by synchrotron excited two-dimensional photoelectron spectroscopy**

M. Takizawa[1], T. Yasumatsuya[1], H. Namba[1], F. Matsui[2] and H. Daimon[2,1]
[1]Ritsumeikan Univ., Japan, [2]NAIST, Japan

4PN-49 **Quantitative potential map of two-phase interface retrieved by TEM images**

X. Zhang[1,2] and Y. Oshima[2,3]
[1]Tokyo Inst. of Technology, Japan, [2]JST, CREST, Japan, [3]JAIST, Japan

4PN-50

4PN-51 **Diamond MOS Interface Properties Studied by XPS/UPS/XANES and C-V Measurements**

M. Kasu[1], K. Hirama[2], K. Harada[1], M. Imamura[1], K. Takahashi[1] and K. Shiraishi[3]
[1]Saga Univ., Japan, [2]NTT Basic Research Labs., Japan, [3]Nagoya Univ., Japan

4PN-52 **Initial oxidation processes on Si(113) surfaces at room temperature**

K. Tanaka[1], S. Ohno[1], H. Kodama[1], A. Yoshigoe[2], Y. Teraoka[2] and M. Tanaka[1]
[1]Yokohama Nat'l Univ., Japan, [2]Japan Atomic Energy Agency, Japan

4PN-53 ***Ab initio* molecular dynamics study of electrochemical reactions of ionic-liquid molecules on charged electrodes with Fermi-level pinning**

Y. Ando[1,2], Y. Kawamura[3], T. Ikeshoji[1] and M. Otani[1]
[1]AIST, Japan, [2]The Univ. of Tokyo, Japan, [3]Toyota Motor Corporation, Japan

4PN-54 **Scanning tunneling microscopy of Bismuth adatoms adsorbed on epitaxial graphene surface**

H.-H. Chen, S.H. Su and J.C.A. Huang
National Cheng Kung Univ., Taiwan

4PN-55 **Interfacial engineering for high efficiency perovskite solar cells**

T. Ma, M. Cagnoni and M. Niwano
Tohoku Univ., Japan

4PN-56 **Voltage -induced changes in magnetism of $FeCo/BaTiO_3$ thin films studied by x -ray absorption spectroscopy**

K. Amemiya[1] and M. Sakamaki[2]
[1]*Inst. of Materials Structure Science, High Energy Accelerator Research Organization, Japan*

4PN-57 **Charge Transfer and Doping Effects on the Passivated Si Surfaces adsorbed with Acceptor/ Donor Molecules**

S. Yoshimoto, Y. Shiozawa, T. Koitaya, H. Noritake, K. Mukai and J. Yoshinobu
The Univ. of Tokyo, Japan

4PN-58 **Positron energy loss and the interaction between positrons and soliton-like electron density in Graphite-Alkali Metal Intercalation Compounds**

Y. Satou, T. Sasaki, M. Saito and I. Kanazawa
Tokyo Gakugei Univ., Japan

4PN-59 **Electronic Density of States of Silicene Nanoribbons Formed on Ag(110)**

R. Omura, M. Shigehara, H. Tabata, N. Mori, O. Kubo and M. Katayama
Osaka Univ., Japan

4PN-60 **Direct Visualization of Local Piezoelectric Potential Distribution in a Single Bent ZnO Microwire**

C.-L. Wang[1], S.-J. Tsai[2], J.-W. Chen[1], H.-W. Shiu[3], L.-Y. Chang[3], C.-H. Chen[3], Y.-C. Chen[1], H.-C. Hsu[4] and C.-L. Wu[1]
[1,2]*National Cheng Kung Univ., Taiwan,* [3]*National Synchrotron Radiation Research Center, Taiwan,* [4]*National Cheng Kung Univ., Taiwan*

4PN-151 **Systematic Study on Electronic Density of States of Graphene Nanoribbons Fabricated on Highly Oriented Pyrolytic Graphite**

O. Kubo, Y. Sugiyama, R. Omura, M. Shigehara, H. Tabata, N. Mori and M. Katayama
Osaka Univ., Japan

4PN-152 **Conductivity of F_4-TCNQ-doped organic thin films of P3HT**

D. Tadaki[1], T. Ma[1], Y. Kimura[2] and M. Niwano[1]
[1]*Tohoku Univ. Japan,* [2]*Tokyo Univ. of Technology Japan*

4PN-153 **Electromechanical properties of graphene under isotropic strain**

Q. Li[1,2], D. Tsuya[1],Y. Shingaya[1] and T. Nakayama[1,2]
[1]*NIMS, Japan,* [2]*Univ. of Tsukuba, Japan*

4PN-154 **Valence analysis of magnetite by microscopic photoelectron diffraction spectroscopy**

Y. Hashimoto, M. Taguchi, F. Matsui, H. Matsuda, S. Kitagawa, D. Tsujikawa, S. Fukami, T. Yoshida and H. Daimon
Nara Inst. of Science and Technology, Japan

4PN-155 **Electrostatic carrier doping of the insulating $SrTiO_3$ surface through a Parylene-C/HfO_2 hybrid gate insulator**

N. Kumar, A. Kitou and I.H. Inoue
AIST, Japan

4PN-156 **Measurement of Photoelectron Diffraction Patterns by Laboratory Hard X-ray Photoelectron Spectroscopy System**

D. Tsujikawa, M. Taguchi, F. Matsui, H. Matsuda, S. Kitagawa, Y. Hashimoto, S. Fukami, T. Yoshida and H. Daimon
Nara Inst. of Science and Technology, Japan

4PN-157 **Electronic structure of the anatase TiO_2 (101) surface**

N. Nagatsuka, K. Asakawa, K. Takeyasu, S. Ogura and K. Fukutani
Univ. of Tokyo, Japan

4PN-158 **Fabrication and Electrical Characterization of Transition Metal Dichalcogenides FETs using 'Nanomanipulator' under SEM Observation**

A. Ando[1], E. Mieda[1], T. Shimizu[1], H. Suga[2] and K. Ueno[3]
[1]*National Inst. of Advanced Industrial Science and Technology, Japan,* [2]*Chiba Inst. of Technology, Japan,* [3]*Saitama Univ., Japan*

4PN-159 **The electric conduction anisotropy of topological insulator thin films, Bi_2Te_3 and Bi_2Se_3, grown on a vicinal substrate**

N. Fukui[1], T. Hirahara[2] and S. Hasegawa[1]
[1]Univ. of Tokyo, Japan, [2]Tokyo Inst. of Technology, Japan

Surface Chemistry

4PN-61 **On Some Peculiarities of Surface Properties of Nb_2O_5 Anodic Films**

L. Skatkov[1] and V. Gomozov[2]
[1]PCB "Argo", Israel, [2]NTU "KhPI", Ukraine

4PN-62 **Electrochemically gated single-molecule conductance: electron transporting through metal string complexes**

T.-S. Ding, M.-J. Huang, H.-C. Lu, C.-H. Hsu, E.-C.N. Hung, C.-H. Jiang, S.-M. Peng and C.-H. Chen
National Taiwan Univ., Taiwan

4PN-63 **Dissociative Adsorption of CO_2 on Copper Surfaces**

F. Muttaqien[1,2], Y. Hamamoto[1,2], K. Inagaki[1,2,3] and Y. Morikawa[1,2,3,4]
[1,4]Osaka Univ., Japan, [2]JST ACT-C, Japan, [3]Kyoto Univ., Japan

4PN-64 **Coadsorption of heteroaromatic molecules on the Si(111)-(7×7) surface**

M. Shimomura, T. Kiyose and A. Iwanabe
Shizuoka Univ., Japan

4PN-65 **Effect of oxygen gas ratios on the molybdenum chalcogenide thin films deposited by rf sputtering**

J. Park, S. Choi, E. Jeong, and Y.-C. Kang
Pukyong National Univ., Korea

4PN-66 **A study of Surface Reaction for Molecular-Layer Controlled Epitaxy of GaAs**

T. Kurabayashi
Akita Univ., Japan

4PN-67 **Pore size dependence of surface charge of nanoporous silica**

N. Nishiyama
Osaka Univ., Japan

4PN-68 **Synchrotron Radiation Photoelectron Spectroscopy Study on Surface Oxides at Ge(100)-2×1 Surface**

A. Yoshigoe[1], R. Okada[1,2], Y. Teraoka[1,3], Y. Iwai[3], Y. Yamada[2] and M. Sasaki[2]
[1]Japan Atomic Energy Agency, Japan, [2]Univ. of Tsukuba, Japan, [3]Univ. of Hyogo, Japan

4PN-69 **Thermodynamics of the Phenomena of Intergranular Films Formation**

Y.A. Minaev
Russian Academy of Natural Science, Russia

4PN-70 **X-ray absorption study of nitrogen doped graphite upon CO_2 adsorption**

H. Kiuchi[1], R. Shibuya[2], T. Kondo[2], D. Guo[2], J. Nakamura[2], H. Niwa[3,4], J. Miyawaki[3,4], M. Kawai[1], M. Oshima[4] and Y. Harada[3,4]
[1,3,4]The Univ. of Tokyo, Japan, [2]Univ. of Tsukuba, Japan

4PN-71 **Consideration of Adsorption Process of Benzene Plasma with Isotope Effect**

M. Shinohara, K. Ito, Y. Taniguchi, Y. Matsuda and H. Fujiyam
Nagasaki Univ., Japan

4PN-72 **Electrochemical Reaction of Graphene Oxide at Au Electrode Surface Monitored by Surface Enhanced Infrared Spectroscopy**

K. Nishiyama[1,3], Y. Hayashi[1], Y. Matsumoto[1], K. Hatakeyama[1,4], T. Taniguchi[1,4], M. Koinuma[4], S. Yoshimoto[2,3] and Y. Matsumoto[1,4]
[1,2]Kumamoto Univ., Japan, [3]Kumamoto Inst. for Photo-Electro Organics (Phoenics), Japan, [4]JST, CREST, Japan

4PN-73 **Electronic Polarization in a Single-Phase Organic Thin Film with Complex Geometric Structure**

T. Sueyoshi[1], M. Willenbockel[1], S. Nagamatsu[2], F.C. Bocquet[1], G. Mercurio[1], S. Kera[3], N. Ueno[4], S. Soubatch[1] and F.S. Tautz[1]
[1]Forschungszentrum Jülich (PGI-3), Germany, [2]Univ. Electro-Communications, Japan, [3]IMS, Japan, [4]Chiba Univ. Japan

4PN-74 **Mechanism Study for Salen Ligand Homogeneous Catalyst in a Heterogeneous Catalysis System**

N. Johansson, S.Chaudhary, A. Head, O. Snezhkova, J.N. Andersen, J. Knudsen and J. Schnadt
Lund Univ., Sweden

4PN-75 **IR Spectroscopy of Interfacial Water between Colloidal Silica Particles**

M. Hamamoto, M. Katsura, N. Nishiyama, R. Tonoue and S. Nakashima
Osaka Univ., Japan

4PN-76 **Initial Oxidation Stage of Cu_3Au: Protective Layer Formation**

M. Okada[1] and Y. Teraoka[2]
[1]Osaka Univ., Japan, [2]JAEA, Japan

4PN-77 **Temperature dependence of the photoinduced microcrystalline surface topography of a diarylethene**

N. Fujinaga[1], N. Nishikawa[1], S. Sakiyama[1], S. Yamazoe[1,2], Y. Kojima[3], T. Tsujioka[4], S. Yokojima[5], S. Nakamura[6] and K. Uchida[1]
[1]Ryukoku Univ., Japan, [2]The Univ. of Tokyo, Japan, [3]Mitsubishi Chemical Group, Japan, [4]Osaka Kyoiku Univ., Japan, [5]Tokyo Univ. of Pharmacy and Life Sciences, Japan, [6]RIKEN Research Cluster for Innovation, Japan

4PN-78 **Multistate Adsorption of Benzene Derivatives on Noble Metal Surfaces**

S.N. Filimonov[1], W. Liu[2] and A. Tkatchenko[2]
[1]Tomsk State Univ., Russia, [2]Fritz-Haber-Institut der Max-Planck-Gesellschaft, Germany

4PN-79 **Surface tension of nanofluid under microwave radiation**

Y. Kanazawa[1], A. Saptoro[2], Y. Asakuma[1] and C. Phan[3]
[1]Univ. of Hyogo, Japan, [2]Curtin Univ. Sarawak Campus, Malaysia, [3]Curtin Univ., Australia

4PN-80 **Effect of microwave radiation on surface tension of water-ethylene glycol solution**

M. Asada[1], Y. Kanazawa[1], Y. Asakuma[1] and C. Phan[2]
[1]Univ. of Hyogo, Japan, [2]Curtin Univ., Australia

4PN-81 **Surface Treatment of Polymer Films using Intense Ar Plasma Array Jets with Ring-Type Focusing Electrode**

D.H. Kim, H.-J. Kim, J.H. Kim and H.-S. Tae
Kyungpook National Univ., Korea

4PN-82 **Formation of Dense CO Overlayer on Pt(111): An Ambient-Pressure XPS Study**

R. Toyoshima, M. Yoshida, Y. Monya and H. Kondoh
Keio Univ., Japan

4PN-83 **Liquid Phase Oxidation of Benzene to Phenol over Binuclear Complex Catalysts**

K. Kato, A. Okemoto, K. Taniya, Y. Ichihashi and S. Nshiyama
Kobe Univ., Japan

4PN-84 **Design of reusable Pd catalyst on adsorbed SO_4 on graphene and h-BN using DFT calculation for green chemistry**

A. Ishii and M. Yokoyama
Tottori Univ., Japan

4PN-85 **Adsorption and absorption of hydrogen on Pd(210)**

H. Kobayashi, S. Ohno, S. Ogura, M. Wilde and K. Fukutani
The Univ. of Tokyo, Japan

4PN-86 **Interfacial Reactions between Graphite and Propylene Carbonate-Based Solutions at Low Temperatures**

S.-K. Jeong[1], H.-Y. Song[2], S.I. Kim[1], T. Abe[2] and Y.S. Kim[3]
[1]Soonchunhyang Univ., Korea, [2]Kyoto Univ. Japan, [3]KBSI, Korea

Biointerface and Biomolecular Electronics

4PN-87(T) Fabrication of micropatterned substrate for live-cell, label free identification of excitatory-inhibitory neurons

S. Kono[1], T. Kushida[1], H.Yamamoto[2], T. Tanii[1]
[1]Waseda Univ., Japan, [2]Tohoku Univ., Japan

4PN-88 Surface modification of glass nanopipette with chlorobenzene-terminated polysiloxane

T. Takami[1], Y. Ojiro[2], Y. Ogawa[3], S. Ogawa[2], Y. Takakuwa[2], M. Saito[3], H. Matsuoka[3] and S. Tate[1]
[1]Hiroshima Univ., Japan, [2]Tohoku Univ., Japan, [3]Tokyo Univ. Agri. Tech., Japan

4PN-89 Biomimetic surface modification of poly(lactide-co-glycolide) scaffolds by elastin-like matrix improves functional behaviors of neuronal progenitor cells

W.B. Jeon and S.-K. Choi
Daegu Gyeongbuk Inst. of Science and Technology, South Korea

4PN-90 Analysis of glycopolymer-brush structure on gold substrate using SPR spectroscopy

Y. Terada, S. Shinohara, H. Seto, Y. Hoshino, K. Tamada and Y. Miura
Kyushu Univ., Japan

4PN-91 Behavior for protein adsorption on polymer thin films with different grafting density in aqueous solutions.

T. Sakane and M. Fujii
Shimane Univ., Japan

4PN-92 Important Role of Saccharides on the Stability of Lipid Bilayer in Dry State Probed by Sum Frequency Generation (SFG) Spectroscopy

Y. Zhang[1], H. Noguchi[1,2,3] and K. Uosaki[1,2,3]
[1]WPI, MANA, NIMS, Japan, [2]GREEN, NIMS, Japan, [3]Hokkaido Univ., Japan

4PN-93 Viscoelasticity of Corneocytes in Aqueous Solution

A. Takahashi, S. Yanagiya and N. Goto
The Univ. of Tokushima, Japan

4PN-94 Evaluation of blood compatibility by using self-assembled monolayers with a chemical gradient

N. Makiuchi[1], Y. Tanaka[1], C. Sato[2], M. Tanaka[2] and T. Hayashi[1]
[1]Tokyo Inst. of Technology, Japan, [2]Yamagata Univ., Japan

4PN-95 Plasma Irradiation of Artificial Plasma Membrane

R. Tero, Y. Suda, R. Yamashita and H. Takikawa
Toyohashi Univ. Tech., Japan

4PN-160 Osteoblast cell response to the surface of TiO_2 nanotubes

Y. Wang[1], C. Wen[2], P. Hodgson[1] and Y. Li[1]
[1]Deakin Univ., Australia, [2]Swinburne Univ. of Technology, Australia

Development on Instrumentation & Characterization

4PN-96 Simulation Study of Crystalline Orientation Effect in Scanning Ion Microscope

K. Ohya
The Univ. of Tokushima, Japan

4PN-97 Mean escape depth for X-ray photoelectron spectroscopy in the kinetic energy region from 0.1 to 10 keV and in the emission angle region up to 80 degree

H. Yoshikawa and S. Tanuma
NIMS, Japan

4PN-98 Raman imaging, SPM and TERS for nanoscale characterization of functional materials

O. Milikofu[1] and T. Batten[2]
[1]Renishaw KK, Japan, [2]Renishaw plc, UK

4PN-99

4PN-100 **Imaging mass spectrometry for the organic thin film using laser desorption ionization**

T. Satoh[1], M. Shima[1], H. Niimi[1], Y. Nakajima[2], M. Fujii[3], T. Seki[3] and J. Matsuo[3]
[1]JEOL Ltd., Japan, [2]Asahi Glass Co., Ltd., Japan, [3]Kyoto Univ., Japan

4PN-101 **Total-Electron-Yield Measurements of Bulk Insulators by Monitoring Surface Photocurrent Induced by Soft X-Ray Synchrotron Radiation**

Y. Muramatsu[1] and E.M. Gullikson[2]
[1]Univ. of Hyogo, Japan, [2]Lawrence Berkeley National Laboratory, USA

4PN-102 **Graphene-metal Interaction Investigated by Raman Spectroscopy**

J. Takahashi, H. Kato and Y. Homma
Tokyo Univ. of Science, Japan

4PN-103 **Analysis of Viscoelastic Contact by Atomic Force Microscope**

K. Nakajima, H.K. Nguyen, M. Ito and S. Fujinami
Tohoku Univ., Japan

4PN-104 **Observation of inhomogeneous structure of bismuth zinc borate glasses**

Y. Harada, H. Hashimoto, S. Sakida, Y. Benino and T. Nanba
Okayama Univ., Japan

4PN-105 **Differential surface charging of Cs-contained vermiculite as observed by synchrotron radiation x-ray photoemission spectroscopy**

Y. Teraoka[1,2], Y. Iwai[1,2], R. Okada[1,3] and A. Yoshigoe[1]
[1]JAEA, Japan, [2]Univ. of Hyogo, Japan, [3]Univ. of Tsukuba, Japan

4PN-106 **Measurement of secondary electron yield from graphene**

K. Matoba, M. Irita, Y. Momiuchi, H. Kato and Y. Homma
Tokyo Univ. of Science, Japan

4PN-107 **Temperature Calculation for an Atmospheric Pressure Plasma Jet by Optical Emission Spectroscopy**

H. Lee, Jr., L. Bo-ot, R. Tumlos and H. Ramos
Univ. of the Philippines, Philippines

4PN-108 **Crystal Structure and Electron Density Distribution Analyses of $NdxCe1_{-x}O_{2-\delta}$ for Electrolyte by Rietveld/ Maximum Entropy Method**

T. Taguchi, N. Igawa, S. Miwa, A. Birumachi, H. Asaoka and M. Osaka
Japan Atomic Energy Agency, Japan

4PN-109 **Development of Fluorescence XAFS system in soft X-ray region toward operando condition using a polycapillary X-ray lens**

M. Honda, I. Shimoyama, Y. Baba, S. Suzuki, Y. Okamoto and T. Yaita
JAEA, Japan

4PN-110 **Nuclear and Electron Density Distributions of $LiMn_2O_4$ Analyzed by Combination of Rietveld/ Maximum Entropy Method**

N. Igawa, K. Kodama, A. Birumachi and T. Taguchi
JAEA, Japan

4PN-161 **Observation on the transport properties of carbon nanotubes with Multi-Probe Scanning Probe Microscope (MP-SPM)**

D. Miao[1,2], Y. Shingaya[2], T. Fujimori[3], K. Kaneko[3] and T. Nakayama[2]
[1]Tsukuba Univ., Japan, [2]NIMS, Japan, [3]Shinshu Univ., Japan

4PN-162 **Development and estimation of mass filter using new principles for high mass separation**

M. Suzuki[1], Y. Anai[1], M. Hotta[2], T. Adachi[3] and M. Nojima[1,4]
[1,4]Tokyo Univ. of Science, Japan, [2]Office Tandem, Japan, [3]Ampere Inc., Japan

4PN-163 **Radiation pressure excitation of Low Temperature Atomic Force & Magnetic Force Microscope (LT-AFM/MFM) for Imaging**

Ö. Karcı[1], Ü. Çelik[1] and A. Oral[2]
[1]NanoMagnetics Inst. Ltd., Turkey, [2]Middle East Technical Unive., Turkey

4PN-164 **Quantitative Kelvin probe force spectroscopy using voltage-pulse technique**

E. Inami and Y. Sugimoto
Osaka Univ., Japan

Surface Structure

4PN-111 **Elucidation of CO blocking effect on a Pd-Au alloy surface**

S. Ogura[1], M. Okada[2] and K. Fukutani[1]
[1]Univ. Tokyo, Japan, [2]Osaka Univ., Japan

4PN-112 **Application of Ion Beam Induced Chemical Vapor Deposition for SiC Film Formation**

S. Yoshimura[1], S. Sugimoto[1], K. Murai[2], K. Honjo[2] and M. Kiuchi[1,2]
[1]Osaka Univ., Japan, [2]AIST, Japan

4PN-113 **Nanostructural evaluation of an electron emitting tip by scanning probe microscopy**

N. Watanabe, M. Tanaka and T. Shimizu
NRI-AIST, Japan

4PN-114 **ZrC Epitaxy on Si(111)**

T. Aizawa, S. Otani, I. Ohkubo and T. Mori
NIMS, Japan

4PN-115 **The Mechanism of Energy Dissipation of Atomic Force Microscopy studied by Multi-scale Computational Model**

Y. Senda[1], S. Shimamura[1], J. Blomqvist[2] and R. Nieminen[2]
[1]Yamaguchi Univ., Japan, [2]Aalto Univ., Finland

4PN-116 **Deexcitation process in quaterthiophene derivative self-assembled monolayers on gold**

Y. Murakami, Y. Kiriyama, R. Saitoh, T. Ueba, T. Yamada, H.S. Kato and T. Munakata
Osaka Univ., Japan

4PN-117 **Two-Dimensional Structural Analysis of Alkyl-Derivatized Indigo and the Cu-Complex on HOPG**

K. Noda, A. Honda, T. Ohno, Y. Fukumoto, Y. Tamaki and K. Miyamura
Tokyo Univ. Sci., Japan

4PN-118 **Laser-MBE Grown $Y_3Fe_5O_{12}$ Thin Films: Structure and Magnetic Properties**

N.S. Sokolov[1], V.V. Fedorov[1], A.M. Korovin[1], S.M. Suturin[1], D.A. Baranov[1], S.V. Gastev[1], B.B. Krichevtsov[1], K.Y. Maksimova[2], A.I. Grunin[2], M.V. Zamoryanskaya[1] and L.V. Lutsev[1]
[1]Ioffe Inst., Russia, [2]Immanuel Kant Baltic Federal Univ., Russia

4PN-119 **Imaging of spinel $Li_4Ti_5O_{12}$(111) surface in aqueous solution by frequency-modulation atomic force microscope**

M. Kitta[1], M. Kohyama[1] and H. Onishi[2]
[1]UBIQEN, AIST, Japan, [2]Kobe Univ., Japan

4PN-120

4PN-121 **A New Atmospheric Pressure Plasma Printing Device with Ar Surface Barrier Discharge for Area-selective Surface Modification**

J.G. Shin, H.-J. Kim, J.H. Kim and H.-S. Tae
Kyungpook National Univ., Korea

4PN-122 **Simulation of Temperature History in Plastic Film Substrate during Preparation of Thin-Film Transistor using a Roll-to-Roll manufacturing System**

T. Kobayashi[1], M. Tamura[1], Y. Utsumi[2], H. Kanematsu[3] and S. Kamikawa
[1]Tsuyama National College of Technology, Japan, [2]Univ. of Hyogo, Japan, [3]Suzuka National College of Technology, Japan, [4]Mitsubishi-Hitachi Metals Machinery, Inc., Japan

4PN-123 **Stabilizing the $\sqrt{7}\times\sqrt{3}$ superstructure of In ad-atoms on α-$\sqrt{3}\times\sqrt{3}$-Au/Si(111) surface**

S.-Y. Wu[1], C.-H. Hsu[1], F.-C. Chuang[1], W.-C.V. Yeh[2], C.-B. Wu[3], H. Lin[4] and C.-C. Kuo[1]
[1]National Sun Yat-sen Univ., Taiwan, [2]National Dong Hwa Univ., Taiwan, [3]Chung Yuan Christian Univ., Taiwan, [4]National Univ. of Singapore, Singapore

4PN-124 **Intensified Plasma Needle by Biasing Counter Electrode for Downstream Patterned Surface Treatments of Polymer Films**

D.-S. Lee, H.-J. Kim, J.H. Kim and H.-S. Tae
[1]Kyushu Univ., Japan, [2]Kurume Nat. Coll. Tech., Japan, [3]SAGA Light Source, Japan

4PN-125 **Structural, mechanical and corrosion properties of thin nitrides films on Ti_6Al_4V titanium alloy**

M. Grobelny[1], M. Kalisz[1], M. Szymańska[1,2], M. Sochacki[2] and J. Szmidt[2]
[1]Motor Transport Inst., Poland, [2]Warsaw Univ. of Technology, Poland

4PN-126 **Structural, electronic and magnetic properties of Fe thin film on Cu(001) revisited by atomically resolved observation**

T. Miyamachi[1], N. Kawamura[1,2], M. Yamada[1], T. Iimori[1] and F. Komori[1]
[1]Univ. Tokyo, Japan, [2]NHK S&T Res. Labs., Japan

4PN-127 **Theoretical Investigations for Initial Oxidation Processes on SiC Surfaces**

A. Ito[1], T. Akiyama[1], K. Nakamura[1], T. Ito[1], K. Shiraishi[2], H. Kageshima[3] and M. Uematsu[4]
[1]Mie Univ., Japan, [2]Nagoya Univ., Japan, [3]Shimane Univ., Japan, [4]Keio Univ., Japan

4PN-128 ***N*-alkane Monolayer on Au(111) Template for Metal Growth**

O. Endo[1], M. Nakamura[2], K. Amemiya[3] and H. Ozaki[1]
[1]Tokyo Univ. of Agriculture and Technology, Japan, [2]Chiba Univ., Japan, [3]KEK-PF, Japan

4PN-129 **Surface structure analysis of α-Ga_2O_3 film grown on α-Al_2O_3 by mist CVD using CAICISS**

D. Tamba[1], S. Osaka[1], S. Okasaka[1], M. Oda[2,3], H. Tabata[1], O. Kubo[1], S. Fujita[2] and M. Katayama[1]
[1]Osaka Univ., Japan, [2]Kyoto Univ., Japan, [3]ROCA K. K., Japan

4PN-130 **Structural analysis of local cluster in the Co rich d-Al-Co-Ni quasicrystal surface**

K. Horiba and J. Yuhara
Nagoya Univ., Japan

4PN-131 **Fabrication of graphene on silicon substrate in ultra-high vacuum using a method of mechanical exfoliation**

K. Hata and J. Yuhara
Nagoya Univ., Japan

4PN-132 **Emission Enhancement and Fluorescence Image Patterning of Conjugated Polymer via in Situ Embbeding into Elastomeric Silicone Rubber Matrix**

D.C. Han[1], H.J. Shin[1] and G. Kwak[2]
[1]GERI, Korea, [2]KNU, Korea

4PN-133 **Patterson function of Si(111) 5x2-Au surface with DFT calculation**

S.T.A. Abdulmawla, F. Mori and K. Kakitani
Okayama Univ. of Science, Japan

4PN-134 **Investigation of TiO_2(011) Surface by Noncontact Atomic Force Microscopy and Scanning Tunneling Microscopy**

A. Yurtsever[1,2], C.L. Pang[3], J. Onoda[1], Y. Sugimoto[1] and G. Thornton[3]
[1,2]Osaka Univ., Japan, [3]Univ. College London, UK

4PN-135 **Chiral Molecular Recognition of Helicenediol Self Assembly Structures on Au (111)**

T. Tsuzuki[1], P. Krukowski[1], S. Chaunchaiyakul[1], Y. Minagawa[1], H. Osuga[2], H. Tabata[1], O. Kubo[1], M. Katayama[1] and Y. Kuwahara[1]
[1]Osaka Univ., Japan, [2]Wakayama Univ., Japan

Green Technologies

4PN-136 **In-situ Electrical Conductance Measurement of Au/TiO_2 Catalysts**

Y. Maeda, Y. IIzuka and M. Kohyama
AIST, Japan

4PN-137 **Effect of surface oxide layer of aluminum and its alloy on high-pressure hydrogenation reactions: implications for hydrogen storage**

H. Saitoh[1], S. Takagi[2], K. Aoki[2] and S. Orimo[2]
[1]JAEA, Japan, [2]Tohoku Univ., Japan

4PN-138 **Theoretical investigation for Au cluster stabilization onto various phosphate-doped Alumina surfaces**

K. Tada[1], H. Koga[2], K. Sakata[1], A. Oguni[1], T. Kawakami[1], S. Yamanaka[1] and M. Okumura[1,2]
[1]Osaka Univ., Japan, [2]Kyoto Univ., Japan

4PN-139 **Effects of carbon-doping of n-type β-$FeSi_2$/p-type Si heterojunction diodes**

M. Takahara[1], T.M. Mostafa[1], R. Baba[1], S. Funasaki[1], M. Shaban[2], N. Promros[3] and T. Yoshitake[1]
[1]Kyushu Univ., Japan, [2]Aswan Univ., Egypt, [3]King Mongkut's Inst. of Tech. Ladkrabang, Thailand

4PN-140 **Active perfect absorbers in NIR region with thermochromic VO_2 layer**

N. Muroi[1], K. Namura[1,2], S. Li[3], C.G. Granqvist[3] and M. Suzuki[1]
[1]Kyoto Univ., Japan, [2]J S P S Research Fellow, Japan, [3]Uppsala Univ., Sweden

4PN-141 **Energy Dissipation of Nanoscale Contacts on an Oscillating Tuning Fork**

S. Tanahara[1], D. Inoue[1], S. Machida[1], Y. Ikada[1], J. Taniguchi[1], M. Suzuki[1], M. Ishikawa[2] and K. Miura[2]
[1]Univ. of Electro-Communications, Japan, [2]Aichi Univ. of Education, Japan

4PN-142 **Spectral Recovery of Etching Damage of TiO_2 Thin Films Observed in XAS spectra**

K. Sano[1], M. Niibe[1], R. Kawakami[2] and Y. Nakano[3]
[1]Univ. Hyogo, Japan, [2]Univ. Tokushima, Japan, [3]Chubu Univ., Japan

4PN-143 **Photoreduction of CO_2 over Zn-Cr Layered Double Hydroxides (LDHs) Intercalated by Polyoxometelates**

H. Jiang, K. Katsumata, N. Matsushita
Tokyo Inst. of Technology, Japan

4PN-144 **Magnetoresistance Effects in Current-Perpendicular-to-Plane Structures Based on Fe_3Si/$FeSi_2$ artificial lattices**

Y. Asai[1], K. Sakai[1,2], K. Ishibashi[1], Y. Noda[1], K. Takeda[3] and T. Yoshitake[1]
[1]Kyushu Univ., Japan, [2]Kurume Nat. Coll. of Tech., Japan, [3]Fukuoka Inst. of Tech., Japan

4PN-145 **Dynamic friction of nanoscale sliding on a C_{60}-deposited thin film**

Y. Ikada[1], S. Tanahara[1], T. Oyamada[1], D. Inoue[1], S. Machida[1], J. Taniguchi[1], M. Suzuki[1], M. Ishikawa[2] and K. Miura[2]
[1]Univ. of Electro-Communications, Japan, [2]Aichi Univ. of Education, Japan

4PN-146 **Electron microscopy study on the structure of Au nanoparticles on Fe_2O_3**

T. Akita, Y. Maeda and M. Kohyama
AIST, Japan

4PN-147 **Crystallization of acanthite nanoparticles using "green chemistry principles"**

M.Kolenčík[1,2], M. Čaplovičová[3] and J. Pištora[1]
[1]VŠB-Technical Univ. of Ostrava, Czech Republic, [2]Slovak Univ. of Technology, Slovak Republic

4PN-148 **Molecular behavior of water mixed with ionic liquid at ferrous material surface**

S. Watanabe[1], M. Nakano[2], K. Miyake[2], S. Kawada[1], C. Tadokoro[1] and S. Sasaki[1]
[1]Tokyo Univ. of science, Japan, [2]AIST, Japan

4PN-149 **The physical properties of adsorption layer derived from fatty acids in liquid condition**

Y. Suzuki, C. Tadokoro and S. Sasaki
Tokyo Univ. of science, Japan

4PN-150 **Prevention of fungal adhesion using surface modification of self-assembled monolayer**

M. Nakano[1], M. Nishimura[2] and K. Miyake[1]
[1]AIST, Japan, [2]NIAS, Japan

Nov. 5 (Wed)

Hall A (1F)

5aA1 Surface Electronic States_3

Chair: C.M. Shneider (Forschungszentrum), Y. Hasegawa (Tokyo Univ.)

8:40-9:20 5aA1-1(I) Atomic Layer Superconductors on Silicon Surface – Towards Engineering Exotic 2D Materials

T. Uchihashi
NIMS, Japan

9:20-9:40 5aA1-2 Metallic Spin-split States and Structural Transformations in 2D TlBi System on Silicon

L.V. Bondarenko[1,2], A.Y. Tupchaya[1], A.V. Matetskiy[1,2], D.V. Gruznev[1,2], A.V. Zotov[1,2,3] and A.A. Saranin[1,2]
[1]Inst. of Automation and Control Processes, FEB RAS, Russia, [2]Far Eastern Federal Univ., Russia, [3]Vladivostok State Univ. of Economics and Service, Russia

9:40-10:00 5aA1-3 A Strategy to Create Spin-Split Metallic Bands on Silicon Using a Dense Alloy Layer

A.A. Saranin[1,2], D.V. Gruznev[1,2], L.V. Bondarenko[1,2], A.V. Matetskiy[1,2], A.A. Yakovlev[1], A.Y. Tupchaya[1], S.V. Eremeev[3,4], E.V. Chulkov[4,5,6], J.-P. Chou[7], C.-M. Wei[7], M.-Y. Lai[7], Y.-L.Wang[7] and A.V. Zotov[1,2,8]
[1]IACP FEB RAS, Russia, [2]FEFU, Russia, [3]ISPMS, Russia, [4]TSU, Russia, [5]DIPC, Spain, [6]UPV/EHU, CFM-MPC and CM CSIC-UPV/EHU, Spain, [7]IAMS AS Taipei, Taiwan, [8]VSUE Service, Russia

5aA2 Development on Instrumentation & Characterization_2

Chair: F. Matsui (NAIST), P. Jelinek (Institute of Physics of the AS CR)

10:20-11:00 5aA2-1(I) Ambient Pressure X-ray Photoelectron Spectroscopy at the MAX IV Laboratory

J. Schnadt
Lund Univ., Sweden

11:00-11:20 5aA2-2 Electron Inelastic Mean Free Paths in Liquid Water for Energies from10 eV to 10 keV

S. Tanuma[1], H. Shinotsuka[1], B. Da[1], H. Yoshikawa[1] and C.J. Powell[2]
[1]NIMS, Japan, [2]NIST, USA

11:20-11:40 5aA2-3 Near Field-Emission SEM: Topographic and chemical contrast with sub-nanometer resolution

U. Ramsperger, L.G. De Pietro, H. Cabrera, D.A. Zanin and D. Pescia
Laboratory for Solid State Physics, Switzerland

Hall B (1F)

5aB1 Nanomaterials : Fabrication and Functionality_3

Chair: Y. Yokota (Osaka Univ.), T. Masuda (NIMS)

8:40-9:00 5aB1-1 Non-linear I-V characteristics of single molecules probed by conductive-AFM

S. Sumida, H. Matsuo, D.-C. Che and T. Matsumoto
Osaka Univ., Japan

9:00-9:20 5aB1-2 Nano-scale I-V characteristics of redox-active molecules and DNA network

H. Yamaguchi[1], D.-C. Che[1], Y. Hirano[2] and T. Matsumoto[1]
[1]Osaka Univ., Japan, [2]Univ. of Fukui, Japan

9:20-9:40 5aB1-3 Light-transmittable Ultrasmooth Gold Film for Gap Mode Tip-Enhanced Raman Scattering Spectroscopy

M. Oguchi, M. Mochizuki, T. Yano, M. Hara and T. Hayashi
Tokyo Inst. of Technology, Japan

9:40-10:00 5aB1-4 Canceled

5aB2 Nanomaterials : Fabrication and Functionality_3 (Continued)

Chair: R. Nowak (Aalto Univ.), H. Noguchi (NIMS)

10:20-10:40 5aB2-1 Application of highly-sensitive gap mode Raman spectroscopy to various substrates

M. Ishikura, H. Suzuki and M. Futamata
Saitama Univ., Japan

10:40-11:00 5aB2-2 Local optical activity caused by chirality of 2D plasmonic metal nanostructures

T. Narushima[1,2], S. Hashiyada[1,2] and H. Okamoto[1,2]
[1]Inst. for molecular science, Japan, [2]The Graduate Univ. for Advanced Studies, Japan

11:00-11:40 5aB2-3(I) Atomic manipulation of polyatomic molecules and size-selected gold clusters

R.E. Palmer
Univ. of Birmingham, U.K.

Hall C (3F)

5aC1 & 5aC2 Topical Session: Surface Science at Electrocatalysts for Energy Systems

Chair: J. Kubota (the Univ. of Tokyo), J. Inukai (Univ. of Yamanashi)

8:40-9:00 5aC1-1 Introductory

J. Kubota[1], J. Inukai[2], J. Nakamura[3]
[1]The Univ. of Tokyo, Japan, [2]Univ. of Yamanashi, [3]Univ. of Tsukuba, Japan

9:00-9:40 5aC1-2(I) From Surface Science to Nanoparticles: In Search of New Catalysts

I. Chorkendorff
DTU Fysikvej, Denmark

9:40-10:20 5aC1-3(I) Advancement of Group 4 and 5 Metal Oxide Cathode for PEFCs

K. Ota, K. Matsuzawa, S. Mitsushima and A. Ishihara
Yokohama National Univ., Japan

10:20-11:00 5aC2-1(I) Toward Better Descriptors for the Surface Reactivity of Metal Catalysts

L. Zhuang and B. Huang
Wuhan Univ., China

11:00-11:40 5aC2-2(I) Surface electrohemistry on nanoparticles for fuel cell

D.Y. Chung and Y.-E. Sung
IBS, Korea, Seoul National Univ., Korea

Room D (5F)

5aD1 Frontiers in Dynamics on Surfaces_5

Chair: S. Yamamoto (Tokyo Univ.), T. Yamada (Osaka Univ.)

8:40-9:00 5aD1-1 Dynamics of the Secondary Electron Emission from the Graphite Surface Excited by the Soft-X ray: Investigation by the Electron-Electron Coincidence Spectroscopy

S.Tanaka[1] and K. Mase[2]
[1]ISIR, Osaka Univ., Japan, [2]Inst. of Materials Structure Science, Japan

9:00-9:20 5aD1-2 Quantum process of exciton dissociation at disordered organic solar-cell interfaces

H. Iizuka and T. Nakayama
Chiba Univ., Japan

9:20-10:00 5aD1-3(I) Excitons at Semiconductor Interfaces

X.-Y. Zhu
Columbia Univ., USA

5aD2 Frontiers in Dynamics on Surfaces_5 (Continued)

Chair: K,Watanabe (Kyoto Univ.), A. Michaelides (Univ. College London)

10:20-10:40 5aD2-1 Dynamic Process of a Single Molecule on an Ultrathin Insulating Film Surface by Vibrational Excitation with Tunneling Electrons

H.-J. Shin[1,2], J. Shin[1], M. Kawai[3] and Y. Kim[1]

[1]RIKEN, Japan, [2]UNIST, Korea, [3]The Univ. of Tokyo, Japan

10:40-11:00 5aD2-2 Effect of Au Overlayer on Magnetic Anisotropy of Co/Ni Thin Films Studied with High Brightness and Highly Spin-Polarized LEEM

M. Suzuki[1], T. Yasue[1], T. Koshikawa[1] and E. Bauer[2]

[1]Osaka Electro-Communication Univ., Japan,
[2]Arizona State Univ., USA

11:00-11:20 5aD2-3 Femtomagnetism in a ferrimagnetic metallic alloy studied by time-resolved resonant magneto-optic Kerr measurement using a seeded free electron laser

S. Yamamoto[1], T. Someya[1], M. Taguchi[2], Y. Kubota[1], H. Wadati[1], M. Fujisawa[1], F. Capotondi[3], E. Pedersoli[3], M. Manfredda[3], F. Casolari[3], M. Kiskinova[3,4], J. Fujii[5], P. Moras[6], T. Nakamura[7,8], T. Kato[9], S. Shin[1] and I. Matsuda[1]

[1]Univ. of Tokyo, Japan, [2]NAIST, Japan, [3]Elettra-Sincrotrone Trieste, Italy, [4]Univesità degli Studi di Trieste, Italy, [5]Laboratorio TASC, Italy, [6]Istituto di Struttura della Materia, Italy, [7]JASRI, Japan, [8]ISSP, Japan, [9]Nagoya Univ. Japan

11:20-11:40 5aD2-4 Stabilizing the spin of single Holmium atoms by symmetry

T. Miyamachi[1,2], T. Schuh[1], T. Maerkl[1], C. Bresch[1], A. Stoehr[1], T. Balashov[1] and W. Wulfhekel[1]

[1]KIT, Germany, [2]Univ. Tokyo, Japan

Room E (6F)

5aE1 Biointerface and Biomolecular Electronics_2

Chair: A. Hirano (Tohoku Univ.), K. Sumitomo (NTT Basic Research Labos.)

8:40-9:20 5aE1-1(I) Self-assembled metal nanoparticle based biosensor and bioimaging

K. Tamada

Kyushu Univ., Japan

9:20-9:40 5aE1-2 Molecular-scale Visualization of Self-Assembled Structures of Biomolecules Using FM-AFM in Liquids

H. Kominami, K. Kobayashi and H. Yamada

Kyoto Univ., Japan

9:40-10:00 5aE1-3 High-resolution Imaging of IgM Antibody Molecules by FM-AFM in Aqueous Solutions

Y. Huang, H. Kominami, K. Kobayashi and H. Yamada

Kyoto Univ. Japan

5aE2 Biointerface and Biomolecular Electronics_2 (Continued)

Chair: R. Tero (Toyohashi Univ. of Technol.), T. Nishino (Osaka Prefecture Univ.)

10:20-11:00 5aE2-1(I) On-chip FRET Aptasensor Built on Graphene Oxide Surface

Y. Ueno and K. Furukawa

NTT Basic Research Labs., Japan

11:00-11:20 5aE2-2 Microfabricated Si Chips for Reconstitution of Ion Channel Proteins

A. Hirano-Iwata[1], Y. Ishinari[1], H. Yamamoto[1], Y. Kimura[2] and M. Niwano[1]

[1]Tohoku Univ., Japan, [2]Tokyo Univ. Tech., Japan

11:20-11:40 5aE2-3 Investigation of water molecules in the vicinity of bioinert self-assembled monolayers by surface force measurements

T. Sekine[1], C. Sato[2], M. Tanaka[2], K. Kubo[1], T. Yano[1], M. Hara[1] and T. Hayashi[1]

[1]Tokyo Tech., Japan, [2]Yamagata Univ., Japan

Hall C (3F)

6aC1 The Heinrich Rohrer Medal Lecture (Grand medal)

Chair: M. Tsukada (Tohoku Univ.)

8:40-9:40 6aC1-1(RM) 25 Years of Spin-Polarized STM: Novel Insight into Atomic-Scale Magnetism

R. Wiesendanger
Univ. of Hamburg, Germany

Exhibition Hall (1F) / 10:00-12:00

6PN Poster Session

Frontiers in Dynamics on Surfaces

6PN-1 Time-resolved Two-photon Photoemission Spectroscopy of Epitaxial Graphene on SiC

K. Takahashi, M. Imamura, I. Yamamoto, J. Azuma and M. Kamada
Saga Univ., Japan

6PN-2 Dynamics of artificial molecular in 2D array of C_{60} fullerenes

D.A. Olyanich[1,2], T.V. Utas[1,2], D.V. Gruznev[1,2], A.V. Zotov[1,2,3] and A.A. Saranin[1,2]
[1]Inst. of Automation and Control Processes, Russia, [2]Far Eastern Federal Univ., Russia, [3]Vladivostok State Univ. of Economics and Service, Russia

6PN-3 Laser-Assisted Field Emission from Silicene Nanoribbons by Time-Dependent Density Functional Theory Simulation

T. Higuchi, C. Hu and K. Watanabe
Tokyo Univ. of Science, Japan

6PN-4 Study of Surface Dynamics of Graphene Segregated Nickel using Silver Particles

H. Kato, Y. Momiuchi, J. Takahashi and Y. Homma
Tokyo Univ. of Science, Japan

6PN-5 Probing Ultrafast Electron Spin Dynamics by Optical Pump-probe Scanning Tunneling Microscopy

Z. Wang, H. Okuyama, S. Yoshida, O. Takeuchi and H. Shigekawa
Univ. of Tsukuba, Japan

6PN-6 Secondary ion emission from amino acid thin film under noble gas and molecular cluster ion bombardment

I. Ihara, K. Moritani, S. Nagata, N. Inui and K. Mochiji
Univ. of Hyogo, Japan

6PN-7 Microscopic Mechanism of Hydrogen Absorption at Palladium Surfaces

M. Wilde, S. Ohno and K. Fukutani
The Univ. of Tokyo, Japan

6PN-8 Anti-relaxation coatings for polarized cesium vapor

T. Niwano[1], K. Kushida[1], T. Moriya[1], K. Sato[1], H. Usui[1], H. Nakazawa[2] and A. Hatakeyama[1]
[1]Tokyo Univ. of Agr. Tech., Japan, [2]Hirosaki Univ., Japan

6PN-9 Characterization of glass surfaces exposed to alkali-metal vapor for the study of light-induced atomic desorption

R. Kumagai, T. Ikeno and A. Hatakeyama
Tokyo Univ. of Agr. Tech, Japan

6PN-10 Carrier-phonon Dynamics at GaP/Si(001) Interfaces

K. Ishioka[1], K. Brixius[2], A. Beyer[2], W. Stolz[2], K. Volz[2], U. Höfer[2] and H. Petek[3]
[1]National Inst. for Materials Science, Japan, [2]Philipps-Universit Marburg, Germany, [3]Univ. of Pittsburgh, USA

6PN-133 Paper Microfluidic Devices for Glucose Detection based on Potential Measurement

B. Gao and H. liu
Southeast Univ., China

6PN-164 **Diffusion of Metal and Oxygen Ions in Oxygen-Deficient Amorphous Oxide Based Resistance Switches: A Theoretical Study**

B. Xiao, S. Watanabe
The Univ. of Tokyo, Japan

Nanomaterials: Fabrication and Functionality

6PN-11 **Growth characteristics of graphene film by chemical vapor deposition method using nozzle gas injection**

Y. Matsuura, H. Sato, H. Miyake and K. Hiramatsu
Mie Univ., Japan

6PN-12 **High-Frequency Signal Transmission through Atomic Junctions**

S. Aoyama, S. Kurokawa and A. Sakai
Kyoto Univ., Japan

6PN-13 **STM characterization of straight edge graphene grown on the Ni(110)-2×2 sulfur surface**

J. Wenderott[1], K. Sagisaka[2], K. Matsushita[2] and D. Fujita[2]
[1]Univ. of Michigan,USA, [2]NIMS, Japan

6PN-14 **Electron microscopic study on the thermal oxidation of Ni nanoparticles in gas phase**

K. Koga and M. Hirasawa
AIST, Japan

6PN-15 **Surface Treatment of Zinc Oxide Nanoparticles by Silica Coating and Evaluation of Their Optical Properties**

H. Hashimoto[1], R. Tanino[1], M. Nakamura[2] and Y. Fujita[1]
[1]Shimane Univ., Japan, [2]Univ. of Tokushima, Japan

6PN-16 **Plasma Induced Brightening of Tarnished Ag Nanoparticles**

K. Ozaki[1], N. Terazawa[1], F. Nishiyama[2] and K. Takahiro[1]
[1]Kyoto Inst. of Technology, Japan, [2]Hiroshima Univ., Japan

6PN-17 **Engineering of 300-K single organic molecular magnetic junction**

T. K. Yamada[1], Y. Yamagishi[1], Y. Kitaoka[2] and K. Nakamura[2]
[1]Chiba Univ., Japan, [2]Mie Univ., Japan

6PN-18 **Structural Characterization of Boron-Doped Ultrananocrystalline Diamond/Hydrogenated Amorphous Carbon Composite Film**

Y. Katamune[1], S. Al-Riyami[1,2], S. Ohmagari[1,3], S. Takagi[4] and T. Yoshitake[1]
[1]Kyushu Univ., Japan, [2]German Univ. of Technology in Oman, [3]AIST, Japan, [4]Kyushu Inst. of Technology, Japan

6PN-19 **The Effects of Gate-Dielectric Morphology on Pentacene Morphology and Organic Thin Film Transistor Characteristics**

R. Ye, K. Ohta and M. Baba
Iwate Univ., Japan

6PN-20 **Electric Resistivity Decrement of Networked Nano Graphite on DLC Surface Grown by Photoemission Assisted Plasma Enhanced CVD**

Y. Ojiro, H. Honma, S. Ogawa and Y. Takakuwa
Tohoku Univ., Japan

6PN-21 **Change in Conductance of a Single Au-nanoparticle Capped with Azobenzene Molecules by Photo-Irradiation**

S. Ryuzaki, K. Terada, N. Saito, K. Okamoto and K. Tamada
Kyushu Univ., Japan

6PN-22 **Impact of flux modulation on growth rate of Ga_2O_3 nanowires prepared by reactive high-temperature glancing-angle deposition**

S. Yamazaki, H. Minamitake and M. Suzuki
Kyoto Univ., Japan

6PN-23 **Ag Nanoparticle Modified $Bi_2M_0O_6$ Nanoplates with Their Enhanced Properties for Visible-Light-Driven Photocatalyst**

A. Phuruangrat
Prince of Songkla Univ., Thailand

6PN-24 **Preparation of Ru^{3+}, Rh^{3+} Co-doped Hexaniobate Nanotubes for Hydrogen Production**

Y. Tsujimoto, K. Katsumata and N. Matsushita
Tokyo Inst. of Technology, Japan

6PN-25 **Synthesis of Fluorine Doped Tin Oxide Nanstructures using Rotational Spray Pyrolysis Deposition Method**

A. Bandara[1], N. Matsuzaki[2], K. Yamamoto[2], R.M.G. Rajapakse[3] and K. Murakami[4]
[1,2,4]Shizuoka Univ., Japan [3]Univ. of Peradeniya, Sri Lanka

6PN-26 **Order Alignment Carbon Black Nano-Particles Using Dissipative Structure of Immiscible Polymer Blends**

J. Jang and H. Yoshida
Tokyo Metropolitan Univ., Japan

6PN-27 **Magnetization of ultrananocrystalline diamond powder by Cr-doping**

A. Tominaga[1,2], H. Naragino[1], K. Hanada[2], H. Deguchi[3], K. Takeda[4] and T. Yoshitake[1,2]
[1,2]Kyushu Univ., Japan, [3]Kyutech. Japan, [4]FIT, Japan

6PN-28 **Growth and optical properties of PbS crystals**

K. Takeuchi, S. Yanagiya and N. Goto
The Univ. of Tokushima, Japan

6PN-29 **Chemical state analyses of aluminum, anions and residual H_2O in anodic oxide films formed on aluminum in a sulfuric or oxalic acid solution**

M. Shima[1], K. Tsutsumi[1], K. Yazawa[1], M. Hashimoto[1], T. Kanazawa[1], N. Endo[1], H. Hashiguchi[1], M. Kadoi[1], T. Suzuki[1], H. Onodera[1], H. Asoh[2] and S. Ono[2]
[1]JEOL Ltd., Japan, [2]Kogakuin Univ., Japan

6PN-30 **Growth of GaAsBi/GaAs on (100) and (411)A GaAs substrates by molecular beam epitaxy**

P. Patil, T. Tatebe, Y. Nabara, K. Higaki, N. Nishii and S. Shimomura
Ehime Univ., Japan

6PN-31 **Protein adsorption characteristics on the polymer surface modified with Plasma-based Ion Implantation**

S. Okuji and Y. Takeda
NIMS, Japan

6PN-32 **Synthesis of different nano-architectures with tunable structures for combined functions**

A.M. El-Toni[1,2]
[1]King Saud Univ., Saudi Arabia, [2]Central Metallurgical Research and Development Inst., Egypt

6PN-33 **Synthesis and Electrocatalytic Performance of Platinum-based Nanoparticles Electrodeposited on Nanocarbon Materials for Methanol Oxidation**

H. Ogata[1,2], S. Hayase[1], H. Yoshitake[1] and Z. Wang[3]
[1,2]Hosei Univ., Japan, [3]Shinshu Univ., Japan

6PN-34 **Agglomeration Control of Catalyst Films by Patterned Substrate in Graphene Chemical Vapor Deposition**

R. Seino, M. Zikri, D. Mashiyama and T. Ogino
Yokohama National Univ., Japan

6PN-134 **Highly efficient hydrogen generation from hydrous hydrazine over amorphous $Ni_{0.9}Pt_{0.1}$/Ce_2O_3 nanocatalyst at room temperature**

H.-L. Wang, J.-M. Yan, Z.-L. Wang, S.-I. O and Q. Jiang
Jilin Univ., China

6PN-135 **Development of Android Platform Used for Electrochemical Biosensor Detecting**

L. Zhang and H. Liu
Southeast Univ., China

6PN-136 **Adsorption of PTCDA on Si(001)-2×1 surface**

T. Suzuki[1], Y. Yoshimoto[2], K. Yagyu[1] and H. Tochihara[1]
[1]Fukuoka Univ., Japan, [2]Tottori Univ., Japan

6PN-137 **Investigation on Gas selectivity of porous TiO_2 thin film**

H. Kim, M.J. Park and J.Y. Park
Korea Inst. of Industrial Technology, Korea

6PN-138 **Analysis of near-infrared absorption by lanthanum hexaboride nanoparticles**

K. Machida, K. Fujita and K. Adachi
Sumitomo Metal Mining Co., Ltd., Japan

6PN-139 **First principles calculations of dielectric function of LaB_6 at low energies**

S. Yoshio, K. Maki and K. Adachi
Sumitomo Metal Mining Co., Ltd., Japan

6PN-140 **Biomimetics Slippery Fluid-Infused Omniphobic Films Composed of Chitin and Chitosan via Layer-by-Layer Self-Assembly**

K. Manabe, K.-H. Kyung and S. Shiratori
Keio Univ., Japan

6PN-141 **Application of vertically aligned carbon nanotube films for thermal interface materials**

K. Maeda, E. Tamaki and H. Sato
Mie Univ., Japan

6PN-142 **Second harmonic microscopy of few-layer atomically thin $MoSe_2$**

R. Morishita[1], Y. Miyauchi[2], G. Mizutani[3], M. Tanaka[1], S. Ohno[1] and T. Suzuki[2]
[1]Yokohama National Univ., Japan, [2]National Defense Academy, Japan, [3]Japan Advanced Inst. of Science and Technology, Japan

6PN-143 **Single-layer graphene transfer through surface modification of target substrates**

J.-H. Han, I. Kim, J.-W. Ryu and M. Choi
Kyungpook National Univ., Korea

6PN-144 **Ag Nanowire Networks Etching using Atmospheric Pressure Ar Plasma Microchannel**

H.-J. Kim, J. Hyun Kim and H.-S. Tae
Kyungpook National Univ., Korea

6PN-145 **Critical Shear Stress of Nanometer-Sized Platinum**

T. Iijima and T. Kizuka
Univ. of Tsukuba, Japan

6PN-146 **Structure and Conductance of Tantalum Nanocontacts Studied by *In Situ* Transmission Electron Microscopy**

S. Murata and T. Kizuka
Univ. of Tsukuba, Japan

6PN-147 **Synthesis and Structure of Carbon Nanocapsules Encapsulating Zirconium and Zirconium-Based-Alloys**

M. Tedura and T. Kizuka
Univ. of Tsukuba, Japan

6PN-148 ***In-situ* Transmission Electron Microscopy of Individual Tungsten Oxide Nanowires: Structure and Electrical Conduction**

G. Yazaki, A. Taninaka and T. Kizuka
Univ. of Tsukuba, Japan

6PN-149 **Synthesis and characterization of CuO nanoparticles by homogeneous precipitation method**

R. Ghose and R.K. Sharma
IIT, India

6PN-150 **Synthesis and Photothermal Properties of Hyperbranched Polyurethane-Functionalized Graphene Oxide Sheets**

J.W. Cho and D.H. Yi
Konkuk Univ., Korea

Surface Electronic States

6PN-35 **Hydrogenation of Bi(111) ultrathin films for fabricating 2D TIs**

W. Ke, Y. Guanggeng, L. Ziyu, X. Wentao and W. Xue-sen
National Univ. of Singapore, Singapore

6PN-36 **Non-local Detection of Spin Injection through a Co/GaN Schottky Barrier**

S. Hasegawa and H. Yamaguchi
Osaka Univ., Japan

6PN-37 **Electronic properties of Sm nanostructure**

G. Kutluk[1], M. Nakatake[1], M. Ye[1,3], M. Arita[1], H. Sumida[2], Y. Kooda[2], H. Namatame[1] and M. Taniguchi[1]
[1]Hiroshima Univ., Japan, [2]Mazda Motor Corporation., Japan, [3]State Key Lab. of Func. Mate. for Infor, Shanghai Insti. of Micro. and Infor. Tech., CAS, China

6PN-38 **Sexithiophene films on passivated Si(001) surfaces: growth and electronic structure**

S. Ohno[1], H. Tanaka[1], K. Hiraga[1], K. Tanaka[1], K. Takahashi[2], M. Kamada[2], H. Toyoshima[1], K. Inoue[1], K. Mukai[3], J. Yoshinobu[3] and M.Tanaka[1]
[1]Yokohama Nat'l Univ., Japan, [2]Saga Univ., Japan, [3]ISSP, Japan

6PN-39 **High-resolution angle-resolved photoemission study of oxygen adsorbed Fe/MgO(100)**

M. Zheng, E.F. Schwier, K. Shimada, T. Okuda, H. Iwasawa, K. Miyamoto, T. Horike, Y. Nagata, Y. Kojima, H. Namatame and M. Taniguchi
Hiroshima Univ., Japan

6PN-40 **Bismuth Film Fermi Level Engineering**

A.V. Matetskiy[1,2], L.V. Bondarenko[1,2], A.Y. Tupchaya[1], D.V. Gruznev[1,2], A.V. Zotov[1,2,3] and A.A. Saranin[1,2]
[1]Inst. of Automation and Control Processes, Russian Federation, [2]Far Eastern Federal Univ., Russian Federation, [3]VSUES, Russian Federation

6PN-41 **Spatially-resolved electronic structure analysis for single- and multi-layered nanosheet crystallites of Ru metal**

S. Toyoda[1], K. Fukuda[1], K. Horiba[2], H. Sugaya[1], M. Morita[1], Y. Uchimoto[1], E. Matsubara[1] and M. Oshima[2]
[1]Kyoto Univ., Japan, [2]The Univ. of Tokyo, Japan

6PN-42 **Surface atomic and electronic structures of Ge(001) covered by Bismuth**

K. Irie, S.N.Takeda, T.Sakata and H. Daimon
NAIST, Japan

6PN-43 **Direct visualization of N impurity state in GaAs using STM**

N. Ishida[1], M. Jo[2], T. Mano[1], T. Noda[1], Y. Sakuma[1] and D. Fujita[1]
[1]NIMS, Japan, [2]RIKEN, Japan

6PN-44 **Measurements of magnetic domain mapping and magnetic circular dichroism spectra of Sm-Fe-N sintered magnet surface by soft X-ray photoemission electron microscope**

M. Tanaka[1,2], H. Ogawa[1], H. Toyokawa[1], K. Takagi[2], K. Ozaki[2], T. Ohkochi[3], M. Kotsugi[3] and T. Kinoshita[3]
[1,2]AIST, Japan, [3]JASRI, Japan

6PN-45 **First-principles electronic transport calculations of graphene with metal electrodes**

H. Jippo[1,2], M. Ohfuchi[1] and S. Okada[2]
[1]Fujitsu Labs. Ltd., Japan, [2]Tsukuba Univ., Japan

6PN-46 **Surface conductance study of two-dimensional alloy layers on Si(111)**

D.A. Tsukanov[1,2], M.V. Ryzhkova[1], D.V. Gruznev[1,2], L.V. Bondarenko[1], A.N. Matetsky[1], M.V. Ivanchenko[1,2], A.V. Zotov[1,2,3] and A.A. Saranin[1,2]
[1]Inst. of Automation and Control Processes FEB RAS, Russia, [2]Far Eastern Federal Univ., Russia, [3]Vladivostok State Univ., Russia

6PN-47 **Oxidation of cesium adsorbed SiC surface studied by metastable atom induced electron spectroscopy**

K. Muraoka[1], T. Nakamura[1], K. Umeda[1], J. Ishii[2], M. Naitoh[2] and T. Ikari[1]
[1]Ube National College of Technology, Japan, [2]Kyushu Inst. of Technology, Japan

6PN-48 **The study of the electronic structure at CuPc adsorbed Si(100) surface by Metastable-atom Induced Electron Spectroscopy**

K. Matsuo[1], M. Suehiro[1], K. Shimose[1], F. Kaneko[2], J. Ishii[2], M. Naitoh[2] and T. Ikari[1]
[1]Ube National College of Technology, Japan, [2]Kyushu Inst. of Technology, Japan

6PN-49 **Effect of TEM beam on frequency shift curves**

Y. Kumata, S. Takeda, P. Allain, K. Nakano, D. Kobayashi and H. Kawakatsu
The Univ. of Tokyo, Japan

6PN-50 **Measurements of Atomic and Electronic structures on 1ML Bi-adsorbed Si(001) surface**

H. Nakao, S.N. Takeda, K. Kitagawa, M. Morita, K. Takeuchi, K. Maeda, H. Momono, A.K.R. Ang, T. Sakata and H. Daimon
NAIST, Japan

6PN-51 **Electronic structures of Amino-acids on H-terminated C(111) surfaces**

M. Oda
Wakayama Univ., Japan

6PN-52 **Dependence of H_2Pc electronic structures on the thickness of NaCl ultrathin-film**

M. Imai[1], H. Imada[2], T.K. Shimizu[3], Y. Kim[2] and M. Kawai[1]
[1]The Univ. of Tokyo, Japan, [2]RIKEN, Japan, [3]NIMS, Japan

6PN-53 **STM/S and Electronic Transport Studies of Kr atoms adsorbed on Graphene**

T. Matsui[1], J.R. Bindel[2], K. Nakayama[1], H. Hibino[3] and H. Fukuyama[1]
[1]The Univ. of Tokyo, Japan, [2]RWTH Aachen, Germany, [3]NTT-BRL, Japan

6PN-54 **Pt(II) Diimine Complexes Bearing Carbazolyl-capped Acetylide Ligands: Synthesis, Tunable Photophysics and Nonlinear Absorption**

R. Liu[1,2], Y. Li[1,2], H. Chen[1], J. Chang[3], H. Zhu[1] and W. Sun[2]
[1]Nanjing Tech Univ., China, [2]North Dakota State Univ., USA, [3]Queensland Univ. of Technology, Australia

6PN-55 **Suppressed Zhang-Rice State on Surface of High Temperature $La_{2-x}Sr_xCuO_4$ and $Nd_{2-x}Ce_xCuO_4$ Superconductors**

M. Taguchi[1], A. Chainani[2], M. Matsunami[3], M. Yabashi[2], K. Tamasaku[2], T. Ishikawa[2], T. Mochiku[4], K. Hirata[4], F. Nakamura[5], T. Suzuki[5], S. Shin[6] and H. Daimon[1]
[1]NAIST, Japan, [2]RIKEN SPring-8 Center, Japan, [3]Inst. for Molecular Science, Japan, [4]NIMS, Japan, [5]Hiroshima Univ., Japan, [6]The Univ. of Tokyo, Japan

6PN-56 **Understanding the origin of band gap formation in graphene on metals: graphene on Cu/Ir(111)**

T.U. Kampen, Y.S. Dedko and A. Thissen
SPECS Surface Nano Analysis GmbH, Germany

6PN-151 **Coexistence of ferromagnetism and d-wave superconductivity in $YBa_2Cu_3O_{7-x}$/ $La_{0.7}Ca_{0.3}MnO_3$ bilayer**

J.-Y. Lin[1,2], S.-W. Huang[2,3], L.A. Wray[1], H.-T. Jeng[4,5], V.T. Tra[1], J.M. Lee[6], M.C. Langner[3], J.M. Chen[6], S. Roy[2], Y.H. Chu[5,7], R.W. Schoenlein[3] and Y.-D. Chuang[2]
[1,7]National Chiao Tung Univ., Taiwan, [2,3]Lawrence Berkeley National Laboratory, USA, [4]National Tsing Hua Univ., Taiwan, [5]Inst. of Physics, Academia Sinica, Taiwan, [6]National Synchrotron Radiation Research Center, Taiwan

6PN-152 **Magnetic structure analysis of fcc Fe on Cu(001) by ab initio calculations**

Y. Tatetsu[1], S. Tsuneyuki[1,2] and Y. Gohda[1,3]
[1]Univ. Tokyo, Japan, [2]ISSP, Japan, [3]Tokyo Tech, Japan

6PN-153 **Surface core-level shift of Cu(111) by adsorption of atomic hydrogen**

T. Koitaya, Y. Shiozawa, M. Fukasawa, S. Shimizu, K. Mukai, S. Yoshimoto and J. Yoshinobu
Univ. of Tokyo, Japan

Surface Chemistry

6PN-57 **Monitoring of arsenite sorption to biogenic iron oxide in batch sorption test and in flow-through column by XAFS**

Y. Fujikawa, M. Sugahara, T. Homma, S. Hirayama, Ph. D. Hung, S. Sakurai, H. Yashima, A. Hashiguchi, S. Taniguchi, H. Ozaki and P. Lewtas
Kyoto Univ., Japan

6PN-58 **Deposition and characterization molybdenum nitride thin films using r.f. magnetron sputtering at various nitrogen ratio**

E. Jeong, J. Park, S. Choi and Y.-C. Kang
Pukyong National Univ., South Korea

6PN-59 **Potential-dependent adsorption structure of 2,5-dihydroxy-1,4-dithiane molecules on Au(110) surface in electrolyte solution studied by surface reflectance spectroscopy**

T. Kawasaki, Y. Fujimori, I. Sakurada, S. Ohno and M. Tanaka
Yokohama National Univ., Japan

6PN-60 **A New Sulfur-Copper Complex on Cu(111)**

H. Walen[1], D.-J. Liu[2], J. Oh[3], H. Lim[3], J.W. Evans[2,4], C. Aikens[4], Y. Kim[3] and P.A. Thiela[2,6]
[1,4,6]Iowa State Univ., USA, [2]Ames Laboratory of the USDOE, USA, [3]RIKEN, Japan, [5]Kansas State Univ., USA

6PN-61

6PN-62 **Infrared absorption spectroscopic study of surface chemical reactions on Pd exposed to hydrogen and oxygen**

T. Nakayama[1], Y. Imai[2], Y. Kimura[3], A. Hirano-Iwata[1], M. Teng[1] and M. Niwano[1]
[1]Tohoku Univ., Japan, [2]Sendai National College of Technology, Japan, [3]Tokyo Univ. of Technology, Japan

6PN-63 **Layered Structures of Ionic Liquid at Ionic Liquid / Solid Interfaces Revealed by Molecular Dynamics Simulation**

Y. Yokota[1], H. Miyamoto[1], A. Imanishi[1], K. Inagaki[2], Y. Morikawa[2] and K. Fukui[1]
[1,2]Osaka Univ., Japan

6PN-64 **DFT study of CO oxidation catalyzed by Au/TiO_2: Activity of small clusters**

H. Koga[1], K. Tada[2] and M. Okumura[2,1]
[1]Kyoto Univ., Japan, [2]Osaka Univ., Japan

6PN-65 **A new reactor for the methanol synthesis using a supersonic CO_2 and H_2 mixture jet**

Y. Amaha, T. Oyama, J. Quan, T. Kondo and J. Nakamura
Univ. Tsukuba., Japan

6PN-66 **Precise observation of dynamical structural change for Pd nanoparticles during CO/NO catalytic reaction studied by real-time-resolved X-ray absorption fine structure spectroscopy**

D. Matsumura[1], Y. Okajima[2], Y. Nishihata[1] and J. Mizuki[1,3]
[1]JAEA, Japan, [2]SPring-8 Service Co., Ltd., Japan, [3]Kwansei Gakuin Univ., Japan

6PN-67 **Desorption from metal surface in MOS with applied gate-voltage**

N. Hirota, K. Hattori and H. Daimon
NAIST, Japan

6PN-68 **Edge density controlled nitrogen-doped graphite as a carbon alloy model catalyst of ORR in fuel cells**

D. Guo, R. Shibuya, S. Morohoshi, C. Akiba, T. Kondo and J. Nakamura
Univ. of Tsukuba, Japan

6PN-69 **Observation of local electronic states on a TiO_x/Au(111) surface**

Y. Morito[1], R.Y. Kosaka[1], T. Fujitani[2], T. Kondo[1] and J. Nakamura[1]
[1]Univ. Tshukuba, Japan, [2]AIST, Japan

6PN-70 **Identification of Lewis base sites on Nitrogen doped graphite model catalyst by CO_2 adsorption**

R. Shibuya[1], D. Guo[1], S. Morohoshi[1], T. Kondo[1,2] and J. Nakamura[1]
[1]Univ. of Tsukuba, Japan, [2]PRESTO, JST, Japan

6PN-71 **Reaction of Aqueous Acids on Platinum Surface by First-Principles Molecular Dynamics with ESM method**

K. Mori, S. Nishihara, N. Kato and K. Okazaki-Maeda
AdvanceSoft Corporation, Japan

6PN-72 **Effect of Oxidation-Induced Strain on Thermal Decomposition of Ultrathin Oxide Grown on Si(111) and Si(111) Surfaces**

J. Tang[1], S. Ogawa[1], A. Yoshigoe[2], K. Nishimoto[1], S. Ishidzuka[3], Y. Teraoka[2] and Y. Takakuwa[1]
[1]Tohoku Univ., Japan, [2]JAEA, Japan, [3]Akita Nat. Col. Technol., Japan

6PN-73 **Cyclic etching process of the hydrogen terminated Si(110)-(1×1) surface**

E. Kawamoto[1], S.Y. Matsushita[1], K. Haga[1], H. Kato[2], T. Yamada[3] and S. Suto
[1]Tohoku Univ., Japan, [2]Tokyo Univ. of Sci., Japan, [3]RIKEN, Japan

6PN-74 **Entropy-Driven Structural Phase Transition in an Organic Monolayer with Repulsive Intermolecular Interaction**

T. Sueyoshi[1], M. Willenbockel[1], M. Naboka[2], A. Nefedov[2], S. Soubatch[1], C. Wöll[2] and F.S. Tautz[1]
[1]Forschungszentrum Jülich (PGI-3), Germany, [2]KIT, Germany

6PN-75 **Bias Voltage Dependence of Dialkyl Ketone Molecular Orientation at the Liquid–Solid Interface**

M. Hibino[1] and H. Tsuchiya[2]
[1]Muroran Inst. of Technology, Japan, [2]Sharp Corporation, Japan

6PN-76 **Halogenation of Epitaxial Graphene on the Si-face of the SiC Substrate**

M.B.A. Razak, N.B.A. Adli and M.Z. Hossain
Gunma Univ., Japan

6PN-77 **NEXAFS spectroscopic study of the crystallinity changes of MgO thin film by annealing**

E. Kobayashi[1], K.K. Bando[2] and T. Okajima[1]
[1]Kyushu Synchrotron Light Research Center, Japan, [2]AIST, Japan

6PN-78

6PN-79 **Water Rings at Solid-Liquid Interfaces**

K. Akagi
Tohoku Univ., Japan

6PN-80 **Tuning Hydrophobic Gap by Surface Structure – Molecular Dynamics Simulations**

Y. Katasho[1], Y. Liang[1], S. Murata[1], Y. Fukunaka[2] and T. Matsuoka[1]
[1]Kyoto Univ., Japan, [2]Waseda Univ., Japan

6PN-81 **Solute Concentration-Dependent Contact Angle Hysteresis and Evaporation Stains**

Y.-F. Li, Y.-J. Sheng and H.-K. Tsao
National Central Univ., Taiwan, R.O.C.

6PN-82 **Investigating the specific adhesion between amine-functionalized polymers and gold surfaces: Electrochemical influences and scaling relations**

T. Utzig, S.H. Donaldson Jr., M.A. Gebbie, S. Raman, B.R. Shrestha, J.N. Israelachvili, and M. Valtiner
Max-Planck-Inst. for Iron Research GmbH, Germany

6PN-83 **Complementary SFA and AFM Study of Room Temperature Ionic Liquid Structuring on Electrode Surfaces: Symmetric and Asymmetric System**

H.W. Cheng, T. Baimpos, P. Stock and M. Valtiner
Max-Planck Institut für Eisenforschung GmbH, Germany

6PN-154 **Interaction between ultra-trace amount of alkali metals and oxides studied by total-reflection X-ray photoelectron spectroscopy**

Y. Baba, I. Shimoyama, N. Hirao and T. Izumi
JAEA, Japan

6PN-155 **Paper Microfluidic Devices for Glucose Detection based on Potential Measurement**

J. Liao and H. Liu
Southeast Univ., China

6PN-156 **Paper-based Microanalytical Sensors**

H. Liu
Southeast Univ., China

6PN-157 **Behavior of oscillatory reaction in liquid-liquid system under microwave irradiation**

Y. Maeda[1], Y. Kanazawa and Y. Asakuma[1]
[1]Univ. of Hyogo, Japan, [2]Curtin Univ., Australia

6PN-158 **Corrosion and Surface treatment of Mg by Plasma Electrolytic Oxidation and Sol-gel method**

M.-J. Park, J.Y. Park and H.Y. Lee
Korea Inst. of Industrial Technology, Korea

6PN-159 ***In situ* Chemical State Analysis of Buried Rubber/Brass Interface by HAXPES**

K. Ozawa[1], T. Kakubo[2], K. Shimizu[2], N. Amino[2], E. Ikenaga[3], T. Nakamura[3], T. Kinoshita[3] and H. Oji[3]
[1]Tokyo Inst. of Technology, Japan, [2]The Yokohama Rubber Co., Ltd., Japan, [3]JASRI, SPring-8, Japan

Development on Instrumentation & Characterization

6PN-84 **Quantitative composition in impurity analysis by SIMS-SCANIIR measurement**

T. Miyamoto, S. Numao, J. Sameshima and M. Yoshikawa
Toray Research Center, Inc., Japan

6PN-85 **Temperature Dependence of Photoluminescence Spectra from Water-Adsorbed Single-walled Carbon Nanotubes**

G. Yamaguchi[1], S. Chiashi[2], J. Kuwabara[1] and Y. Homma[1]
[1]Tokyo Univ. of Science, Japan, [2]The Univ. of Tokyo, Japan

6PN-86 **Observation of Surface Chemical Species on Metal Catalyst by Atom Probe Tomography and Field Ion Microscopy**

M. Morita and M. Owari
The Univ. of Tokyo, Japan

6PN-87 **Reconstruction in Atom Probe Tomography Considering the Cone Angle of Needle-Like Shaped Samples and Evaluation of Reliability**

T. Yukawa, M. Morita, M. Karasawa, S. Akiba and M. Owari
The Univ. of Tokyo, Japan

6PN-88 **Two-dimensional shave-off measurements using Ga-FIB SIMS apparatus**

D. Shirakura, B. Tomiyasu, M. Karasawa and M. Owari
The Univ. of Tokyo, Japan

6PN-89 **Design and Performance of A Cryogenic Scanning Tunneling Microscope for 2D Layered Materials Study**

P.-F. Chung, S.-Y. Guan, S.-A. Yu, C.-A. Liu, C.-S. Hsu, C.-C. Su and T.-M. Chuang
Inst. of Physics, Academia Sinica, Taiwan

6PN-90 **Two-dimensional X-ray detector with extremely high discrimination capability**

H. Soejima
Applied Science Laboratory Co.,Ltd, Japan

6PN-91 **Terahertz conductivity of gold nanosheet using Parallel Plate Dielectric Waveguide**

R. Manjakavahoaka, R. Kinjo, K. Takayama, I. Kawayama, H. Murakami and M. Tonouchi
Osaka Univ., Japan

6PN-92 **Visualizing the distribution of molecular adsorbates on graphene using a laser terahertz emission microscope**

I. Kawayama[1], Y. Sano[1], M. Tabata[2], K. Salek[1], M. Murakami[1], M. Wang[2], R. Vajtai[2], J. Kono[1,2], P. M. Ajayan[2] and M. Tonouchi[1]
[1]Osaka Univ., Japan, [2]Rice Univ., U.S.A.

6PN-93 **Time of flight analysis of field ionized He in mixtures with Ne or Ar**

K. Komaki[1], S. Nagai[1,2], T. Iwata[1,2], K. Kajiwara[1,2] and K. Hata[1,2]
[1]Mie Univ., Japan, [2]CUTE., Japan

6PN-94 **Development of novel three-dimensional analysis for organic materials based on the enhancement effect by Au deposition using Dual FIB ToF-SIMS I – Study of 3D metal-assisted SIMS using shave-off section processing –**

A. Yamazaki, S. Akiba, B. Tomiyasu and M. Owari
The Univ. of Tokyo, Japan

6PN-95 **Development of novel three-dimensional analysis for organic materials based on the enhancement effect by Au deposition using Dual FIB ToF-SIMS II – Study of film thickness distribution of gold deposited on a shave-off surface via sputtering –**

S. Akiba, A. Yamazaki, D. Shirakura, B. Tomiyasu and M. Owari
The Univ. of Tokyo, Japan

6PN-96 **Development of the ultra-high vacuum and low-temperature tip-enhanced Raman scattering (TERS) system and measurement of TERS mapping**

T. Suzuki[1], T. Miura[1], Y. Miyatake[1], Y. Kitahama[2], T. Itoh[2], Y. Tanaka[3], Y. Kutsuma[3], T. Kaneko[3] and Y. Ozaki[3]
[1]Unisoku Co., Ltd., Japan, [2]AIST, Japan, [3]Kwansei-Gakuin Univ., Japan

6PN-97 **Development of a quick laboratory X-ray reflectometer for time-resolved observations**

W. Voegeli[1], C. Kamezawa[1,2], E. Arakawa[1], T. Matsushita[2] and Y.F. Yano[3]
[1]Tokyo Gakugei Univ., Japan, [2]Photon Factory, KEK, Japan, [3]Kinki Univ., Japan

6PN-98 **Development of a positron re-emission microscope with an electron linear accelerator**

H. Ogawa, A. Kinomura, N. Oshima, R. Suzuki, B.E. O'Rourke and T. Nishijima
AIST, Japan

6PN-99 **PEEM imaging of bulk magnetic materials studied by ray tracing calculations**

H. Ogawa, M. Tanaka and H. Toyokawa
AIST, Japan

6PN-100 **Development of a Laboratory-based Cr X-ray Source for Ambient-Pressure HAXPES**

L. Zhang, T. Takeno, S. Ogawa, K. Adachi, K. Kurihara and Y. Takakuwa
Tohoku Univ., Japan

6PN-101 **Evaluation of the performance of display-type ellipsoidal mesh analyzer**

H. Matsuda[1], M. Taguchi[1], S. Kitagawa[1], Y. Hashimoto[1], F. Matsui[1], T. Matsushita[2] and H. Daimon[1]
[1]NAIST, Japan, [2]JASRI SPring-8, Japan

6PN-160 **Visualization of Oligomer Distribution within Glass Fiber Reinforced Plastic by using ToF-SIMS and PCA**

Y. Kajiwara[1,2], H. Nagashima[1], S. Nagai[3], and S. Aoyagi[2]
[1]Mitsubishi Gas Chemical Company, INC., Japan, [2]Seikei Univ., Japan, [3]Mitsubishi Engineering-Plastics Corporation, Japan

6PN-161 **Quantification of hydrogen in steel using temperature-programmed desorption mass spectrometry system with double quadrupole mass spectrometers**

Y. Takeuchi, Y. Higashi, N. Fujimoto and T. Sawada
Nippon Telegraph and Telephone Corporation, Japan

6PN-162 **Damage Characteristics of n-GaN Crystal Etched with N_2 Plasma by Soft X-ray Absorption Spectroscopy**

M. Niibe[1], T. Kotaka[1], R. Kawakami[2], Y. Nakano[3] and T. Mukai[4]
[1]Univ. of Hyogo, Japan, [2]The Univ. of Tokushima, Japan, [3]Chubu Univ., Japan, [4]Nichia Corporation, Japan

Surface Structure

6PN-102 **A Study of the Formation Process of Graphene on Silicon Carbide-on-Insulator Substrates**

N. Tsuboi[1], K. Hayahisa[1], J. Ishii[1], M. Okano[1], T. Ikari[2], M. Nakao[1] and M. Naitoh[1]
[1]Kyushu Inst. of Technology, Japan, [2]Ube National College of Technology, Japan

6PN-103 **Determination of structural, mechanical and corrosion properties of titanium alloy covered by thin films based on graphene and silicon nitride**

M. Kalisz[1], M. Grobelny[1] M. Szymańska[1,3], M. Zdrojek[2] and M. Świniarski[2]
[1]Motor Transport Inst., Poland, [2,3]Warsaw Univ. of Technology, Poland

6PN-104 **Atomic configuration of Au-induced nanowire on Ge(001) surface determined by total-reflection high-energy positron diffraction (TRHEPD)**

I. Mochizuki[1], Y. Fukaya[2], K. Wada[1], M. Maekawa[2], A. Kawasuso[2], T. Shidara[1] and T. Hyodo[1]
[1]KEK, Japan, [2]JAEA, Japan

6PN-105 **Total-reflection high-energy positron diffraction (TRHEPD) by using a linac-based slow-positron beam**

K. Wada[1], M. Maekawa[2], Y. Fukaya[2], A. Kawasuso[2], I. Mochizuki[1], T. Shidara[1] and T. Hyodo[1]
[1]KEK, Japan, [2]JAEA, Japan

6PN-106 **Atom-by-atom clustering by scanning probe microscopy**

Y. Sugimoto, A. Yurtsever, N. Hirayama, M. Abe and S. Morita
Osaka Univ., Japan

6PN-107 **Interface electronic structures of the L-cysteine on noble metal surfaces studied by ultraviolet photoelectron spectroscopy**

K.R. Koswattage[1], Y. Nakayama[2] and H. Ishii[1,2]
[1]CFS, Chiba Univ., Japan, [2]AIS, Chiba Univ., Japan

6PN-108 **Measuring the Critical Strain of Crack Initiation in Thin Films for Flexible Organic Light Emission Diode**

T. Kobayashi[1], J. Okamoto[1], Y. Utsumi[2], H. Kanematsu[3] and T. Masuda[4]
[1]Tsuyama National College of Technology, Japan, [2]Univ. of Hyogo, Japan, [3]Suzuka National College of Technology, Japan, [4]Q-Light co., Ltd., Japan

6PN-109 **Surface analysis of thick AlGaN films treated by Ar and CF_4 plasma etching**

S. Hirai[1], M. Niibe[1], T. Shirahama[2], R. Kawakami[2] Y. Nakano[3] and T. Mukai[4]
[1]Univ. of Hyogo, Japan, [2]Univ. of Tokushima, Japan, [3]Chubu Univ., Japan, [4]Nichia Corporation, Japan

6PN-110

6PN-111 Simulation of Temperature Distribution in Organic Light Emitting Diode Panel Prepared in Vacuum Deposition Process

T. Kobayashi[1], T. Uchida[1], Y. Utsumi[2] H. Kanematsu[3] and T. Masuda
[1]Tsuyama National College of Technology, Japan, [2]Univ. of Hyogo, Japan, [3]Suzuka National College of Technology, Japan, [4]Q-Light co., Ltd., Japan

6PN-112 Two-dimensional silicon and germanium allotropes in the MoS_2 structure: a first-principles study

F. Gimbert, C.-C. Lee, R. Friedlein, A. Fleurence, Y. Yamada-Takamura and T. Ozaki
JAIST, Japan

6PN-113 NIR measurements of the NH_3 and NH_4^+ species adsorbed on the acid sites of zeolite surface

T. Tsukamoto, A. Kondo, Y. Horiuchi, M. Matsuoka and M. Takeuchi
Osaka Prefecture Univ., Japan

6PN-114 RHEED and ARPES study of Si(110)3x6-Bi

A.K.R. Ang, S.N. Takeda, T. Sakata and H. Daimon
Nara Inst. of Science and Technology, Japan

6PN-115 Investigation on the hydrogen bond networks of the H_2O clusters adsorbed on various oxide surfaces by NIR spectroscopy

M. Takeuchi and M. Anpo
Osaka Prefecture Univ., Japan

6PN-116 Effects of Zn doping on the surface structure and initial growth processes of InP thin film layers on InP(111)B substrate

M. Kato, T. Akiyama, K. Nakamura and T. Ito
Mie Univ., Japan

6PN-117 Growth of bismuth oxide films using atomic layer deposition

Y. Tanaka, M. Emori and H. Sakama
Sophia Univ., Japan

6PN-118 Effect on RBM from Water Adsorption Layer on an SWNT Surface in Water Vapor

N. Homma[1], S. Chiashi[2], Y. Homma[1] and T. Yamamoto[3]
[1,3]Tokyo Univ. of Science, Japan, [2]The Univ. of Tokyo, Japan

6PN-119 Epitaxial Growth of Pentacene Polycrystalline Films on Mica Surfaces

R. Matsubara[1], S. Ochiai[1], N. Ohashi[2], H. Kojima[1] and M. Nakamura[1]
[1]Nara Inst. of Science and Technology, Japan, [2]Tohoku Univ., Japan

6PN-120 Origin of the Pentagon Pairs on Si(110)-(16 × 2) Surface

T. Yamasaki[1], K. Kato[2], T. Uda[3] and T. Ohno[1,4]
[1]NIMS, Japan, [2]Toshiba R&D Center, Japan, [3]ASMS, Japan, [4]Univ. Tokyo, IIS, Japan

6PN-121 Surface Morphology of Transferred Graphene: Effect of Substrate Step Structures

T. Nagamori, S. Suzuki and M. Yoshimura
Toyota Technological Inst., Japan

6PN-122 Formation of Graphene with Reduced Pits on SiC(0001) Assisted by Plasma Oxidation and Wet Etching

D. Mori, N. Saito, A. Imafuku, K. Kawai, Y. Sano, M. Morita and K. Arim
Osaka Univ., Japan

6PN-123 Probing the surface structure of $TlBiSe_2$ using Photoelectron Diffraction, Scanning Tunneling Spectroscopy and Ab-Initio Theory

E.F. Schwier[1], C. Didiot[2,3], K. Kuroda[4], R. Stania[5,6], J. Zhang[6], E. Razzoli[2,3], M. Ye[1], H. Iwasawa[1], M. Munwiler[6], P. Aebi[2,3], A. Kimura[8], K. Shimada[1,8], H. Namatame[8] and M. Taniguchi[1,8]
[1]Hiroshima Synchrotron Radiation Center, Japan, [2]Fribourg Center of Nanomaterials, Switzerland, [3,7]Univ. of Fribourg, Switzerland, [4]Univ. of Marburg, Germany, [5]Univ. of Zürich, Switzerland, [6]Paul, Scherrer Institut, Switzerland, [8]Univ. of Hiroshima, Japan

6PN-124 Development a new technique for molecular sensing

A.N. Itakura[1], S. Kitayama[2] and T. Takeuchi[2]
[1]NIMS, Japan, [2]Kobe Univ., Japan

6PN-125

6PN-126 **Modification of the CdTe Crystal Surface and In-CdTe Interface by Nanosecond Laser Pulses**

V.A. Gnatyuk[1,2], O.I. Vlasenko[1], T. Aoki[2,3] and A. Koike[3]
[1]Inst. of Semiconductor Physics of the National Ac ademy of Sciences of Ukraine, Ukraine, [2]Shizuoka Univ., Japan, [3]ANSeeN Inc., Japan

6PN-127 **Reduction of decomposition temperature of SiC by Pd silicide formation**

M. Yoshimura and K. Kato
Toyota Technological Inst., Japan

6PN-128

6PN-129 **Structural analysis of Si(111)-5×2-Au surface by surface X-ray diffraction**

Y. Yamaguchi[1], T. Shirasawa[1,2], W. Voegeli[3] and T. Takahashi[1]
[1]Univ. of Tokyo, Japan, [2]JST, PRESTO, Japan, [3]Tokyo Gakugei Univ., Japan

6PN-130 **Improved the biological response of porous coatings incorporating strontium on titanium through surface modification**

K.-C. Kung, Y.-T. Liu and T.-M. Lee
National Cheng Kung Univ., Taiwan

6PN-131 **Photomechanical Response of Amorphous Carbon Nitride Thin Films on SiO_2 Substrate**

M. Aono, T. Harata, N. Kitazawa and Y. Watanabe
National Defense Academy, Japan

6PN-132 **Morphology and atomic structure of the hydrogen-terminated Si(110)-(1×1) surface studied by LEED and STM**

S.Y. Matsushita[1], E. Kawamoto[1], K. Haga[1], T. Yamada[2] and S. Suto[1]
[1]Tohoku Univ., Japan, [2]RIKEN, Japan

Biointerface and Biomolecular Electronics

6PN-163 **Scanning Probe Microscopy of Biomaterials Using a Quartz Oscillator Force Sensor**

S. Nagata[1], K. Saito[1,2], T. Oka[1,2], H. Yoshino[1,2] and T. Hashizume[1,2]
[1]Hitachi, Ltd., Japan, [2]Tokyo Inst. of Technology, Japan

6pA1 Surface Structure_3

Chair: K. Asakura (Hokkaido Univ.), T. Hirahara (TITECH)

13:10-13:50 6pA1-1(I) Recent results with total-reflection high-energy positron diffraction (TRHEPD)

T. Hyodo[1], Y. Fukaya[2], I. Mochizuki[1], K. Wada[1], M. Maekawa[2], T. Shidara[3], A. Ichimiya[4] and A. Kawasuso[2]
[1]IMSS, KEK, Japan, [2]ASRC, JAEA, Japan, [3]AL, KEK, Japan, [4]Phys. Dept., Nagoya Univ., Japan

13:50-14:10 6pA1-2 In-situ temperature measurements on the phase change point of monolayer APTES by Surface-enhanced anti-Stokes and Stokes Raman scattering

Y. Sun[1], M. Yanagisawa, M. Kunimoto, M. Nakamura and T. Homma
Waseda Univ., Japan

14:10-14:30 6pA1-3 Chemical Analysis of Buried Interface using Surface-Enhanced Raman Sensor

M. Yanagisawa, Y. Sun, M. Kunimoto and T. Homma
Waseda Univ., Japan

14:30-14:50 6pA1-4 Spectroscopic Investigation of Unoccupied States in Nano- and Macroscopic Scale: A Combined STM and 2PPE study

T. Yamada, M. Isobe, M. Shibuta, H.S. Kato and T. Munakata
Osaka Univ., Japan

6pA2 Surface Structure_3 (Continued)

Chair: M. Nakamura (NAIST), T. Hyodo (KEK)

15:10-15:30 6pA2-1 Non-contact atomic force microscopy study of initial and secondary oxidation products on the Si(111)-(7×7) surface

J. Onoda[1], M. Ondráček[2], A. Yurtsever[3], P. Jelínek[1,2] and Y. Sugimoto[1]
[1]Osaka Univ., Japan, [2]Inst. of Physics, Academy of Sciences of the Czech Republic, Czech Republic, [3]Osaka Univ., Japan

15:30-15:50 6pA2-2 Molecular adsorption and orientation of 4,4'-bipyridine and 4,4'-bipyridine N,N'-dioxide in monolayers adsorbed on gold by tip-enhanced Raman spectroscopy

I.I. Rzeźnicka[1], H. Horino[2], N. Kikkawa[1], S. Sakaguchi[1], A. Morita[1], S. Takahashi[3], T. Komeda[3], H. Fukumura[1], T. Yamada[4] and M. Kawai[4,5]
[1,2,3]Tohoku Univ., Japan, [4]RIKEN, Japan, [5]Univ. of Tokyo, Japan

15:50-16:10 6pA2-3 Thermally activated transition from 1D to 2D superstructure: Squaric acid on Au(111)

K. Ueji[1,2], J. Jung[1], J. Oh[1], K. Miyamura[2] and Y. Kim[1]
[1]RIKEN, Japan, [2]Tokyo Univ. Sci. Japan

16:10-16:30 6pA2-4 Supramolecular Assembly of Diarylethene via Ion-Dipole Interaction

T.K. Shimizu[1,2], J. Jung[1], H. Imada[1] and Y. Kim[1]
[1]RIKEN, Japan, [2]NIMS, Japan

16:30-16:50 6pA2-5 Microscopic Studies of Ionic Liquid / Rubrene Single Crystal Interfaces for High-Performance Electric Double Layer Transistors

Y. Yokota[1], H. Hara[1], Y. Morino[1], K. Bando[1], T. Harada[1], A. Imanishi[1], Y. Okada[2], H. Matsui[2], T. Uemura[2], J. Takeya[2] and K. Fukui[1]
[1]Osaka Univ., Japan, [2]Univ. Tokyo, Japan

6pB1 Surface Electronic States_4

Chair: I. Matsuda (Tokyo Univ.), T. Uchihashi (NIMS)

13:10-13:30 6pB1-1 Tuning gap states at organic-metal interfaces via quantum size effects

S.-J. Tang[1,2], M.-K. Lin[1], Y. Nakayama[3], C.-H. Chen[2], C.-Y. Wang[1], H.-T. Jeng[1], T.-W. Pi[2] and H. Ishii[3,4]

[1]National Tsing Hua Univ., Republic of China, [2]NSRRC, Republic of China, [3,4]Chiba Univ., Japan

13:30-13:50 6pB1-2 Underscreened Kondo effect of the collective spin state in Mn-Phthalocyanine on Pb(111)

E. Minamitani[1,2], Y. Fu[2], Q.-K. Xue[3], Y. Kim[2] and S. Watanabe[1]

[1]The Univ. of Tokyo, Japan, [2]RIKEN, Japan, [3]Tsinghua Univ., China

13:50-14:10 6pB1-3 Charge Transport Properties and Molecular Vibrations in Organic Semiconductors

H. Ishii[1,2], N. Kobayashi[2] and K. Hirose[3]

[1]JST-PRESTO, Japan, [2]Univ. of Tsukuba, Japan, [3]NEC, Japan

14:10-14:50 6pB1-4(I) Spin-Dependent Electron Transfer Dynamics Probed by the Core-Hole-Clock Method

P. Feulner[1], F. Blobner[1], J. Bauer[1], R. Han[1], A. Kim[1], W. Wurth[2,3], T. Sundermann[4], N. Müller[4] and U. Heinzmann[4]

[1]Technische Universität München, Germany, [2]Univ. Hamburg, Germany, [3]DESY Photon Science, Germany, [4]Univ. Bielefeld, Germany

6pB2 Surface Electronic States_4 (Continued)

Chair: A. Kimura (Hiroshima Univ.), P. Feulner (Technical Univ.)

15:10-15:30 6pB2-1 ARPES-based orbital tomography of organic molecular layers

S. Subach[1], M. Willenbockel[1], B. Stadtmüller[1], S. Siemering[1], E.-M. Reinisch[2], T. Ules[2], D. Lüftner[2], G. Koller[2], P. Puschnig[2], M.G. Ramsey[2] and F.S. Tautz[1]

[1]Peter Grünberg Institut (PGI-3), JARA, Forschungszentrum Jülich, Germany, [2]Karl-Franzens Univ. Graz, Austria

15:30-15:50 6pB2-2 Angle-resolved photoemission studies of the $SrRuO_3$ thin films

R. Yukawa[1], T. Miller[2], C.-Z. Xu[2], S. Yamamoto[1], Sh. Yamamoto[1], S. Itoh[1], K. Yoshimatsu[3], H. Kumigashira[4], T.-C. Chiang[2] and I. Matsuda[1]

[1]The Univ. of Tokyo, Japan, [2]Univ. of Illinois - Urbana, USA, [3]Tokyo Inst. of Technology, Japan, [4]Photon Factory, KEK, Japan

15:50-16:10 6pB2-3 Excess Electron Trapping at Oxygen Vacancy on TiO_2 (110): First Principles Insight into STM

T. Shibuya[1], K. Yasuoka[1], S. Mirbt[2] and B. Sanyal[2]

[1]Keio Univ., Japan, [2]Uppsala Univ., Sweden

16:10-16:30 6pB2-4 Atomic-scale study of the topographic and electronic structure of a $SrTiO_3$(100)-($\sqrt{13}\times\sqrt{13}$)-R33.7° reconstructed surface

R. Shimizu[1], I. Hamada[2], T. Ohsawa[2], K. Iwaya[3], K. Akagi[1], M. Tsukada[1] and T. Hitosugi[1,5]

[1]Tohoku Univ., Japan, [2]NIMS, Japan, [3]RIKEN, Japan, [4]JST-PRESTO, Japan

16:30-16:50 6pB2-5 First-principles calculation of structure and electronic properties of a $La_{0.75}Ca_{0.25}MnO_3$ surface

S. Nakamura[1], Y. Ando[1], E. Minamitani[1], R. Shimizu[2], K. Iwaya[3], T. Ohsawa[4], T. Hitosugi[2,5] and S. Watanabe[1]

[1]Univ. of Tokyo, Japan, [2]Tohoku Univ., Japan, [3]RIKEN, Japan, [4]NIMS, Japan, [5]JST-PRESTO, Japan

6aC1 Rohrer Medal Lecture (Rising medal)

Chair: M. Tshukada (Tohoku Univ.)

13:10-13:50 6pC1-1 (RM) Atomic force microscopy for imaging, identification and manipulation of single atoms

Y. Sugimoto
Osaka Univ., Japan

13:50-14:30 6pC1-2 (RM) Novel Spin Structures in Topologically Trivial and Non-trivial Systems

H. Dil[1,2]
[1]Inst. of Condensed Matter Physics, EPF Lausanne, Switzerland, [2]Swiss Light Source, Paul Scherrer Inst., Switzerland

6pC2 Development on Instrumentation & Characterization_3

Chair: Y. Homma (Tokyo Univ. of Sci.), S. Aoyagi (Seikei Univ.)

15:10-15:50 6pC2-1(I) High Resolution Mass Imaging Technique with Fine Focused Ar Cluster Beam

J. Matuso
Kyoto Univ., Japan

15:50-16:10 6pC2-2 Development of Three-Dimensional Spin Manipulator for Spin Polarized Electron Beam

T. Yasue[1], M. Suzuki[1], K. Tsuno[2], Y. Arai[3], S. Goto[4], X.G. Jin[5], Y. Takeda[6] and T. Koshikawa[1]
[1]Osaka Electro-Communication Univ., Japan, [2]Electron Optics Solutions Tsuno, Japan, [3]Terabase Inc., Japan, [4]Sanyu Electron Co., Ltd., Japan, [5]KEK, Japan, [6]Aichi Synchrotron Radiation Center, Japan

16:10-16:30 6pC2-3 Imaging Surface Spin Using a Polarized Metastable Helium Atom Beam

Y. Yamauchi[1], M. Kurahashi[1], T.T. Suzuki[1], X. Sun[2], A. Pratt[3], H. Zhang[1] and M. Yoshitake[1]
[1]NIMS, Japan, [2]Univ. of Science and Technology of China, China, [3]Univ. of York, York, U.K.

16:30-16:50 6pC2-4 Spin-polarized positron beam study of surface spin polarization

H. J. Zhang[1], S. Yamamoto[1], H. Li[1], M. Maekawa[1], Y. Fukaya[1], A. Kawasuso[1], T. Seki[2], E. Saitoh[2] and K. Takanashi[2]
[1]JAEA, Japan, [2]IMR of Tohoku Univ., Japan

6pD1 Surface Chemistry_3

Chair: T. Nishino (Osaka Prefecture Univ.), T. Matsumoto (Osaka Univ.)

13:10-13:30 6pD1-1 Perfluoropentacene Adsorption on Cu(110)

J. Gall, M. Hohage, P. Zeppenfeld and L. Sun
Johannes Kepler Univ. Linz, Austria

13:30-13:50 6pD1-2 Intermolecular interaction-driven overlayer structures and the dynamics of CO on Pt(111)

H.J. Yang[1,2], M. Kawai[1] and Y. Kim[2]
[1]The Univ. of Tokyo, Japan, [2]RIKEN, Japan

13:50-14:10 6pD1-3 Protein Recognition on Graphene Surface Modified by DNA Aptamer

K. Furukawa, Y. Ueno, M. Takamura and H. Hibino
NTT Basic Research Labs., Japan

14:10-14:50 6pD1-4(I) Identification of the Active Phase of Heterogeneous Catalysts through *In Situ* Reaction Product Imaging

K. Reuter
Technical Univ. Munich, Germany

6pD2 Surface Chemistry_3 (Continued)

Chair: K. Furukawa (NTT Basic Research Labs.), K. Reuter (Technical Univ.)

15:10-15:30 6pD2-1 Surface-guided photoreaction on an insulating substrate

R. Lindner[1], M. Stieffenhofer[1], A. Gourdon[2], R. Bechstein[1] and A. Kühnle[1]
[1]Johannes Gutenberg Universität Mainz, Germany, [2]CNRS, CEMES, France

15:30-15:50 6pD2-2 Single-Site Dynamic Studies of Stereocontrol by Chemisorbed Chiral Molecules

P.H. McBreen[1], Y. Dong[1], G. Goubert[1], J.-C. Lemay[1], M.N. Groves[2], K.L. Svane[2] and B. Hammer[2]
[1]Laval Univ., Canada, [2]Aarhus Univ., Denmark

15:50-16:10 6pD2-3 Adsorption of phthlaocyanine molecules on perovskite oxide surface

S. Kojima[1], T. Fukumura[1,2] and T. Hasegawa[1,2]
[1]The Univ. of Tokyo, Japan, [2]JST-CREST, Japan

16:10-16:30 6pD2-4 Atomically dispersed Au on a modified oxide surface

K. Asakura and S. Takakusagi
Hokkaido Univ., Japan

16:30-16:50 6pD2-5 Structural change during the hydrophilic reaction of the rutile-TiO_2(110) surface studied with surface X-ray diffraction

T. Shirasawa[1,2], W. Voegeli[3], E. Arakawa[3], R. Iwami[3], C. Kamezawa[3,4], Y. Yamaguchi[1], T. Matsushita[4] and T. Takahashi[1]
[1]Univ. of Tokyo, Japan, [2]JST, PRESTO, Japan, [3]Tokyo Gakugei Univ., Japan, [4]Photon Factory, KEK, Japan

Room D (6F)

6pE1 Nanomaterials : Fabrication and Functionality_4

Chair: H. Onishi (Kobe Univ.), T. Narushima (IMS)

13:10-13:50 6pE1-1(I) Clusters At Surfaces: Concepts For Tuning Their Stability And Activity

F. Esch, U. Heiz and M. Tschurl
Technische Universität München, Germany

13:50-14:10 6pE1-2 Silicon Cluster Superlattice

Y. Iwata, K. Tomita, T. Uchida and H. Matsuhata
AIST, Japan

14:10-14:30 6pE1-3 Large Area, Aluminum Metamaterial Perfect Absorbers for Tunable Thermal Radiation

T.D. Dao[1,2,3], K. Chen[1,2], S. Ishii[1,2], G. Lakshminarayana[1,2], A. Ohi[1,2], T. Nabatame[1,2] and T. Nagao[1,2]
[1]NIMS, Japan, [2]JST, Japan, [3]NAIST, Japan

14:30-14:50 6pE1-4 Enhancement of second harmonic and two photon emission in ZnO using resonant and off-resonant plasmonic interactions

J. Lin[1], N. Aflakian[1], Y. Fujita[2] and A. Neogi[1]
[1]Univ. of North Texas, USA, [2]Shimane Univ., Japan

6pE2 Nanomaterials : Fabrication and Functionality_4 (Continued)

Chair: U. Heiz (Technical Univ.), A. Imanishi (Osaka Univ.)

15:10-15:30 6pE2-1 Optical and magnetic properties of Ni / CoTMPP composite films on Cu(110)

M. Hohage, M. Denk, R. Mittermair, R. Denk, L.D. Sun and P. Zeppenfeld
Johannes Kepler Univ., Austria

15:30-15:50 6pE2-2 Charged Iridium(III) Complexes for Blue, Green, Yellow and Orange OLEDs

M. Srikaew[1], B. Somchob[1], W. Sombat[1], S. Sahasithiwat[2], Y. Tantirungrotechai[3] and R. Jitchati[1]
[1]Ubon Ratchathani Univ., Thailand, [2]National Metal and Materials Technology Center, Thailand, [3]Thammasat Univ., Thailand

15:50-16:10 6pE2-3 **Identification of giant phase transition of single electric domain in (La,Pr,Ca) MnO_3 epitaxial nanowall wire**

A.N. Hattori, Y. Fujiwara, T.V.A. Nguyen, K. Fujiwara and H. Tanaka
Osaka Univ., Japan

16:10-16:30 6pE2-4 **Detection of hydrogen absorption via quantum tunneling using transport measurements of Pd nano-contact**

K. Ienaga[1], H. Takata[1], Y. Inagaki[1], H. Tsujii[2] and T. Kawae[1]
[1]Kyushu Univ., Japan, [2]Kanazawa Univ., Japan

16:30-16:50 6pE2-5 **TiO_2 Crystal-Surface Dependences of the Adsorption and Photoinduced Electron Transfer: CdSe Quantum Dot-Sensitization System**

T. Toyoda[1,4], W. Yindeesuk[1], K. Kamiyama[2], S. Hayase[3,4] and Q. Shen[1,4]
[1]The Univ. of Electro-Communications, Japan, [2]Bunkoukeiki, Co. Ltd., Japan, [3]Kyushu Inst. of Technology, Japan, [4]CREST, JST, Japan