

第 17 回「イオンビームによる表面・界面解析」特別研究会

2016 年 12 月 3 日 (土) ～2016 年 12 月 4 日 (日)

京都府立大学 稲盛記念会館 206 教室

プログラム

12 月 3 日 (土)

13:30–13:35 開会挨拶

第 1 セッション

13:35–14:15 (Invited talk)

“Single photon emission measurements as a tool to study the interactions between cluster ion beams and solid surfaces”

Francesco Musumeci

(Department of Physics and Astronomy of Catania University and Laboratori Nazionali del Sud dell’ I.N.F.N., Catania)

14:15–14:35

“Setup for Measuring Cluster Ion Beam Induced Luminescence”

Masaki Yamaoka¹, Ryosuke Matsui¹, Francesco Musumeci^{2,3},

Mitsuaki Takeuchi¹, and Hiromichi Ryuto¹

(¹Photonics and Electronics Science and Engineering Center, Kyoto University,

²Department of Physics and Astronomy, Catania University,

³INFN Laboratori Nazionali del Sud)

14:35–14:55

“Chemical Analysis under Ambient Conditions with MeV-energy Heavy Ion Beams”

Toshio Seki^{1, 4}, Masakazu Kusakari¹, Takaaki Aoki^{3, 4} and Jiro Matsuo^{2, 4}

¹Department of Nuclear Engineering, Kyoto University,

²Quantum Science and Engineering Center, Kyoto University,

³Academic Center for Computing and Media Studies, Kyoto University,

⁴SENTAN, Japan Science and Technology Agency (JST))

14:55–15:15

“Measurement of the ampacity of a nanowire fabricated by electron beam-induced deposition”

Takane Kobayashi^{1,2}, Hao Wang², Yusuke Suzaka³, Masayuki Shimojo³, Wen-Sen Lu², Hyeonyeol Cho², KiBum Lee², Hiroshi Suga⁴,

Manish Chhowalla², Torgny Gustafsson², and Leonard C. Feldman²

(¹RIKEN, ²Rutgers, ³Shibaura Institute of Technology,

⁴Chiba Institute of Technology)

15:15–15:35

“Atom probe analysis of glycine molecules deposited on a sharp tungsten needle”

Yuki Haneji, Noriaki Nyuba, Hiroshi Tsuji, Yasuhito Gotoh

(Department of Electronic Science and Engineering, Kyoto University)

休憩 (Coffee Break) (15:35–15:55)

第2セッション

15:55–16:25 (Invited talk)

“Microstructural analysis of hydrogen-induced nanocavities in silicon by using ion and positron beams”

Atsushi Kinomura

(Research Reactor Institute, Kyoto University)

16:25–16:45

“Surface structures of binary mixtures of ionic liquids observed using high-resolution RBS”

Kaoru Nakajima¹, Shunto Nakanishi¹, Martin Lísal^{2, 3}, Kenji Kimura¹

(¹Department of Micro Engineering, Kyoto University,

²Laboratory of Aerosols Chemistry and Physics, Institute of Chemical Process Fundamentals of the CAS,

³Department of Physics, Faculty of Science, J. E. Purkinje University)

16:45–17:05

“Lattice deformation induced by oxygen vacancy on rutile(110) surfaces”

Naoki Nagatsuka¹, Eri Noguchi², Daiichirou Sekiba²,

Katsuyuki Fukutani¹

(¹Institute of Industrial Science, University of Tokyo,

²Institute of Applied Physics, University of Tsukuba)

17:05–17:25

“Chemical cleaning effect on metallic multilayer electrodes prepared for ohmic property measurements of n-type diamond substrates”

Yuhei Seki, Yasushi Hoshino, Jyoji Nakata

(Department of Mathematics and physics, Kanagawa University)

17:25–17:45

“In-air-measurement using a few MeV ion beam at WERC”

K. Suzuki

(Wakasa-wan Energy Research Center)

懇親会 (Banquet) (18:00–20:00)

12月4日(日)

第3セッション

9:00–9:30 (Invited talk)

“Photodissociation experiments on molecular ions stored in an electrostatic ion storage device”

Manabu Saito

(Department of Nuclear Engineering, Kyoto University)

9:30–10:00 (Invited talk)

“The system of the low energy atom scattering spectroscopy”

Kenji Umezawa

(Dept of Physics, Osaka Prefecture University)

10:00–10:20

“Surface magnetism vs. spin-orbit coupling in low-energy He⁺ ion scattering”

T.T. Suzuki¹, O. Sakai^{1,2}

¹National Institute for Materials Science,

²Comprehensive Research Organization for Science and Society)

10:20–10:40

“Origin of the Anomalous Asymmetric Scattering of the Spin-Polarized ⁴He⁺ Beam with Paramagnetic Target Materials”

O. Sakai^{1,2} and T. T. Suzuki²

¹Comprehensive Research Organization for Science and Society,

²National Institute for Material Science)

休憩 (Coffee Break) (10:40–11:00)

第4セッション

11:00–11:30 (Invited talk)

“High sensitive single ion detection by ion beam induced charge collection in diamond membrane detector”

Tomihiko Kamiya

(Graduate school of science and technology, Gunma University)

11:30–11:50

“Transmission Elastic Recoil Detection Analysis of Solid State Li Ion Battery by Simultaneous Use of Rutherford Backscattering Spectroscopy with O Ions”

K. Morita¹, B. Tsuchiya², Y. Hirata³, J. Ohnishi³, Y. Katayama³,
Y. Iriyama³, H. Tsuchida⁴ and T. Majima⁴

¹Nagoya Industrial Science Research Institute,

²Department of General Education, Meijo University,

³Department of Material Engineering, Nagoya University,

⁴Quantum Energy Science and Engineering Center, Kyoto University)

11:50–12:10

“Mass spectrometric study of secondary ions emitted from ethanol microdroplets induced by fast carbon ions”

K. Kitajima¹, T. Majima^{1,2}, Y. Oonishi¹, S. Mizutani¹, M. Saito¹ and
H. Tsuchida^{1,2}

¹Department of Nuclear Engineering, Kyoto University,

²Quantum Science and Engineering Center, Kyoto University)

12:10–12:30

“SIMS study of fast-heavy ion radiolysis of proline in aqueous solution”

S. Nomura¹, A. Kajiwara¹, T. Majima^{1,2}, M. Saito^{1,2}, H. Tsuchida^{1,2}

¹Department of Nuclear Engineering, Kyoto University,

²Quantum Science and Engineering Center, Kyoto University)

昼食 (Lunch on seminar) (12:30–13:10)

第5セッション

13:10–13:30

“Active discharging method for stable transmission of ion beams through tapered glass capillary optics”

Tokihiro Ikeda¹, Takao M. Kojima¹, Yoshio Natsume², Jun Kimura², Tomoko Abe¹

(¹RIKEN Nishina Center for Accelerator-Based Science,

²Hamamatsu Photonics KK)

13:30–13:50

“Desorption yields of thermal component-atoms from a KBr(001) ESD surface irradiated by keV electrons”

Yuuko Fukazawa, Ryoki Nakagawa, Moeka Kawase and Yasufumi Susuki

(Division of Science Education, Osaka-Kyoiku University)

13:50–14:10

“On the higher efficiency of swift cluster-ion beam generation: production and decay cross sections”

Toshiaki Kaneko, Shotaro Fukushima, Yusuke Yamashita, Daisuke Miyamoto

(Graduated School of Science, Okayama University of Science)

14:10–14:30

“Target thickness dependence of convoy electron yield observed in fast cluster ion bombardment on thin foils”

Y. Shiina¹, R. Kinoshita¹, M. Matsuda², M. Imai³, K. Kawatsura⁴, M. Sataka⁵, K. Sasa^{1,5} and S. Tomita¹

(¹Pure and Applied Sciences, University of Tsukuba,

²Nuclear Science Research Institute, Japan Atomic Energy Agency,

³Department of Nuclear Engineering, Kyoto University,

⁴Theoretical Radiation Research Laboratory,

⁵Tandem Accelerator Complex, University of Tsukuba)

14:30–14:35 閉会挨拶