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 Musumeci2,3, 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 Seki1, 4, Masakazu Kusakari1, Takaaki Aoki3, 4 and Jiro Matsuo2, 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 Kobayashi1, 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 Lísal²,³, 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. Sakai1,2
(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. Sakai1,2 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”
Tomihiro 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”
(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. Majima1,2, Y. Oonishi1, S. Mizutani1, M. Saito1,2 and H. Tsuchida1,2
(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. Majima1,2, M. Saito1,2, H. Tsuchida1,2
(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. Sasa¹,⁵ 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