

24th Special Workshop on Surface and Interface Analysis and Surface Modification by Ion Beams

JAEA Tokai Mirai Base
October 16-17, 2024

Scientific Program

Invited: 30 min. talk and 10 min. discussion

Oral: 15 min. talk and 5 min. discussion

Wednesday, October 16, 13:00–17:40

Opening		
13:00–13:05	Opening	ISHIKAWA Norito (<i>Japan Atomic Energy Agency</i>)
Session 1		Chair: SEKI Toshio (<i>Kyoto University</i>)
13:05–13:45	Invited 1	KADA Wataru <i>Tohoku University</i>
		Microscopic analysis and imaging of ion-beam-induced luminescence (IBIL) and ion-beam-induced fluorescence (IBIF) using a MeV-focused ion microprobe
13:45–14:05	Oral 1	SUZUKI Taku <i>National Institute for Materials Science</i>
		Quench-condensed hydrogen films studied by cryogenic TOF-SIMS
14:05–14:25	Oral 2	OHTA Tetsuro <i>Kyoto University, Toray Research Center</i>
		Analysis of damage in biomolecular samples after fast ion irradiation using low-energy cluster beam TOF-SIMS
14:25–14:40	Break	
Session 2		Chair: TSUCHIDA Hidetsugu (<i>Kyoto University</i>)
14:40–15:00	Oral 3	MIZUTANI Yuri <i>Kyoto University</i>
		<i>Study on the molecular weight dependence of damage to PEG molecules by Ar-GCIB irradiation</i>
15:00–15:20	Oral 4	YASUDA Keisuke <i>Kyoto Prefectural University</i>
		Attempt to improve hydrogen detection efficiency in TOFERDA measurements

15:20–15:40	Oral 5	YASUNAGA Kazufumi <i>The Wakasa Wan Energy Research Center</i>
		Radiation Effects on Hydrogen Desorption Behavior of Mg
15:40–16:00	Oral 6	NISHIMURA Tomoaki <i>Hosei University</i>
		Advanced Trajectory Simulations for Low Energy Recoil Ion Spectroscopy in Rutile-TiO ₂ (110)
16:00–16:15	Break	
Session 3		Chair: SUZUKI Taku (National Institute for Materials Science)
16:15–16:35	Oral 7	MAJIMA Takuya <i>Kyoto University</i>
		Application of TOF-ERDA to Thin-Film All-Solid-State Li-Ion Batteries
16:35–16:55	Oral 8	TERASAWA Ryosuke <i>Meijo University</i>
		Charging and Discharging Rates Dependences of Li ⁺ Ion Migration at LiCoO ₂ /LATP Interface in All Solid State Li-based Batteries
16:55–17:15	Oral 9	UCHIYAMA Takeshi <i>Tohoku University</i>
		Unraveling the Salt Tolerance Mechanisms in Plants During Reproduction Using Ion Beams
17:15–17:25	Special speech	KANEKO Toshiaki <i>Okayama University of Science</i>
		Memorial speech in the honor of late KOSHIKAWA Takanori (Osaka Electro-Communication University)
Session for Sponsors		Chair: ISHIKAWA Norito (<i>Japan Atomic Energy Agency</i>)
17:25–17:30	Presentation 1	ADCAP VACUUM TECHNOLOGY Co.,Ltd.
17:30–17:35	Presentation 2	Toyama
17:35–17:40	Presentation 3	AMETEK Co., Ltd.

Thursday, October 17, 9:00–17:15

Session 4		Chair: AWAZU Koichi (<i>University of Tsukuba</i>)
9:00–9:40	Invited 2	KARLUŠIĆ Marko <i>Ruđer Bošković Institute</i>
	Surface nano-structuring by high-energy heavy ion beams: examples from the RBI	
9:40–10:00	Oral 10	AMEKURA Hiroshi <i>National Institute for Materials Science</i>
	Ion tracks in diamond	
10:00–10:20	Oral 11	YOSHIOKA Satoru <i>Kyushu University</i>
	Cationic Inversion in ZnAl ₂ O ₄ and MgAl ₂ O ₄ Induced by Swift Heavy Ion	
10:20–10:40	Break	

Session 5		Chair: YOSHIOKA Satoru (<i>Kyushu University</i>)
10:40–11:00	Oral 12	OZAKI Toshinori <i>Kwansei Gakuin University</i>
	Critical Current Properties and Structural Defects in High-Tc GdBa ₂ Cu ₃ O _y Superconducting Films Irradiated with 10 MeV Au-ions	
11:00–11:20	Oral 13	ISHIKAWA Norito <i>Japan Atomic Energy Agency</i>
	Complex Nanostructures of SiO ₂ Quartz Irradiated with Swift Heavy Ions	
11:20–11:40	Oral 14	SASAJIMA Yasushi <i>Ibaraki University</i>
	Molecular Dynamics Simulation of high-energy beam irradiation of SiO ₂ crystal with free surface	
11:40–12:00	Oral 15	AWAZU Koichi <i>University of Tsukuba</i>
	Medium-range structural changes in silica glass induced by swift heavy ion beams	

12:00–13:00	Lunch	
Session 6		Chair: OKUBO Nariaki (<i>Japan Atomic Energy Agency</i>)
13:00–13:40	Invited 3	ABE Shinichiro <i>Japan Atomic Energy Agency</i>
	Investigation of Cosmic-Ray Induced Soft Errors by Simulation	
13:40–14:00	Oral 16	OKUNO Yasuki <i>RIKEN</i>
	Gamma-ray, electron-beam, Ion-Beam and Neutron Detection Based on Solar Cells with High Radiation Resistance	
14:00–14:20	Oral 17	NAKAMORI Fumihiro <i>Central Research Institute of Electric Power Industry</i>
	Irradiation behavior of secondary phase precipitates and matrix in Zr-0.5Nb model alloy under Zr ion irradiation	
14:20–14:40	Oral 18	ABE Yosuke <i>Japan Atomic Energy Agency</i>
	Effect of Alloy Composition and Damage Rate on the Formation of Cr-Rich Precipitates in FeCrAl Alloys under Ion Irradiation	
14:40–14:55	Break	
Session 7		Chair: OKUNO Yasuki (RIKEN)
14:55–15:15	Oral 19	HORI Fuminobu <i>Osaka Metropolitan University</i>
	Amorphization of bulk size compound alloys by swift heavy ion irradiation	
15:15–15:35	Oral 20	IDO Yuki <i>Nagoya University</i>
	Response of the Paleo-detector to incident particles from GeV to keV ion beams	
15:35–15:55	Oral 21	FUKUDA Shoma <i>Japan Atomic Energy Agency</i>
	Xe ion irradiation on natural Ce-monazite crystals: insights into the fission-track method	
15:55–16:10	Break	

Session 8		Chair: ISHIKAWA Norito (<i>Japan Atomic Energy Agency</i>)
16:10–16:30	Oral 22	KANEKO Toshiaki <i>Okayama University of Science</i>
	Analysis on Track Diameter produced in EuBa ₂ Cu ₃ O ₇ under Swift Heavy-Ion Irradiation	
16:30–16:50	Oral 23	YANO Yuichiro <i>University of Tsukuba</i>
	Vicinage effect on the convoy electron yield of fast heteronuclear diatomic ion OH ⁺	
16:50–17:10	Oral 24	IWASE Akihiro <i>Osaka Metropolitan University</i>
	Study on ion irradiation-induced modifications of lattice structures and magnetic properties of FeRh intermetallic compound using synchrotron radiation x-ray	
17:10–17:15	Closing	ISHIKAWA Norito <i>Japan Atomic Energy Agency</i>