

# 23<sup>rd</sup> Special Workshop on Surface and Interface Analysis and Surface Modification by Ion Beams

The Wakasa Wan Energy Research Center  
December 2 – 3, 2022

## Scientific Program

Invited: 30 min. talk and 10 min. discussion

Oral: 15 min. talk and 5 min. discussion

Friday, December 2, 13:00–17:50

### Opening

13:00–13:05 Opening remarks SUZUKI Kohtaku (*The Wakawa Wan Energy Research Center*)

### Session 1

Chair: TSUCHIYA Bun (*Meijo University*)

13:05–13:45 Invited 1 (Online) **MATHAYAN Vairavel**  
*Uppsala University*  
In-operando profiling of light elements in energy materials using coincidence techniques

13:45–14:05 Oral 1 **MORITA Kenji**  
*Nagoya Industrial Science Research Institute*  
Analysis of Change in Li Depth Profiles of Au/Ge/LATP/LMO/Au Battery by Means of ERD and RBS Techniques with 9 MeV O<sup>+4</sup> Ions

14:05–14:25 Oral 2 **KODERA Taku**  
*Meijo University*  
Hydrogen and Lithium Measurements in Near Surface of Water-soaked LATP Solid Electrolytes Using Elastic Recoil Detection Techniques

14:25–14:40 Break

### Session 2

Chair: SEKI Toshio (*Kyoto University*)

14:40–15:00 Oral 3 **TSUCHIYA Bun**  
*Meijo University*  
*In-situ* Hydrogen Distribution Analysis in LiCoO<sub>2</sub> by Water Uptake at Room Temperature Using Elastic Recoil Detection in Air Atmosphere

- 15:00–15:20 Oral 4 **DAS Sudhansu Sekhar**  
*The University of Tokyo*  
Hydrogen depth profile in Platinum film using the  $1\text{H}(15\text{N},\alpha)12\text{C}$  nuclear reaction analysis
- 15:20–15:40 Oral 5 **HASEGAWA Chika**  
*Kyoto Prefectural University*  
Development of TOF-ERDA system and application to ASSLB measurements
- 15:40–15:55 Break

**Session 3** Chair: KINOMURA Atsushi (*Kyoto University*)

- 15:55–16:15 Oral 6 **SUZUKI Taku**  
*National Institute for Materials Science*  
Spatial distribution analysis of oxygen vacancies injected into a rutile  $\text{TiO}_2$  single crystal at the electrode interface using SIMS and LEIS
- 16:15–16:35 Oral 7 **HIROE Masatoshi**  
*Kyoto University*  
Nanovoid evolution in hydrogen-implanted and annealed Si probed by slow positron beams
- 16:35–16:55 Oral 8 **WATANABE Hideo**  
*Kyusyu University*  
Hydrogen pickup of ion irradiated Zry-2
- 16:55–17:15 Oral 9 **MORIBAYASHI Kengo**  
*National Institutes for Quantum Science and Technology (QST)*  
Effect of the thermalization of secondary electrons on plasma formation during the irradiation of heavy ions
- 17:15–17:25 Break

**Session for Sponsors** Chair: YASUDA Keisuke (*Kyoto Prefectural University*)

- 17:25–17:50 Presentation 1 **KYOKUTO BOEKI KAISYA, Ltd.**  
Presentation 2 **ADCAP Vacuum Technology Co., Ltd.**  
Presentation 3 **TechnoAP Co., Ltd.**  
Presentation 4 **Pulsed Power Japan Laboratory Ltd.**

Saturday, December 3, 9:00–13:00

**Session 4** Chair: ISHIKAWA Norito (*Japan Atomic Energy Agency*)

9:00–9:40 Invited 2 **LANG Maik**  
(Online) *University of Tennessee*  
Characterization of Radiation Effects in Ceramics with Spallation Neutron Probes

9:40–10:20 Invited 3 **IWASE Akihiro**  
*The Wakasa Wan Energy Research Center*  
Surface modifications of lattice structures and physical properties of inorganic materials induced by energetic ion beam irradiation

10:20–10:35 Break

**Session 5** Chair: TSUCHIDA Hidetsugu (*Kyoto University*)

10:35–10:55 Oral 10 **ISHIKAWA Norito**  
*Japan Atomic Energy Agency (JAEA)*  
Nanostructure of Ceramics Irradiated with Swift Heavy Ions: TEM Study

10:55–11:15 Oral 11 **TOMITA Shigeo**  
*Tsukuba University*  
Projectile dependence on the convoy electron yield of fast molecular ions

11:15–11:35 Oral 12 **MAJIMA Takuya**  
*Kyoto University*  
Anion–Molecule Reactions Induced by MeV-energy heavy ions on the Methanol Droplet Surface

11:35–11:55 Oral 13 **UNO Naruki**  
*Kyoto University*  
Energy distribution of secondary electrons from single and multiple layer graphene bombarded by MeV Si cluster ions

11:55–12:00 Closing remarks SUZUKI Kohtaku (*The Wakawa Wan Energy Research Center*)

12:00 Closing

**Tour**

12:00–13:00 Tour for Wakasa Wan Energy Research Center

