

# 研究発表／RESULTS

## International Conference 2016-2015

### 2016

1. J.Matsuo,M.Kusakari,M.Fujii,T.Seki,T.Aoki  
"Chemical analysis under ambient conditions using swift heavy ion beams"  
2th European Conference on Acceleratorsin Applied Research and Technology  
(University of Jyväskylä,Finland,2016/7/7)Oral
2. J.Matsuo  
"Secondary ion emission from organic materials using swift heavy ions"  
27th INTERNATIONAL CONFERENCE ON ATOMIC COLLISIONS IN SOLIDS (ICACS-27)  
(IMP,Lanzhou,China,2016/7/28)Invited
3. J.Matsuo  
"Chemical analysis with nuclear micro probe: Current achievement and future potential"  
15th International Conference on Nuclear Microprobe Technology and Applications ICNMTA 2016  
(IMP,Lanzhou,China,2016/8/1)Oral
4. M. Kusakari, M. Fujii, T. Seki, T. Aoki and J. Matsuo  
"Ambient analysis using a MeV ion probe: measurement of liquid and solid states of benzoic acid"  
15th International Conference on Nuclear Microprobe Technology and Applications ICNMTA 2016  
(IMP,Lanzhou,China,2016/8/1)Oral
5. J.Matsuo  
"SIMS system for molecular imaging"  
20th International Vacuum Congress (IVC-20)  
(BEXCO,Busan,Korea,2016/8/23)Invited
6. T. Seki, H. Yamamoto, T. Kozawa, T. Shojo, K. Koike, T. Aoki and J. Matsuo  
"Oblique pattern etching with ClF<sub>3</sub>-Ar neutral cluster beam"  
The 38th International Symposium on Dry Process(DPS2016)  
(2016.11.21 Conference Hall, Hokkaido University, Sapporo, Hokkaido, Japan) Oral
7. H. Yamamoto, T. Seki, J. Matsuo, K. Koike and T. Kozawa  
"High Aspect Ratio Patterning by Using ClF<sub>3</sub>-Ar Neutral Cluster Etching"  
The 38th International Symposium on Dry Process(DPS2016)  
(2016.11.22 Conference Hall, Hokkaido University, Sapporo, Hokkaido, Japan) Oral

8. T. Seki, H. Yamamoto, T. Kozawa, T. Shojo, K. Koike, T. Aoki and J. Matsuo  
"Oblique pattern etching with ClF<sub>3</sub>-Ar neutral cluster beam"  
NINTH INTERNATIONAL MEETING ON RECENT DEVELOPMENTS IN THE STUDY OF RADIATION EFFECTS  
IN MATTER. (REM9) (2016.10.26 Kyoto International Community House.Kyoto,Japan) Oral
9. J. Matsuo  
" Material analysis with cluster ion beam: Recent progress and future protects  
NINTH INTERNATIONAL MEETING ON RECENT DEVELOPMENTS IN THE STUDY OF RADIATION EFFECTS  
IN MATTER. (REM9) (2016.10.26 Kyoto International Community House.Kyoto,Japan) Oral
10. T. Aoki  
"Study of cluster impact by computer simulation"  
NINTH INTERNATIONAL MEETING ON RECENT DEVELOPMENTS IN THE STUDY OF RADIATION EFFECTS  
IN MATTER. (REM9) (2016.10.26 Kyoto International Community House.Kyoto,Japan) Oral
11. J. Matsuo, K. Suzuki,M. Kusakari, T. Seki and T. Aoki  
"Cluster Ion Beams for Organic Semiconductors and Biological Materials"  
21st International Conference on Ion Implantation Technology (IIT2016)  
(2016.9.30 Shangri-La's Far Eastern Plaza Hotel Tainan,Taiwan) Oral
12. K. Suzuki1, M. Kusakari, T. Seki1, T. Aoki, and J. Matsuo  
"Development of New Cluster-SIMS Instrument Combined with Tandem MassSpectrometer"  
SISS-18, The Scientific International Symposium on SIMS and Related Techniques Based onIon-Solid  
Interactions (2016.7.22 Seikei University, Tokyo, Japan,)Oral
13. M. Kusakari, M. Fujii, T. Seki, T. Aoki, and J. Matsuo  
"A new approach of interface analysis: measurement of benzoic acid in solution using ambient SIMS"  
SISS-18, The Scientific International Symposium on SIMS and Related Techniques Based onIon-Solid  
Interactions (2016.7.22 Seikei University, Tokyo, Japan,)Oral
14. J. Matsuo, K. Suzuki, M. Kusakari, T. Seki and T. Aoki  
"Chemical Structurer Determination with MS/MS SIMS for Biological Molecules"  
SISS-18, The Scientific International Symposium on SIMS and Related Techniques Based onIon-Solid  
Interactions (2016.7.22 Seikei University, Tokyo, Japan,)Oral
15. J Matsuo, M. Kusakari, M. Fujii, T. Seki, T. Aoki  
"Progress Report on MeV-SIMS in Kyoto University~ toward Ambient Analysis~"  
IAEATechnical meeting (2016.9.5 University of Surrey, Guildford, United Kingdom) Invited
16. J. Matsuo  
"Cluster SIMS: Current Achievements and Future Challenge"  
SIMSChinaVI  
(2016.10.9 Dalian Institute of Chemical Physics, Chinese Academy of Sciences.China) Invited

17. J. Matsuo  
"Chemical Analysis with swift heavy ions: Opportunities and future challenges"  
24th Conference on Application of Accelerators in Research and Industry (CAARI2016)  
(2016.11.1the Renaissance Worthington hotel in Fort Worth,) Oral
18. Jiro Matsuo, M. Kusakari, T. Sekia, and T. Aoki  
"Observation of Adsorption and Desorption of Water Molecules in the Ambient with Swift Heavy Ions"  
The Symposium on Surface and Nano Science 2016(SSNS2017)  
(2017.1.11New Furano Prince Hotel.)Oral
19. Takaaki Aoki, Toshio Seki, Jiro Matsuo  
"Study of Large Cluster Impact for Surface Modification Process"  
2016 MRS Fall Meeting (2016/11/27-12/2, Boston Massachusetts, USA), invited

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## 2015

1. Jiro Matsuo  
"Cluster Ion Beam from eV to MeV"  
7th Asian Forum for Accelerators and Detectors  
(Uji Campus, Kyoto University, Kyoto, Japan 2016/2/2,Oral)
2. Jiro Matsuo  
"ScienceAmbient-SIMS: A New Probe for Liquid-Solid Interfaces"  
SAOG 2016 32nd Annual Meeting of the Swiss Working Group for Surface and Interface  
(Universit de Fribourg, Switzerland 2016/1/22,Invited)
3. Jiro Matsuo  
"toward Ambient Analysis"  
IAEA 2nd Research Coordination Meeting on Development of molecular concentration  
mapping techniques using MeV focused ion beams Progress Report on MeV-SIMS in Kyoto University.  
(2015.11.17/Oral)
4. T. Seki, Y. Yoshino, T. Senoo, K. Koike, T. Aoki and J. Matsuo  
"Reactive etching with ClF<sub>3</sub>-Ar neutral cluster beam"  
The 37th International Symposium on Dry Process(DPS2015)  
(2015, 11.5 Awaji Yumebutai International Conference Center, Awaji Island Japan)Oral
5. J.Matsuo  
"Exploring of Organic Surfaces with Secondary Ion Mass Spectrometry: From Polymers to Biological Materials"  
ALC '15. 10th International Symposium on Atomic Level Characterizations for New Materials and Devices  
(Kunibiki Messe, Matsue, Shimane, JAPAN.2015.10.27) Plenary

6. T.Seki, M. Kusakari, M. Fujii, T. Aoki and J. Matsuo  
"Solid-Liquid Interface Analysis with MeV-Energy Heavy Ion Beams  
"ALC'15 10th International Symposium on Atomic Level Characterizations for New Materials and Devices'15, (28a-B-8), (2015. 10.28) @Matsue, Shimane, Japan, (oral).
7. M.Fujii, T. Seki, T. Aoki and J. Matsuo  
"Evaluation on organic analysis with a novel SIMS apparatus using model standard samples"  
ALC'15 10th International Symposium on Atomic Level Characterizations for New Materials and Devices'15, (27p-P-22) , (2015.10.27) @Matsue, Shimane, Japan, (poster).
8. K.Suzuki, M. Kusakari, M. Fujii, T. Seki, T. Aoki and J. Matsuo  
"Development of Low-Pressure SIMS Instruments with Large Cluster Ion Beam"  
ALC'15 10th International Symposium on Atomic Level Characterizations for New Materials and Devices'15, (27p-P-13), (2015.10.27) @Matsue, Shimane, Japan, (poster).
9. J.Matsuo  
"Secondary Molecular Ion Emission from Liquids under Ambient Pressure"  
21st International Workshop on Inelastic Ion-Surface Collisions (IISC-21)  
(2015, 10.20 Donostia-San Sebastián, Spain)Poster
10. J.Matsuo  
"Secondary Molecular Ion Emission with Swift Heavy Ions under Ambient Pressure"  
REM8 Eighth International meeting on Recent Developments in the Study of Radiation Effects in Matter  
(Kerteminde, Denmark,2015/9/21)Oral
11. J.Matsuo  
"An Evolution in SIMS Instruments: How Far are we from the Goal?,"  
SIMS XX 20th International Conference on Secondary Ion Mass Spectrometry (Seattle, 2015/9/15)  
Invited
12. M. Fujii, T. Seki, T. Aoki, J. Matsuo,  
"Current Prospects of Organic Analysis with Ar-GCIB SIMS,  
from Synthetic Polymers and Organic Devices toward Biological Materials,"  
SIMS XX 20th International Conference on Secondary Ion Mass Spectrometry (Seattle, 2015/9/14)Oral
13. Hubert Gnaser, M. Kusakari, M. Fujii, T. Seki, T. Aoki, J. Matsuo,  
"Molecular Cluster Emission in Sputtering of Amino Acids by Argon Gas-cluster Ions,"  
SIMS XX 20th International Conference on Secondary Ion Mass Spectrometry (Seattle, 2015/9/14)Oral
14. M. Kusakari, M. Fujii, T. Seki, T. Aoki, J. Matsuo,  
"Development of Ambient SIMS using MeV-energy ion probe, "  
SIMS XX 20th International Conference on Secondary Ion Mass Spectrometry (Seattle, 2015/9/14)Oral

15. A.Karen, M. Fujii, T. Seki, T. Aoki, J. Matsuo,  
"Comparative Study of Dual and Single Beam Analysis Techniques for Biological Materials, "  
SIMS XX 20th International Conference on Secondary Ion Mass Spectrometry (Seattle, 2015/9/17)Poster
16. R. Shishido, M. Fujii, T. Seki, T. Aoki, J. Matsuo, S. Suzuki,  
"Influences of Yield and Damage Cross-Section on Imaging Analysis of Organic Molecules by Bi cluster TOF-SIMS, " SIMS XX 20th International Conference on Secondary Ion Mass Spectrometry (Seattle, 2015/9/17)Poster
17. S. Aoyagi, Y. Yokoyama, M.Fujii, J.Matsuo, J.S. Fletcher, N.P. Lockyer,  
"The Influence of Primary Ion Beam Energy on Peptide Fragmentation by Means of ToF-SIMS Using Huge Cluster Ion Sources,"  
SIMS XX 20th International Conference on Secondary Ion Mass Spectrometry (Seattle, 2015/9/16)Oral
18. M. Fujii, R. Shishido, T. Satoh, T. Seki, T. Aoki, S. Suzuki, J. Matsuo  
"Comparative Study of Cluster SIMS and Other Techniques for Highly Accurate Organic Analysis",  
SISS-17, The Scientific International Symposium on SIMS and Related Techniques  
Based on Ion-Solid Interactions, p. 63, (Seikei University, Tokyo, Japan, 2015/6/26) oral
19. R. Shishido, M. Fujii, T. Seki, T. Aoki, J. Matsuo and S. Suzuki;  
"The Effect of Yield and Damage Cross-Section on Imaging Analysis of OrganicMaterials by Different Primary Bi Ions in TOF-SIMS",  
SISS-17, The Scientific International Symposium on SIMS and Related Techniques Based on Ion-Solid Interactions, p. 38, (Seikei University, Tokyo, Japan, 2015/6/25)poster
20. Y. Yokoyama, M. Fujii, J. Matsuo, M. Kusakari and S. Aoyagi;  
"A study of the primary energy dependence of peptide fragmentation",  
SISS-17, The Scientific International Symposium on SIMS and Related Techniques Based on Ion-Solid Interactions, p. 65, (2015.6.26) @Seikei University, Tokyo, Japan, (oral).
21. M. Kusakari, M. Fujii, T. Seki, T. Aoki and J. Matsuo;  
"A New Ambient Analysis using MeV-SIMS for Liquid-Solid Interface",  
SISS-17, The Scientific International Symposium on SIMS and Related Techniques Based on Ion-Solid Interactions, p. 67, (2015.6.26) @Seikei University, Tokyo, Japan, (oral).
22. T.Satoh, H.,Niimi, M. Fujii, T. Seki, J.Matsuo, M.Ubukata, R.DiPasquale  
"The laser desorption/ionization imaging mass spectrometry for synthetic polymer analysis assisted by metal nano-particles", ASMS, (2015.6.3), (poster)
23. K. Suzuki, M. Kusakari, M. Fujii, T. Seki, T. Aoki, and J. Matsuo;  
"Development of SIMS instruments with Focused Cluster Ion Beam Toward New Applications",  
SISS-17, The Scientific International Symposium on SIMS and Related Techniques Based on Ion-Solid Interactions, p. 38, (2015.6.25) @Seikei University, Tokyo, Japan, (poster)

24. J. Matsuo

Secondary Ion Mass Spectrometric Analysis of Soft Materials - Current Challenges and Future Applications  
22nd International Conference on Ion Beam Analysis (IBA 2015)  
(Opatija, Croatia, 2015/6/16) Plenary

25. T.Seki, M.Kusakari, M.Fujii, T.Aoki and JMatsuo,

Ambient Analysis of Liquid Materials with Wet-SIMS

22nd International Conference on Ion Beam Analysis (IBA 2015)  
(Opatija, Croatia, 2015/6/14) Oral

26. M. Fujii, T. Seki ,T. Aoki, J. Matsuo

Recent Progress and Future Prospects of Cluster SIMS for Biological Applications  
SISS-17 Satellite workshop  
(Kyoto,Japan,2015/6/29) Oral

27. T. Seki, T. Aoki, A. Ishihara and J. Matsuo

Imaging mass spectrometry with MeV-energy heavy ion beams  
XXII INTERNATIONAL CONFERENCE ON ION - SURFACE INTERACTIONS (ISI-2015)  
(Moscow,Russia,2015/8/21) Invited