IBA & PIXE 2023

26th International Conference on Ion Beam Analysis
18th International Conference on Particle Induced X-ray Emission

7-13th/Oct/2023, Toyama, Japan

Program

	Mon, 9 Oct.		Tue, 10 Oct.		Wed, 11 Oct.		Thu, 12 Oct.		Fri, 13 Oct.		
	Room A	Room B	Room A	Room B	Room A	Room B	Room A	Room B	Room A	Room B	
9:00											9:00
9:30			A. BETTIOL		K. FUKUTANI	H. FELTHAM	H. YURIMOTO		Z. SIKETIC	Z. PASTUOVIC	9:30
10:00	Opening				F. MARAGKOS	H. SA'ADEH			L. BECK	M. RAMOS	10:00
10:30	T, CALLIGARO		Break		K. KOMANDER	T. SAUVAGE	Break		D. JEMBRIH-SIMBUERGER	T. FUJITA	10:30
11:00			S. HOMMA-TAKEDA	U. TOUSSAINT	A. BARON-WIECHEC	K. SUZUKI	P. PONGRAC	M. HOTCHKIS	A. TAZZIOLI	A. VANTOMME	11:00
11:30	50th Session		H. FONTELES	E. NTEMOU	C. KUTYLA	E. LALANDE	J. F. DIAS	H. MATSUZAKI	Y. KOGA	Z. KHUMALO	11:30
12:00			M. REN	O. BELIUSKINA	Group Photo		L. PICHON	S. JINNO	Closing		12:00
12:30	Lunch		A. DENKER	R. FROST	Lunch		H. WHITLOW	T. YAMAGATA			12:30
13:00			Lunch				Lunch				13:00
13:30			F. DJURABEKOVA	T. SILVA			K. NAKAJIMA	H. TOYOKAWA			13:30
14:00	A. NIGGAS	J. MEERSSCHAUT	P. JÓŹWIK	G. MAGCHIELS			I. RADOVIĆ	H. SAKURAI			14:00
14:30	P. GRANDE	B. XIA	D. MOLDAREV	D. COHEN			A. SIMON	M. REIS			14:30
15:00	C. MONTANARI	I. DEMCHENKO	T. OZAWA	M. MAYER			G. NAGY	Ž. ŠMIT			15:00
15:30	S. TOMITA	R. RATAJCZAK	L. GONCHAROVA	D. MITNIK	Excursion		G. DU	F. SCHMIDT			15:30
16:00	M. KOKKORIS	E. ALVES	Break				Break				16:00
16:30	Break		D. PRIMETZHOFER	H. ZHANG			M. DÜRR	T. OHSHIMA			16:30
17:00	I. MIHALIC	T. SUZUKI	M. MSIMANGA	D. MOLDAREV			F. GARRIDO	Z. MI			17:00
17:30	S. SHIKI	J. SHAMSLATIFI	T. MAJIMA	S. PELLEGRINO			F. FOUCHER	Z. GUO			17:30
18:00	P. COUTURE	T. GREHL	A. REDONDO-CUBERO	E. SZILÁGYI			M. CESARE	M. FELLINGER			18:00
18:30	M. KAVCIC	S. PRŮŠA	B. TSUCHIYA	K. RAKHI			F. LUCARELLI	N. GORDILLO			18:30
19:00	H. SHEN	P. WOLF			Banquet						19:00
19:30	Poster						Poster				19:30
20:00											20:00
20:30											20:30
21:00											21:00

Oral Program

October 9, 2023(Monday)

Room A

-Opening (10:00~10:20)-

Plenary-1 (10:20~11:10) *-Plenary-* (Chair: Wataru Kada, *(Tohoku University)*)
Wide-field ion beam imaging of big heritage artefacts
Thomas Calligaro
(Ministère de la Culture - CNRS, France)

50th Aninniversary Session (Chair: Jiro Matsuo, *(Kyoto University)*)

9a-A-1 (11:10~12:00) *-Special lecture-*
50 years of IBA: past, present and future
Iva Bogdanović Radović and Ian Vickridge
(Ruđer Bošković Institute, Zagreb and SAFIR, INSP, Sorbonne Université, Paris, Croatia and France)

9a-A-2 (12:00~12:30) *-Video messages-*
Short Video Messages and Memories
Roger Webb
(University of Surrey, United Kingdom)

-Lunch (12:30~14:00)-

Session Chair: Matej Mayer *(Max-Planck-Institut fuer Plasmaphysik)*
Kazuhiro Ishii *(Nara Women's University)*

9p-A-1 (14:00~14:30) *-Invited-*
Charge exchange dynamics of highly charged ions at surfaces
*Anna Niggas, Matthias Werl, Daniel Thima, Matthias Bernhart, Friedrich Aumayr and Richard A. Wilhelm
(TU Wien, Austria)

9p-A-2 (14:30~14:50)
Insights from the free-electron gas model and Bohmian mechanics on ion stopping and straggling
Pedro Luis Grande and Raul Carlos Fadanelli
(Universidade Federal do Rio Grande do Sul (UFRGS), Brazil)

9p-A-3 (14:50~15:10)
Stopping power in matter, from the IAEA database to theoretical and machine learning predictions
Claudia C Montanari, Jesica Peralta, Alejandra Mendez, Felipe Bivort-Haiek, Darío Mitnik and Paraskevi Dimitriou
(CONICET and Universidad de Buenos Aires, Argentina)

9p-A-4 (15:10~15:30)

Comparison of Molecular Effects on the convoy electron yield of H_2^+ and C_2^+ at 292 keV/u

Sohta Hatada, Ginga Kawasaki, Maruko Hiraga, Satoshi Ishii, Tsutomu Takahashi, Yoko Shiina, Kimikazu Sasa and *Shigeo Tomita

(University of Tsukuba, Japan)

9p-A-5 (15:30~15:50)

Measurement, evaluation and benchmarking of differential cross sections for proton elastic scattering on ^{nat}N in the energy range E= 3-5 MeV, suitable for EBS

Michael Kokkoris, Varvara Foteinou, Alexander F. Gurbich, Anastasios Lagoyannis, Fotios Maragkos and Nikolaos Patronis

(National Technical University of Athens, Greece)

-Break-

Session Chair: F. Lucarelli *(University of Florence)*
Shigeo Tomita *(University of Tsukuba)*

9p-A-6 (16:10~16:40) *-Invited-*

Developments and applications of High Resolution PIXE at RBI

*Iva Božičević Mihalić, Stjepko Fazinić, Anja Mioković, Donny Domagoj Cosic, Mauricio Rodriguez Ramos and Domagoj Mudronja

(Rudjer Boskovic Institute, Croatia)

9p-A-7 (16:40~17:00)

Particle induced X-ray emission apparatus utilizing superconducting tunnel junction detector

Shigetomo Shiki, Go Fujii, Shigeo Tomita and Kimikazu Sasa

(National Institute of Advanced Industrial Science and Technology, Japan)

9p-A-8 (17:00~17:20)

Exploring workflows for correlative imaging of elemental and chemical biomarkers from a single tissue section using microbeam PIXE and Raman microscopy

Pierre, Ella Schneider, Natalie Belsey, Johanna von Gerichten, Catia Costa, Connor Newstead, Denisse Camarena, Mariana Giannella, Silvya Stuchi Maria-Engler and Melanie Bailey

(University of Surrey, United Kingdom)

9p-A-9 (17:20~17:40)

A Parallel-beam wavelength-dispersive X-ray emission spectrometer for high energy resolution in-air micro-PIXE analysis

Kristina Isaković, Marko Petric, Ava Rajh, Zdravko Rupnik, Mirko Ribič, Klemen Bučar, Primož Pelicon, Paula Pongrac, Valentina Bočaj and *Matjaž Kavčič

(Jožef Stefan Institute, Slovenia)

9p-A-10 (17:40~18:00)

Reconstruction of spatial distribution of doped elements in ICF target using PIXE and RBS
X. Liu, S. Wang, H. Xue, J. Ma, W. Zhang, Y. Zhang, Z. Mi and H. Shen
(Fudan University, China)

Room B

Session Chair: Andre Vantomme *(KU Leuven)*
Yasuhito Gotoh *(Kyoto University)*

9p-B-1 (14:00~14:30) *-Invited-*
Ensemble Rutherford backscattering analysis of periodic nanostructures
Niels Claessens, Annelies Delabie, André Vantomme, Wilfried Vandervorst and Johan Meersschaut
(imec, Belgium)

9p-B-2 (14:30~14:50)
Ion beam analysis in studies of a role of deuterium in formation and performance of TiO2 films formed by atomic layer deposition (ALD)
Bingbing Xia, Yinan Fan, Jean-Jacques Ganem, Emrick Briand, Sébastien Steydli, Aleksandra Baron-Wiechec and Ian Vickridge
(Guangdong Technion-Israel Institute of Technology, China)

9p-B-3 (14:50~15:10)
Interplay of the disorder and strain in betta-Ga2O3 implanted by Si
Iraida N. Demchenko, Yevgen Syryanyy, Asiyeh Shokri, Yevgen Melikhov and Maryna Chernyshova
(Institute of Plasma Physics and Laser Microfusion (IPPLM), Poland)

9p-B-4 (15:10~15:30)
The studies of defect structure and their anisotropy in beta-Ga2O3 implanted with Yb
Renata Ratajczak, Mahwish Sarwar, Cyprian Mieszczynski, Przemysław Jozwik, Wojciech Wozniak, Ulrich Kentsch, René Heller and Elzbieta Guziewicz
(National Centre for Nuclear Research, Poland)

9p-B-5 (15:30~15:50)
Determination of the excitation function for nuclear reactions induced by 3He in 6Li and 7Li
Norberto Catarino, J. Grilo, João Cruz, Rui C. da Silva, Rodrigo Mateus and Eduardo Alves
(Instituto Superior Técnico, Universidade de Lisboa, Portugal)

-Break-

Session Chair: Frederico Garrido *(Universite Paris-Sud, Orsay)*
Kenji Umezawa *(Osaka Metropolitan University)*

9p-B-6 (16:10~16:40) *-Invited-*

Operando analysis of gas sensing surfaces by LEIS combined with pulsed jet technique
*Taku T. Suzuki, Yutaka Adachi, Takeshi Ohgaki and Isao Sakaguchi
(National Institute for Materials Science, Japan)

9p-B-7 (16:40~17:00)
Time-of-flight low-energy ion scattering: A powerful tool to study applied and fundamental aspects of plasma-material interaction
Jila Shams-Latifi, Eduardo Pitthan, Philipp Mika Wolf and Daniel Primetzhofer
(Uppsala University, Sweden)

9p-B-8 (17:00~17:20)
Complementary outer atomic layer analysis of catalyst materials using LEIS
Philipp Brüner, Jänis Järvilehto, Saeed Saedy and Thomas Grehl
(IONTOF GmbH, Germany)

9p-B-9 (17:20~17:40)
Evaluation of signals in LEIS spectra
Stanislav Průša, Elena Vaníčková, Matthew R. Linford, Joshua Pinder and Tomáš Šikola
(Brno University of Technology, Czech Republic)

9p-B-10 (17:40~18:00)
Synthesis and in-situ ToF-LEIS analysis of ultrathin silicides and Ti-based films
Philipp M. Wolf, Eduardo Pitthan, Tuan T. Tran, Zhen Zhang and Daniel Primetzhofer
(Uppsala University, Sweden)

October 10, 2023(Tuesday)

Room A

Plenary-2 (9:20~10:10) *-Plenary-* (Chair: Shigeo Matsuyama *(Tohoku University)*)
Colour centre engineering using MeV focused ion beams
Andrew Bettiol, Haidong Liang and Chengyuan Yang
(National University of Singapore, Singapore)

-Break-

Session Chair: Primož Pelicon *(Jožef Stefan Institute, Slovenia)*
Hidetsugu Tsuchida *(Kyoto University)*

10a-A-1 (10:30~11:00) *-Invited-*
Tissue and cellular distribution of bio-metals by micro-PIXE
Shino Homma-Takeda
(National Institutes for Quantum Science and Technology, Japan)

10a-A-2 (11:00~11:20)

Characterization of gold and platinum nanoparticles and corresponding cellular uptake using ion beam techniques

*Henrique Fonteles, Theylor S. Klippel, Daphne Tórgo, Felipe F. Selau, Bárbara Konrad, Guido Lenz, Edilson Valmir Benvenutti, Johnny F. Dias, Jonder Morais and Pedro Luis Grande

(Federal University of Rio Grande do Sul (UFRGS), Brazil)

10a-A-3 (11:20~11:40)

The accurate measurement of RBS/STIM ratio for proton dose delivery in proton therapy research in the Centre for Ion Beam Applications in NUS, Singapore

*Min-Qin Ren, Saumitra K. Vajandar, Gin-Hao Yuen and Thomas Osipowicz

(National University of Singapore, Singapore)

10a-A-4 (11:40~12:00)

Visualization of beam position and beam shape

Andrea Denker, Jürgen Bundesmann, Alina Dittwald, Timo Fanselow, Georgios Kourkafas and Eda Sezenoglu

(Helmholtz-Zentrum Berlin, Germany)

-Lunch (12:00~13:30)-

Session Chair: Pedro L. Grande *(University of Federal do Rio Grande do Sul)*
Takuya Majima *(Kyoto University)*

10p-A-1 (13:30~14:00) *-Invited-*

Simulation of Rutherford Backscattering Spectrometry in channeling mode from arbitrary atomistic structures

Flyura Djurabekova, Xin Jin, Shuo Zhang, Kai Nordlund and Sabina Makelj

(University of Helsinki, Finland)

10p-A-2 (14:00v14:20)

Molecular Dynamics and Monte Carlo simulations for ion channeling analysis of ion-bombarded N- and Ga-polar GaN crystals

Przemysław Jóźwik, Kamila Stefańska-Skrobas, Cyprian Mieszczyński, Kazimierz Skrobas, Andrzej Turos, Afonso Caçador and Katharina Lorenz

(National Centre for Nuclear Research, Poland)

10p-A-3 (14:20~14:40)

Finite size effects in epitaxially grown V thin films for H storage application

Dmitrii Moldarev, Theofanis Tsakiris, Eleni Ntemou, Kristina Komander, Max Wolff and Daniel Primetzhofer

(Uppsala University, Sweden)

10p-A-4 (14:40~15:00)

Structure analysis of metastable metal hydrides formed by hydrogen implantation

*Takahiro Ozawa, Sudhansu Sekhar Das, Natsuko Kishi, Daiichiro Sekiba and

Katsuyuki Fukutani
(The University of Tokyo, Japan)

10p-A-5 (15:00~15:20)
Hydrogen detection using medium and low energy ions
Matheus C. Adam, Casee Griffith and *Lyudmila V. Goncharova
(Western University, Canada)

-Break-

Session Chair: Johan Meersschaut *(IMEC)*
Katsuyuki Fukutani *(The University of Tokyo)*

10p-A-6 (15:40~16:10) *-Invited-*
Towards in-situ and in-operando materials analysis using ion beams
Daniel Primetzhofer
(Uppsala University, Sweden)

10p-A-7 (16:10~16:30)
A heavy ion ToF-ERDA/PIXE coincidence measurement setup: application to inorganic perovskite thin films
Mlungisi A. Mavuso, Mamogo Masenya and *Mandla Msimanga
(Tshwane University of Technology, Republic of South Africa)

10p-A-8 (16:30~16:50)
Lithium depth profiling in a thin-film all-solid-state battery using TOF-ERDA
*Takuya Majima, Yumie Ogura, Chika Hasegawa, Bun Tsuchiya, Yasutoshi Iriyama and Keisuke Yasuda
(Kyoto University, Japan)

10p-A-9 (16:50~17:10)
Commissioning of the ERDA-TOF spectrometer at CMAM
A. Redondo-Cubero, J.A. Eliades, A. Rodriguez, D. García-García and J. Kim
(Autonomous University of Madrid, Spain)

10p-A-10 (17:10~17:30)
Lithium concentration dependence on water absorption characteristics of high lithium content zirconates
Keisuke Kataoka, *Bun Tsuchiya, Ryosuke Terasawa, Shunji Bandow and Chumphol Busabok
(Meijo University, Japan)

Room B

Session Chair: Tiago Fiorini da Silva *(University of Sao Paulo)*
Tomoaki Nishimura *(Hosei University)*

10a-B-1 (10:30~11:00) *-Invited-*
SDTrimSP simulations of *crystalline targets* under energetic particle-bombardment

*Udo von Toussaint and Andreas Mutzke
(Max-Planck-Society, Germany)

10a-B-2 (11:00~11:20)
Lattice-site location of Mn in Mn-rich Sb2Te3 topological insulators using MeV ion channeling
*Eleni Ntemou, Stefan Wimmer, Gunther Springholz and Daniel Primetzhofer
(Uppsala University, Sweden)

10a-B-3 (11:20~11:40)
"Fixing" bending of the low energy ions in the electric fields of the timing gate
Olga Beliuskina, Taneli Kalvas and Mikko Laitinen
(The University of Jyvaskyla, Finland)

10a-B-4 (11:40~12:00)
A study of the thermal diffusion of gaseous fission products by ion-implantation and time-of-flight elastic recoil detection analysis
*Robert J.W. Frost, Denise A. Lopes, Kyle D. Johnson, Johan Oscarsson, Mauricio Sortica, Per Petersson and Daniel Primetzhofer
(Uppsala University, Sweden)

-Lunch (12:00~13:30)-

Session Chair: Flyura Djurabekova *(University of Helsinki)*
Hideaki Minagawa *(Ion Technology Center Co., Ltd.)*

10p-B-1 (13:30~14:00) *-Invited-*
Expanding applications of machine learning in ion beam analysis
*Tiago F. Silva
(University of São Paulo, Brazil)

10p-B-2 (14:00~14:20)
Optimizing the reliability and precision of complex RBS data analysis through machine learning-based simultaneous evaluation
*Goele Magchiels, Niels Claessens, Johan Meersschaut and André Vantomme
(KU Leuven, Belgium)

10p-B-3 (14:20~14:40)
Can standard machine learning techniques predict elemental concentrations from raw IBA spectra?
David Cohen and Jagoda Crawford
(ANSTO, Australia)

10p-B-4 (14:40~15:00)
Joint activity for the enhancement of nuclear databases and development of work procedures in ion beam analysis of fusion reactor materials: an IAEA Coordinated Research Project
M. Mayer, N. Added, E. Alves, M. Axiotis, I. Burducea, N. Catarino, J. Cruz, S. Charisopoulos, D.A. Iancu, T. Dunatov, S. Fazinić, V. Foteinou, M. Kelemen, Z. Khumalo, Z. Kotsina, A. Lagoyannis, R. Mateus, S. Markelj, C. Mtshali, M.

Msimanga, P. Pelicon, P. Petersson, D. Primetzhofer, G. Provatas, C. Rodrigues, M. Rubel, T. Schwarz-Selinger, P. Sechogela, T. Silva, N. Soić, M. Straticiuc, M.H. Tabacniks, G. Velișa and A. Widdowson
(Max-Planck-Institut fuer Plasmaphysik, Germany)

10p-B-5 (15:00~15:20)
Electronic stopping power neural network on the IAEA stopping power database
D.M. Mitnik, A.M.P. Mendez, F. Bivort Haiek and C.C. Montanari
(CONICET and Universidad de Buenos Aires, Argentina)

-Break-

Session Chair: Gyorgy Vizkelethy *(Sandia National Laboratory)*
Atsushi Kinomura *(Kyoto University)*

10p-B-6 (15:40~16:10) *-Invited-*
Interfacial phenomena in ceramics under ion beam irradiation
Hongliang Zhang, Ranran Su, Liqun Shi and Izabela Szlufarska
(Fudan University, China)

10p-B-7 (16:10~16:30)
Defect engineering of photochromic yttrium oxyhydride using irradiation with keV and MeV ions
*Dmitrii Moldarev, Max Wolff and Daniel Primetzhofer
(Uppsala University, Sweden)

10p-B-8 (16:30~16:50)
From crystallization to amorphization: training project on irradiation and characterization of model material for students or young researchers
S. Pellegrino
(Université Paris Saclay, France)

10p-B-9 (16:50~17:10)
Fluence evolution of defect-related optical centers in SiO_2 determined by ionoluminescence
Edit Szilágyi, Manoj Kumar Pal, Endre Kótai, Zsolt Zolnai and István Bányász
(Wigner Research Centre for Physics, Hungary)

10p-B-10 (17:10~17:30)
towards ordered Si surface nanostructuring: role of an intermittent ion beam irradiation protocol
Rakhi, Javier Muñoz-García, Rodolfo Cuerno and Subhendu Sarkar
(Indian Institute of Technology Ropar, Rupnagar, 140001, Punjab, India, India)

October 11, 2023(Wednesday)

Room A

Session Chair: Daniel Primetzhofer *(Uppsala University)*
Kaoru Nakajima *(Kyoto University)*

11a-A-1 (9:20~9:50) *-Invited-*
Structure and electronic effects of hydrogen in materials investigated by NRA
Katsuyuki Fukutani
(University of Tokyo, Japan)

11a-A-2 (9:50~10:10)
Systematic study of the 3He – induced reactions and elastic scattering on light isotopes for applications in Ion Beam Analysis
*Fotios Maragkos, Varavara Foteinou, Hans-Werner Becker, Laurin Hess, Klaudija Ivanković, Michael Kokkoris, Matej Mayer, Georgios Provatas and Detlef Rogalla
(Ruhr University Bochum, Germany)

11a-A-3 (10:10~10:30)
Nanosized transition metal hydrides investigated with high energetic ion beams
K. Komander, G.K. Pálsson, M. Wolff and D. Primetzhofer
(Uppsala University, Sweden)

11a-A-4 (10:30~10:50)
A comparative study of 18O behavior during formation of porous anodic alumina films by complementary techniques: nuclear reaction analysis and mass spectrometry
*Aleksandra Baron-Wiechec, Guocong Lin, Bingbing Xia, Ruojia Zhang, Jean-Jacques Ganem and Ian C.Vickridge
(Guangdong Technion - Israel Institute of Technology, China)

11a-A-5 (10:50~11:10)
In-situ NRA for the study of hydrogen sorption of yttrium-based thin getter films
*Charlotte Kutyla, Clement Bessouet, Sylvain Lemettre, Philippe Coste, Alain Bosseboeuf, Thierry Sauvage, Aurelien Bellamy, Olivier Wendling, Babacar Diallo, Pyush Jagtap, Stephanie Escoubas, Christophe Guichet, Olivier Thomas and Johan Moulin
(Center for nanosciences and nanotechnology, France)

Room B

Session Chair: Lyudmila Goncharova *(University of Western Ontario)*
Taku Suzuki *(National Institute for Materials Science)*

11a-B-1 (9:20~9:40)
Quantifying radiolysis effects for in-situ Rutherford backscattering spectrometry
H. Feltham, J.J. Noel and L.V. Goncharova
(Western University, Canada)

11a-B-2 (9:40~10:00)
Characterization of particulate matter (PM2.5 and PM10) in an urban area in Amman by PIXE, PESA and gravimetric measurements
Hanan Sa'adeh and Massimo Chiari
(The University of Jordan, Jordan)

11a-B-3 (10:00~10:20)
In situ ion beam analysis for solid/gas interface study: getter materials activation and sorption properties
*Thierry Sauvage, Charlotte Kutyla, Clement Bessouet, Charaf Eddine, Aurelien Bellamy, Olivier Wendling, Alain Bosseboeuf, Sylvain Lemettre, Babacar Diallo, Johan Moulin, Stefanie Escoubas, Christophe Guichet and Oliver Thomas
(CNRS Orleans, France)

11a-B-4 (10:20~10:40)
Application of ion beam analysis techniques to liquid samples
Kohtaku Suzuki and Bun Tsuchiya
(The Wakasa Wan Energy Research Center, Japan)

11a-B-5 (10:40~11:00)
Ar transport in TiO2:GeO2/SiO2 stacks
*Émile Lalande, Martin Chicoine, Aaron Davenport, Ashot Markosyan, Ludvik Martinu, Carmen S. Menoni, Martin M. Fejer and François Schiettekatte
(Université de Montréal, Canada)

-Group photo(11:00~12:20)-

-Lunch (11:20~12:50)-

-Excuresion (12:50~)-

October 12, 2023(Thrusday)

Room A

Plenary-3 (9:20~10:10) *-Plenary-* (Chair: Hiroyuki Matsuzaki *(The University of Tokyo)*)
Asteroid sample return mission Hayabusa2 and laboratory analyses of the returned samples
Hisayoshi Yurimoto
(Hokkaido University, Japan)

-Break-

Session Chair: Ian Vickridge *(INSP, Sorbonne Université)*
Shino Homma-Takeda *(National institutes for Quantum Science and Technology)*

12a-A-1 (10:30~11:00) *-Invited-*

Ion beam analysis at micro scale in plants
*Paula Pongrac, Katarina Vogel-Mikuš, Marjana Regvar, Mitja Kelemen, Primož Vavpetič and Primož Pelicon
(Jožef Stefan Institute, Slovenia)

12a-A-2 (11:00~11:20)
Simple protocol for detecting fraudulent medicines and food supplements with ion beam analytical techniques
Guilherme M. S. Souza, Paola Chytry, Livio Amaral and *Johnny Ferraz Dias
(Federal University of Rio Grande do Sul, Brazil)

12a-A-3 (11:20~11:40)
Progress in live and batch PIXE processing using GUPIX at the New AGLAE facility
*Laurent Pichon, Thomas Calligaro, Quentin Lemasson, Jean-paul Berthet, Brice Moignard and Claire Pacheco
(Centre de Recherche et de Restauration des Musées de France, France)

12a-A-4 (11:40~12:00)
Dynamic Analysis of major elements in biomedical tissue sections in the ion microprobe
H. J. Whitlow, A. Yu. Kuznetsov, A. Azarov, G. Nagy, N. T. Deoli, 6, R. Greco, N. Henderson3, K. M. Smith, K. Morgan, W. Sudprasert, S. Amphalop, W. Insuan, S. Wichianchot, M.-Q. Ren, T. Osipowicz, C.G. Ryan and F. Villinger
(University of Oslo, Norway)

-Lunch (12:00~13:30)-

Session Chair: Iva Bogdanovic-Radovic *(Academy of Fine Arts Vienna)*
Kohtaku Suzuki *(The Wakasa Wan Energy Research Center)*

12p-A-1 (13:30~14:00) *-Invited-*
Molecular imaging by transmission SIMS using MeV primary ions
Kaoru Nakajima, Kazuki Yamamoto, Shunya Kitamura, Kazuki Morimoto, Keisuke Nakamura and Kenji Kimura
(Kyoto University, Japan)

12p-A-2 (14:00~14:20)
Comparison of IBA techniques with standard forensic optical techniques in determining the order of deposition of different writing tools on paper
*Iva Bogdanović Radović, Marko BaracAndrijana Filko, Zdravko Siketić, Marko Brajković and Andrea Ledić
(Ruđer Bošković Institute, Croatia)

12p-A-3 (14:20~14:40)
The IAEA strategic approach to address forensic science challenges with nuclear analytical techniques
Aliz Simon and Nuno Pessoa Barradas
(International Atomic Energy Agency, Austria)

12p-A-4 (14:40~15:00)

Localization and characterization of micro-particles in large tissue sections

Gyula Nagy, Carlotta Dionigi, Tord Berglundh and Daniel Primetzhofer

(Uppsala University, Sweden)

12p-A-5 (15:00~15:20)

The interdisciplinary applications of the single ion GeV microbeam at lanzhou

Guanghua Du, Jinglong Guo, Guangbo Mao, Wenjing Liu, Can Zhao, Runqun Wu, Hongjin Mou and Lei Zhang

(Institute of Modern Physics, CAS, China)

-Break-

Session Chair: Zdravko Siketić *(Ruđer Bošković Institute)*
Makiko Fujii *(Yokohama National University)*

12p-A-6 (15:40~16:10) *-Invited-*

Bond-specific ion-induced fragmentation of biomolecules at high ion energies - correlating excitation mechanisms and fragmentation patterns

Pascal Schneider, Philip Keller, Ina Schubert, Markus Bender, Christina Trautmann and Michael Dürr

(Justus Liebig University Giessen, Germany)

12p-A-7 (16:10~16:30)

Alpha-decay damage in natural apatite: buildup and recovery mechanisms for thermochronological applications

D. J. Cerico, A. Gentils, S. Jublot-Leclerc, P. Jozwik, C. Mieszczynski, L. Nowicki, C. Bachelet, J. Bourçois, S. Hervé, F. Pallier, S. Picard, C. Gautheron and F. Garrido

(Université Paris-Saclay, France)

12p-A-8 (16:30~16:50)

Degradation of materials under proton irradiation studied in situ by Raman spectroscopy: relevance for the search for life on Mars

Frédéric Foucher, Mickael Baqué, Jean-Pierre Paul de Vera, Aurélien Canizarès, Rebecca Martellotti, Thierry Sauvage, Paul Sigot and Frances Westall

(CNRS, France)

12p-A-9 (16:50~17:10)

Ion Beam and Infrared techniques for space material characterizations at CIRA

Mario De Cesare, David Rapagnani, Luigi Savino, Francesca Di Carolo, Raffaele Buompane, Stefania Cantoni, Antonio Del Vecchio, Mario De Stefano Fumo, Antonino Di Leva, Umberto Galietti and Lucio Gialanella

(Italian Aerospace Research Center, Italy)

12p-A-10 (17:10~17:30)

High time resolved metals concentration in e-waste recycling plants

F. Lucarelli, G. Pazzi, F. Giardi, S. Nava, L. Carraresi, G. Simonetti, D. Pomata, P. Di Filippo, C. Riccardi, F. Buiarelli, R. Galarini, S. Lorenzetti and L.Goracci

(University of Florence, Italy)

Room B

Session Chair: Arnold Müller *(LIP - ETH Zurich)*
Kimikazu Sasa *(University of Tsukuba)*

12a-B-1 (10:30~11:00) *-Invited-*
Actinides analysis at the attogram level by Accelerator Mass Spectrometry
Michael Hotchkis, Keita Richardson, David Child, Dominik Koll, Anton Wallner and Klaus Wilcken
(Australian Nuclear Science and Technology Organisation, Australia)

12a-B-2 (11:00~11:20)
Challenge for the investigation of natural iodine isotope system with highly sensitive AMS
Hiroyuki Matsuzaki, Miwako Toya and Yuanzhi Qi
(The University of Tokyo, Japan)

12a-B-3 (11:20~11:40)
A novel approach to downsized AMS by introducing surface stripper method
Satoshi Jinno, Akihiro Matsubara, Natsuko Fujita and Kenji Kimura
(Japan Atomic Energy Agency, Japan)

12a-B-4 (11:40~12:00)
Development of ^{236}U-AMS at MALT, The University of Tokyo
Takeyasu, Li, Quiyu, Miwako, Hironori, Yuanzhi and Hiroyuki
(THe University of Tokyo, Japan)

-Lunch (12:00~13:30)-

Session Chair: David Cohen *(ANSTO)*
Bun Tsuchiya *(Meijo University)*

12p-B-1 (13:30~14:00) *-Invited-*
Development of TlBr hybrid pixel detector for next generation photon counting imaging
Hidenori Toyokawa, Keitaro Hitomi, Mitsuhiro Nogami, Toshiyuki Onodera, Shin Kubo, Atsushi Suenaga, Hideaki Onabe and Hirokazu Ikeda
(Japan Synchrotron Radiation Research Institute, Japan)

12p-B-2 (14:00~14:20)
State of charge distribution measurement on a Li battery by X -ray photon counting CT
Hiroshi Sakurai, Kazushi Hoshi, Daiki Watabe, Kosuke Suzuki, Yuki Hasebe, Shunta Suzuki, Yumiko Ohno and Masami Torikoshi
(Gunma University, Japan)

12p-B-3 (14:20~14:40)

New AdF-ASSET interface aided Total-IBA analysis of multilayered solar cells samples using DT2S secondary X-ray fluorescence corrected PIXE spectra simulations
*M.A. Reis, G. Fonseca, P.C. Chaves, C. Jeynes, T. J. Pollock, M. L. Sundquist, V. Corregidor and L.C. Alves
(Instituto Superior Técnico , Universidade de Lisboa, Portugal)

12p-B-4 (14:40~15:00)
Testing and evaluation of the Xantho X-ray spectra fitting code
Žiga Šmit
(University of Ljubljana, Slovenia)

12p-B-5 (15:00~15:20)
Real-time corrosion monitoring under irradiation using particle-induced x-ray emission spectroscopy (PIXE)
Franziska Schmidt, Matthew Chancey, Hyosim Kim, Scott Parker, Peter Hosemann and Yongqiang Wang
(Los Alamos National Laboratory, United States of America)

-Break-

Session Chair: Roger Webb *(University of Surrey)*
Yasushi Hoshino *(Kanagawa University)*

12p-B-6 (15:40~16:10) *-Invited-*
Quantum sensing using spin defects locally created in silicon carbide devices by microbeam
Takeshi Ohshima
(National Institutes for Quantum Science and Technology, Japan)

12p-B-7 (16:10~16:30)
Single proton counting with transmissive perovskite nanocrystal scintillators
Zhaohong Mi, Hongyu Bian, Chengyuan Yang, Yanxin Dou, Andrew A. Bettiol and Xiaogang Liu
(Fudan University, China)

12p-B-8 (16:30~16:50)
CVD Diamond membrane radiation detectors: Simulation and experiment
Guo Zikun, Mi Zhaohong and Andrew Anthony Bettiol
(National University of Singapore, Singapore)

12p-B-9 (16:50~17:10)
Effects of MeV ion beams on the performance of a high sensitivity quartz crystal microbalance
Martina Fellinger, Eduardo Pitthan, Christian Cupak, Friedrich Aumayr and Daniel Primetzhofer
(TU Wien, Austria)

12p-B-10 (17:10~17:30)

Study of deeply-buried boron-doped diamond layers through 9 MeV ions
Nuria Gordillo, Rafael J. Jiménez-Riobóo, Alicia de Andrés, Manuel Moratalla, Andrés Redondo-Cubero, Miguel Ángel Ramos and María D. Ynsa
(Universidad Autonoma de Madrid, Spain)

October 13, 2023(Friday)

Room A

Session Chair: Johnny Ferraz Dias *(UFRGS)*
Toshio Seki *(Kyoto University)*

13a-A-1 (9:20~9:50) *-Invited-*
Recent results on the application of MeV SIMS at the Ruđer Bošković Institute
*Zdravko, Marko Barac1,2,, Marko Brajković1,, Iva Bogdanović, Matea and Marijana Popović
(Ruder Boskovic Institute, Croatia)

13a-A-2 (9:50~10:10)
Combining PIXE with BS provides more information on paint layers: experiment and simulation highlight the influence of the pigment grain size
*Lucile Beck, Matej Mayer, Tiago F. Silva, Claire Berthier and Laurent Pichon
(CEA/LSCE, France)

13a-A-3 (10:10~10:30)
MeV-SIMS for the characterization of ß-naphthol and triarylcarbonium colorants from the INTK Materials Collection (19th/20th century)
*Dubravka Jembrih-Simbuerger 1 Teodora Raicu, Matea Krmpotic, Zdravko Siketic and Iva Bogdanovic-Radovic
(Academy of Fine Arts Vienna, Austria)

13a-A-4 (10:30~10:50)
New 2D-PIXE/RBS processing with AI at the New AGLAE facility for layered ancient objects
Astrid TAZZIOLI, Quentin LEMASSON, Laurent PICHON, Alexandre GIRARD, Brice MOIGNARD, Claudine LOISEL, François MIRAMBET and Claire PACHECO
(Centre de Recherche et de Restauration des Musées de France, France)

13a-A-5 (10:50~11:10)
Comparative elemental analysis of collagen vascular-associated lung diseases by in-air micro-PIXE
Yasuhiko Koga, Takahiro Satoh, Ryohei Yamagata, Yasuyuki Ishii, Takeshi Hisada and Kunio Dobashi
(Gunma University Graduate School of Medicine, Japan)

Room B

Session Chair: H. Shen *(Fudan University)*
Takeshi Ohshima *(National Institutes for Quantum Science and Technology)*

13a-B-1 (9:20~9:50) *-Invited-*
Testing commercial off-the-shelf electronics for single event effects and total ionizing dose using x-ray, ion and gamma sources
*Zeljko PASTUOVIC, Ryan DRURY, Stefania PERACCHI, Justin DAVIES, Chris HALL, Daniel OLDFIELD and David COHEN
(Australian Nuclear Science and Technology Organisation, Australia)

13a-B-2 (9:50~10:10)
IBIC characterization of 4H-SiC sensors at high temperature for nuclear fusion applications
*M. Rodriguez-Ramos, M. C. Jiménez-Ramos, A. García Osuna, E. Viezzer, G. Pellegrini, P. Godignon, J.M. Rafí, G. Rius and J. García López
(University of Seville, Spain)

13a-B-3 (10:10~10:30)
Analysis of single ion induced signals in gallium nitrides toward deterministic single-ion implantation
Taiki Fujita, Shin-ichiro Sato, Manato Deki, Hirotaka Watanabe, Shugo Nitta, Yoshio Honda, Hiroshi Amano and Hidetsugu Tsuchida
(Kyoto University, Japan)

13a-B-4 (10:30~10:50)
Lattice position and local configuration of Th in CaF2
Janni Moens, Sandro Kraemer, Ulrich Wahl, J. Guilherme Correia, Goele Magchiels, S. Malven Tunhuma, Renan Villareal, Martin Pimon, Thorsten Schumm, Lino M.C. Pereira, Piet Van Duppen and André Vantomme
(KU Leuven, Belgium)

13a-B-5 (10:50~11:10)
Interfacial reaction and phase formation in Pd/ZrO/Pd/TiO/Pd multilayer stack on silicon substrate: Investigated by Ion beam techniques
*Zakhelumuzi M. Khumalo, Charles T. Thethwayo, Christopher B. Mtshali, Mandla Msimanga, Moshawe J. Madito, Nagla Numan, Nametso Mongwaketsi, Chester Kotsedi and Ntombi Kheswa
(NRF-iThemba LABS, Republic of South Africa)

Room A

-Closing (11:20~ 11:40)-

Poster List

Poster 9th

Session Chair: Satoshi Abo *(Osaka University)*
Kousuke Moritani *(University of Hyogo)*

9P-01 X-ray production cross sections due to slow heavy ion impact: Multiple ionisation and collision symmetries
Masedi C. Masekane, Mandla Msimanga, Ivančica Bogdanović Radović, Zdravko Siketić, Mamogo Masenya and Sabata J. Moloi
(Ruđer Bošković Institute, iThemba LABS, University of South Africa - University of Zagreb, Republic of South Africa)

9P-02 Measurement and benchmarking of differential cross sections for deuteron-induced reactions in ^{13}C, suitable for NRA
*Anna Karakaxi, Michail Axiotis, Karla Ivanković, Michael Kokkoris, Anastasia Kotsovolou, Nikolaos Kyritsis, Anastasios Lagoyannis, Georgios Provatas, Evagelia Taimpiri and Anastasia Ziagkova
(National Technical University of Athens, Greece)

9P-03 In situ study of Yb2+ luminescence in the 293-473 K temperature range with ion beam-induced luminescence
*Yingjie Song, Menglin Qiu and Guangfu Wang
(Beijing Normal University, China)

9P-04 Study of the distribution profile and lattice site location of implanted low-energy protons in Si crystal channels via ToF recoil detection in transmission geometry, implementing a pulsed keV ion beam
Michael Kokkoris, Radek Holeňák, Eleni Ntemou, Srdjan Petrović and Daniel Primetzhofer
(National Technical University of Athens, Greece)

9P-05 Surface atomic structure of SrF_2 (111) analyzed by using low energy atom scattering spectroscopy
Hiroaki Fukuta, Goon Tan, Tomoaki Oga, Akifumi Matsuda, Mamoru Yoshimoto and Kenji Umezawa
(Osaka Metropolitan University, Japan)

9P-06 Sputtering of silver nanoparticles bombarded with 3–100 keV Ar ions
Hitomi Mizutani, Fumitaka Nishiyama and Katsumi Takahiro
(Kyoto Institute of Technology, Japan)

9P-07 Proton – light element forward elastic scattering cross-section measurements
Harry J. Whitlow 1 2 Alexander. Azarov, Robert J.W. Frost, Thomas Osipowicz, Gyula Nagy and A. Yu. Kuznetsov
(University of Oslo P, Norway)

9P-08 Measurement of fraction of neutral particles in ion beams produced from ion implanter
*Yuta Odani, Kengo Watanabe, Shunya Yamamoto and Katsumi Takahiro
(Kyoto institute of technology, Japan)

9P-09 Stopping force of protons and alpha particles in 195Pt, 96Mo, and 52Cr foils at energies between 225 and 1000 keV using forward scattering method
*Christopher Mtshali, Mandla Msimanga, Zakhelumuzi Khumalo, Phillip Sechogela, Nametso Mongwaketsi and Kutlwano Segola
(IThemba LABS, Republic of South Africa)

9P-10 JaBS: Open source RBS, EBS, NRA simulation and fitting code
*Jaakko Julin
(University of Jyväskylä, Finland)

9P-11 BCA GUIDE – binary collision approximation graphical user interface for displaying and execution of simulations
Alexander Redl, Christian Cupak, Paul S. Szabo, David Weichselbaum, Herbert Biber, Andreas Mutzke, Wolfhard Möller, Martina Fellinger, Richard A. Wilhelm and Friedrich Aumayr
(TU Wien, Austria)

9P-12 In-situ RBS thermal response study of Cr-Sn bimetallic thin films analysed by artificial neural networks
*Ingrid K. Segola, Lebogang Kotsedi, Keletso Lebesana, Christopher B. Mtshali and Mandla Msimanga
(NRF-iThemba LABS, Republic of South Africa)

9P-13 Investigation of feature combinations for machine learning of projectile ion range
Hideaki Minagawa, Tomoya Tezuka and Hidetsugu Tsuchida
(Ion Technology Center Co., Ltd., Japan)

9P-14 Transmission secondary ion mass spectrometry of biomolecules deposited on monolayer graphene induced by MeV carbon cluster ion impacts
Naruki Uno, Takuya Majima, Manabu Saito and Hidetsugu Tsuchida
(Kyoto University, Japan)

9P-15 The system of low energy atom scattering spectroscopy for surface science
K. Umezawa, H. Fukuta, G. Tan and M. Yoshimoto
(Osaka Metropolitan University, Japan)

9P-16 HiREDS-PIXE characterization of airborne particles samples at XAHRM-Lab facilities
M.A. Reis, P.C. Chaves, K. Phelan, M. Bühler, D. Henriques, África Barreto, Yenny Gonzalez, Emílio Cuevas, J. Pacheco and P. Fialho
(Instituto Superior Técnico , Universidade de Lisboa, Portugal)

9P-17 A new setup for in-situ and in-operando characterization of materials relevant for a hydrogen economy
*Theofanis Tsakiris, Max Wolff, Robert J.W. Frost, Gunnar K. Pálsson, Kristina Komander and Daniel Primetzhofer
(Uppsala University, Sweden)

9P-18 Development of Pixelated Silicon Detector for AMS Study
Fuyuki Tokanai, Toru Moriya, Mirei Takeyama, Kosaku Kuramoto, Kouji Morimoto, Daiya Kaji, Kentaro Nakamura, Shigeru Itoh and Kazumasa Kosugi
(Yamagata University, Japan)

9P-19 Preliminary beam size formations after the improvements of the TIARA two microbeam systems
*Ryohei Yamagata, Yasuyuki Ishii, Takahiro Satoh, Shigeo Matsuyama, Tomihiro Kamiya and Shinobu Onoda
(National Institutes for Quantum Science and Technology(QST), Japan)

9P-20 Basic study for analysis of chemical forms of Eu by Ion beam induced luminescence analysis
Yuma Chikamatsu, Naoto Hagura, Jun Kawarabayashi and Sou Watanabe
(Tokyo City University, Japan)

9P-21 Twelve years advancements in HiREDS-PIXE study of geological samples
P.C. Chaves, K. Phelan, M. Bühler, M. Herbst, A. Fleischmann and M.A. Reis
(Instituto Superior Técnico , Universidade de Lisboa, Portugal)

9P-22 Status update of the Time of Flight Medium Energy Ion Scattering (ToF-MEIS) system at Uppsala University – high depth resolution and ultrafast dynamics accessed by pulsed beams of keV ions
*Eleni Ntemou, Radek Holeňák, Dan Wessman and Daniel Primetzhofer
(Uppsala University, Sweden)

9P-23 A new set-up for materials synthesis and modification combined with in-situ high-resolution composition depth profiling
*Radek Holeňák, Eleni Ntemou, Dmitrii Moldarev, Carolin Frank, Kevin VomSchee, Svenja Lohmann and Daniel Primetzhofer
(Uppsala University, Sweden)

9P-24 A 50 MeV proton microbeam based on cyclotron accelerator for multidisciplinary applications
*Hongjin Mou, Guangbo Mao, Can Zhao, Jinlong Guo, Wenjing Liu, Ruqun Wu, Cheng Shen, Lei Zhang and Guanghua Du
(University of Chinese Academy of Sciences, China)

9P-25 Continuous ion beam-induced luminescence (IBIL) spectroscopy and imaging of air-borne particulate matter hourly collected from the atmosphere
Wataru, Koki, Zhang, Sota, Kimiyo, Hiroshi, Takahiro, Yasuyuki and Osamu
(Gunma University, Japan)

9P-26 Elemental analysis of automobile engine lubrication oil using in-air-PIXE
Katsumi Saitoh, Hidetsugu Tsuchida, Misako Miwa, Sho Toyama and Shigeo Matsuyama
(Environmental Science Analysis & Research Laboratory, Japan)

9P-27 X-ray production cross sections of Cu, Ag and Au thick targets by heavy ions He 2+, and C q+ in the energy range from 1 MeV to 22 MeV
Javed Hussain, Ishaq Ahmad, Liangdeng Yu and Udomrat Tippawan
(Chiang Mai University, Chiang Mai, 50200 Thailand., Pakistan)

9P-28 Operando measurement of all-solid-state batteries by Compton Scattering X-Rays
*Kazuki Nakamura, Kosuke Suzuki, Kodai Takano, Tomoya Ando, Kazushi Hoshi, Futoshi Utsuno, Naruki Tsuji and Hiroshi Sakurai
(Gunma University, Japan)

9P-29 Upgrading and development of the Lebanese accelerator setup for IBA applications in environment and archaeology
*Mohamad Roumie, Manale Noun, Ahmad Reslan and Bilal Nsouli
(Lebanese Atomic Energy Commission, Lebanon)

9P-30 Coded aperture imaging using 100 keV synchrotron radiation X-rays
Kosuke Suzuki, Tomoya Ando, Jingliang Tan, Tadashi Ito, Hiroshi Sakurai, Naruki Tsuji, Akihisa Koizumi, Yujiro Hayashi, Makina, Makoto Sakai, Maria Varnava and Mutsumi Tashiro
(Gunma University, Japan)

9P-31 Particle induced X-ray emission of metal-coated engineered microplastics
Shuichi Sada, Riku Ishida, Kunpisit Kosumsupamala, Hironori Seki, Nitipon Puttaraksa, Harry J. Whitlow and Hiroyuki Nishikawa
(Shibaura Institute of Technology, Japan)

9P-32 The study of Al high-resolution Kα X-ray spectra induced by ion beam excitation
Stjepko Fazinić, Iva Božičević Mihalić, *Anja Mioković, Maurizio Rodriguez Ramos and

Marko Petric
(Ruđer Bošković Institute, Croatia)

9P-33 Symmetric and near symmetric K-shell X-rays production cross sections of Ti, Fe, Ni and Cu by Cu q+ ions in low energies
Javed, Ishaq, Liangdeng and Udomrat
(National Center for Physics, Pakistan)

9P-34 L and M-shell ionization cross sections of heavy atoms
*C. C. Montanari, A. M. P. Mendez, D. M. Mitnik, S. Segui, J. M. Fernandez-Varea and M. Dingfelder
(CONICET, Universidad de Buenos Aires, Argentina)

9P-35 Self-absorption of Mβ photons across the M5 edge for elements with 70 ≤ Z ≤ 80
Jorge Trincavelli, Alejo Carreras, M Torres Deluigi, *Claudia C Montanari, Darío Mitnik, Silvina Limandri, Silvina Segui and Gustavo Castellano
(CONICET, Universidad de Buenos Aires, Argentina)

9P-36 ew insight to the calculation of fundamental parameters of heavy ion beam projectile X-rays
*Gonçalo R. Fonseca, Paula C. Chaves, Miguel A. Reis and Lina Oliveira
(IST, Portugal)

9P-37 The Estimation of Ammonium Nitrate Concentrations on Thin Teflon Filters by Proton Rutherford Backscattering
*David Cohen
(ANSTO, Australia)

9P-38 Dynamic behaviors of lithium and hydrogen at electrode/solid electrolyte interfaces during charging and discharging using elastic recoil detection techniques
Ryosuke Terasawa, Bun Tsuchiya, Keisuke Kataoka, Tomoko Sasaki, Shunya Yamamoto and Katsumi Takahiro
(Meijo Univercity, Japan)

9P-39 Thermal effects of lithium ion migration in LiCoO2 positive electrode by charging process
Ryosuke Terasawa, Bun Tsuchiya, Keisuke Kataoka, Tomoko Sasaki, Shunya Yamamoto and Katsumi Takahiro
(Meijo Univercity, Japan)

9P-40 Transmission ERDA of ubiquitous deuterium in H-containing materials
Hiroshi Kudo, Hiroshi Naramoto, Masao Sataka, Satoshi Ishii, Shigeo Tomita and Kimikazu Sasa
(University of Tsukuba, Japan)

9P-41 MeV-SIMS Measurement of Negative Electrode Surface of Lithium Ion Battery after Charging / Discharging
*Toshio Seki and Jiro Matsuo
(Kyoto University, Japan)

9P-42 Operando analysis and depth profiling of (Au and Al)/Ge/LATP/LMO/Au batteries by means of ERD and RBS techniques with 9MeV O4+ ion beam
Kenji Morita, Bun Tsuchiya, Ryosuke Terasawa and Keisuke Kataoka
(Meijo University, Japan)

9P-43 Time-of-flight elastic recoil detection analysis and Rutherford backscattering spectrometry to characterise AlGaAsBi avalanche photodetectors
*Matthew K. Sharpe, Matthew R. Carr, Nick J. Bailey, Jeevan Dulai, John P. R. David and Robert D. Richards
(University of Surrey, United Kingdom)

9P-44 pyIBA and IBA Studio: Novel Tools for Ion Beam Analysis
Miguel C. Sequeira, Nuno P. Barradas and Eduardo Alves
(Helmholtz-Zentrum Dresden - Rossendorf (HZDR), Germany)

9P-45 Study on the backing material of solid lithium target for accelerator-driven neutron source
Hong-fu Liu, Naoto Hagura, Tomohiro Kobayashi and Jun Kawarabayashi
(Tokyo City University, Japan)

9P-46 Precise measurement of the cross-section of a nuclear reaction of astrophysical interest: 13C(p,γ)14N at energies below the Coulomb barrier
Lucas BASEIL and Guy TERWAGNE
(Namur university, Belgium)

9P-47 Carbonaceous chondrite meteorites: Ion Beam Analysis of elemental composition marker for investigating the origin of the solar system
Pierre Couture*, Martin R. Lee, Cameron J. Floyd and Vladimir Palitsin
(University of Surrey, United Kingdom)

9P-48 Capabilities of ion beam analysis techniques for depth profiling of light species in materials for fusion applications
Guillermo de la Cuerda, Elisabetta, Gastón, Jesús Sánchez, Teresa, Fernando Sánchez San José3, José Manuel and Raquel
(UAM, Spain)

9P-49 Theoretical investigation of the differential cross-sections of 3He-induced reactions and elastic scattering on 12C, suitable for Ion Beam Analysis applications
Fotios Maragkos, Varvara Foteinou and Michael Kokkoris
(Ruhr University Bochum, Germany)

9P-50 Differential cross–section measurements for the 9Be(p,p0)9Be elastic scattering and the 9Be(p,d0)8Be, 9Be(p,α0)6Li reactions, suitable for Ion Beam Analysis applications
*V. Foteinou, F. Maragkos and M. Kokkoris
(Ruhr University Bochum, Germany)

9P-51 Volumetric distribution of gold in MeV-ion implanted materials of photonic interest
Irene Solana, María Dolores Ynsa, Jesús, Gastón García, Jan Siegel and Mario Garcia-Lechuga
(CSIC, Spain)

9P-52 Carbon substrates for thin film compositional analysis by Rutherford backscattering spectrometry
Makoto Mitsuo, Yuya Yamada, Fumitaka Nishiyama and Katsumi Takahiro
(Kyoto Institute of Technology, Japan)

9P-53 Study of cathode shape of gas ionization chamber for the reliability of ΔE-E telescope ERDA
*Isao Harayama, Yasushi Hirose and Daiichiro Sekiba
(Japan Atomic Energy Agency, Japan)

9P-54 TaOxNy/Si1-xCx:H/W solar selective absorber materials ageing studied by in situ ion beam analysis
Babacar DIALLO, Aïssatou DIOP, Florian CHABANAIS, Aurélien BELLAMY, Olivier WENDLING, Paul SIGOT, S. Quoizola, Antoine GOULLET, Mireille Richard-Plouet, Angélique Bousquet, Audrey SOUM-GLAUDE, Eric TOMASELLA, Laurent THOMAS and Thierry SAUVAGE
(CNRS (Centre national de la recherche scientifique), France)

9P-55 Stopping cross section measurement method by ion scattering spectrum without ambiguity

*Sung Yup An, Chang Seon Park, Ji Ho Song, Kyung Su Park, Kyu-Sang Yu and Won Ja Min

(HB-Solution, Republic of Korea)

9P-56 Determination of the solid phase reaction activation energy of Sn-Zn system from isothermal and non-isothermal annealing

M. Mnguni1, K. Lebesane, K. Segola, C.B. Mtshali, Z.M. Khumalo, N. Mongwaketsi, M. Maaza and L. Kotsedi

(iThemba LABS-NRF, Republic of South Africa)

9P-57 In-situ observation of ion beam-induced luminescence analysis during microbeam modifications by particle beam writing

Zhang, Koki, Osamu, Naoto, Takahiro, Yasuyuki and Wataru

(gunma universty, Japan)

9P-58 Influence of Mg+Ca ion implantation on cell adhesion and antibacterial properties of Cu-TiN composite membrane on Ti-6Al-4V

Mengli Zhao and Dejun Li

(Tianjin Normal University, China)

9P-59 Ion beam depth profiling and optical methods for the study of hydrogen storage materials

David, Paula, Miguel L., Fabrice, Isabel J., Jose Ramón, Gastón and Joonkon

(UAM, Spain)

9P-60 The electrical, photo-catalytic and sensory properties of graphene oxide and polyimide implanted by low and medium energy silver ions

J. Novák, E. Stepanovska1, P. Malinsky, V. Mazánek, J. Luxa, Z. Sofer, U. Kentsch and A. Mackova

(Czech Academy of Sciences, Nuclear Physics Institute, Czech Republic)

9P-61 Nanopore fabrication in polyimide through MeV ion irradiation and track etching

Rajdeep Kaur, Ghada Eljamal, Tuan Thien Tran, Daniel Primetzhofer and Petter Ström

(Uppsala University, Sweden)

9P-62 TRI3DYN modelling of neon irradiated embedded silver nanoparticles

*Alexander Rubinstein, Matthew Sharpe, Barbara Konrad, Pedro Grande, Felipe Selau, Henrique Tromboni, Henrique Fonteles and Paulo Fichtner

(University of Surrey, United Kingdom)

9P-63 Novel deposition method for gold and platinum nanoparticles on silicon substrates utilizing Poly (ethylene glycol) 6000 for MEIS analysis

Theylor S. Klippel, *Henrique Fonteles, Daphne Tórgo, Felipe Selau, Eduarda Borges, Bárbara Konrad, Henrique Trombini, Jonder Morais, Maria do Carmo M. Alves, Edilson V. Benvenutti, Daniel L. Baptista, Johnny F. Dias and Pedro L. Grande

(Federal University of Rio Grande do Sul (UFRGS), Brazil)

9P-64 Radiation Response of HfOx‐Based Resistive Random Access Memory (RRAM) Devices

N Arun1, A P Pathak2, Jitendra P. Singh3 and S V S Nageswara Rao2, 4, *

(Indian Institute of Technology-Delhi, India)

9P-65 Heavy ion and gamma-ray irradiation effects in Pioloform®

Harry J. Whitlow, Andrej Yu Kuznetsov 1 Alexander Asarov, Gyula Nagy and Nuatawan Thamrongsiripak 4 Wanwisa Sudprasert

(University of Oslo, Norway)

9P-66 Axial surface channeling of protons for investigation of size-distribution of accumulated point-defects

*Yuuko Fukazawa and Yasufumi Susuki
(Osaka Kyoiku University, Japan)

9P-67 Modeling and parameterization of dislocations in RBS channeling studies for GaN and Ni-based alloys
*Cyprian Mieszczynski, Przemyslaw Jozwik, Kazimierz Skrobas, Edyta Wyszkowska, Renata Ratajczak and Katharina Lorenz
(National Centre for Nuclear Research, Poland)

9P-68 Deuterium trapping conditions and potential location sites in tungsten by combination of nuclear reaction analysis in channeling mode with first principle calculations
Xin Jin, Flyura Djurabekova, Etienne Hodille, Sabina Markelj and Kai Nordlund
(University of Helsinki, Finland)

9P-69 A Nuclear Reaction Analysis (NRA) study on the correlation of changes in optical transmittance and hydrogen concentration in Cr/V superlattices
Theofanis Tsakiris, Kristina Komander, Max Wolff, Robert J.W. Frost, Gunnar K. Pálsson and Daniel Primetzhofer
(Uppsala University, Sweden)

9P-70 PIXE and EXAFS analyses on processed Uranium ore
Kaori Oguri, Yoichi Arai, Naoto Hagura, Haruaki Matsuura, Yasumichi Tsunashima, Katsumi Aoki and Sou Watanabe
(Japan Atomic Energy Agency, Japan)

9P-71 Theoretical study on the stopping power in lanthanides
J P Peralta, A M P Mendez, D M Mitnik and C C Montanari
(CONICET and Universidad de Buenos Aires, Argentina)

9P-72 Development of fluorous compound impregnating adsorbent for recovery cations from radioactive liquid waste
Yoichi Arai, Sou Watanabe, Masayuki Watanabe, Tsuyoshi Arai, Tomohiro Agou, Hisaharu Fujikawa, Keisuke Takeda, Hiroki Fukumoto, Hiroyuki Hoshina and Noriaki Seko
(Japan Atomic Energy Agency, Japan)

9P-73 Ion beam induced luminescence phenomena of lanthanide complexes in organic solvent irradiated by hydrogen ion and argon ion beams
*Masaumi Nakahara, Sou Watanabe, Yasuyuki Ishii, Ryohei Yamagata, Yosuke Yuri, Takahiro Yuyama, Tomohisa Ishizaka, Masashi Koka, Naoto Yamada and Naoto Hagura
(Japan Atomic Energy Agency, Japan)

9P-74 Modification in Ge/Al2O3 multilayer thin films induced by high energy Ag ion irradiation
Komal Shekhawat, Deepak Negi, Radhe Shyam, Pukhraj Prajapti, Govind Gupta, Fouran Singh, Mukul Gupta, Subingya Pandey, Pamu Dobbidi and Srinivasa Rao Nelamarri
(Malaviya National Institute of Technology Jaipur, INDIA, India)

9P-75 Modification of graphene oxide and polymer thin films by energetic ion beam for use in lithium ion batteries
*Eva Štěpanovská, Josef Novák, Petr Malinský, Martin Kormunda, Zdeněk Sofer, Vlastimil Mazánek, Jan Luxa, Ulrich Kentsch, Shavkat Akhmadaliev and Anna Mackova
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9P-76 Unraveling femtosecond laser-induced germanide reactions by 3D μ-beam RBS and PIXE mapping

Goele Magchiels, Vincenzo Ciavolino, Giulio Coccia, Pierre Couture, Argyro N. Giakoumaki, Lebogang Kotsedi, Keletso Lebesana, Nametso Mangwaketsi, Vladimir Palitsin, Roberta Ramponi, Shane M. Eaton and André Vantomme
(KU Leuven, Belgium)

9P-77 Structural and optical characteristics of 30 keV Ar+ sputtered PMMA surfaces
Divya Gupta and Sanjeev Aggarwal
(Kurukshetra University, India)

9P-78 Preparation and study of amorphous topological superconductors of Bi-Sb
Nuria Gordillo, Alberto Andrino, Manuel Moratalla, Andres Redondo-Cubero, Gema Tabares, Jose Luis Pau, Gaston García and Miguel Angel Ramos
(Universidad Autónoma de Madrid, Spain)

9P-79 Tuning structural and optical properties of polyaniline-graphene nanocomposite films through swift heavy ion irradiation
*Daniel C. Chilukusha, Jules J. Mboukam, Vusani M. Maphiri, Ncholu Manyala and Mandla Msimanga
(Tshwane University of Technology, Republic of South Africa)

9P-80 Appropriate proton energy for backscattering spectrometry in analysis of nitrogen composition of transition metal nitride thin films on silicon substrate
Yasuhito Gotoh and Tomoaki Osumi
(Kyoto University, Japan)

9P-81 A novel approach to quantify various trapping sites of deuterium in tungsten: constant temperature thermal desorption combined with in-situ ion beam analysis
Liqun Shi, *Linping He, Jie Gao and Hongliang Zhang
(Fudan University, China)

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Session Chair: Takahiro Ozawa *(The University of Tokyo)*
Natsuko Fujita *(Japan Atomic Energy Agency)*

12P-01 Trajectory-dependent electronic excitation in single-crystalline self-supporting targets by keV ions
*Radek Holeňák, Eleni Ntemou, Svenja Lohmann and Daniel Primetzhofer
(Uppsala Univeristy, Sweden)

12P-02 Dissociation phenomena of LiH+ ion by carbon thin film penetration
Kyoka Imaeda, Kanae Saito, Yoshiaki Kumagai and Kunikazu Ishii
(Nara Women's University, Japan)

12P-03 Influence of the experimental geometry and the synergy between electronic and nuclear energy deposition in ion-stimulated desorption from thin self-supporting membranes
*Michaela Malatinová, Radek Holeňák, Eleni Ntemou, Tuan T. Tran and Daniel Primetzhofer
(Uppsala University, Sweden)

12P-04 Rainbow scattering of ion beam by graphene sheet
N. Watanabe, M. Otsuka, Y. Fukunaga, N. Kume, Z. Li, Y. Kumagai and K. Ishii
(Nara Women's University, Japan)

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Junnoske Kusuda, Rihito Fukuzaki, Takuya Majima, Hidetsugu Tsuchida and Manabu Saito
(Kyoto University, Japan)

12P-06 Measurement of convoy electrons under irradiation of C foils with 292 keV/u O_2^+ ions
Yoko Shiina, Sota Hatada, Yuta Ito, Norito Ishikawa, Makoto Matsuda, Makoto Imai, Masao Sataka, Kimikazu Sasa and Shigeo Tomita
(Rikkyo University, Japan)

12P-07 Impact of Electron Density Homogeneity on Stopping Power: Insights from Complex Electronic Structures
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*Hicham Khodja, Magali Gauthier and Remith Pongilat
(CEA, France)

12P-09 Stopping power optimization through/for the analysis of Rutherford backscattering spectra
Johan Meersschaut and René Heller
(imec, Belgium)

12P-10 Simulation on the critical angle of channeling implantation into 4H-SiC and diamond
*Tomoaki Nishimura and Masahiko Ogura
(Hosei University, Japan)

12P-11 Design of the beam transport system of cyclotron-based IBA station using Monte Carlo simulation
*Piyanud Thongjerm, Kritsada Kittimanapun, Phongnared Boontueng, Surawich Krueapang, Khwanjira Tangpong, Weerawat Pornroongruengchok and Sarinrat Wonglee
(Thailand Institute of Nuclear Technology, Thailand)

12P-12 Synthetic data generation from a fine particulate matter PM2.5 experimental data seed and its use in PMF and APCA
*Javier Flores-Aldape, Francisca Aldape and Javier Flores-Maldonado
(Instituto Nacional de Investigaciones Nucleares, Mexico)

12P-13 Artificial neural network fed with synthetic data is used for source apportionment of elemental concentration of fine airborne particulate matter PM2.5, and its performance is assessed against PMF and APCA
Javier Flores-Aldape, Francisca Aldape and Javier Flores-Maldonado
(Instituto Nacional de Investigaciones Nucleares, Mexico)

12P-14 Development of LPD Aided AMS System for Environmental Sr-90 Detection
*Lezhi Wang, Yasuto Miyake, Hiroyuki Matsuzaki and Takeyasu Yamagata
(The University of Tokyo, Japan)

12P-15 Low energy heavy ions in ToF telescope
*Mikko Kivekäs and Mikko Laitinen
(University of Jyväskylä, Finland)

12P-16 Development of the multimodal ion beam analysis system for the Pelletron accelerator at Tohoku University

*Kyoka Maruta, Sho Toyama, Misako Miwa, Hitoshi Takamura, Akihiro Ishii and Shigeo Matsuyama

(Tohoku University, Japan)

12P-17 The new in-air millibeam PIXE setup at ATOMKI: description, performance and some interesting aspects

*Zsófia Kertész, Shafa Aljboor, Máté Szarka, Anikó Angyal, Enikő Papp and Zita Szikszai

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12P-18 Heavy hydrocarbons as gas ionizing chamber detector gas

*Mikko Kivekäs, Arnold Müller, Christof Vockenhuber and Mikko Laitinen

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12P-19 Development of a diamond energy-dispersive dosimeter dedicated to linear energy deposition distribution measurement in the clinical carbon beam therapy field

Takumi Matsumoto, Katsumi Aoki, Hideyuki Takei, Christina Weiss, Erich Griesmayer, Takahiro Makino, Shunsuke Yonai, Takeshi Ohshima, Makoto Sakai, Akihiko Matsumura and Wataru Kada

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12P-20 A TES X-ray spectrometer for high-energy resolution PIXE applications for environment and cultural heritage

Massimo Chiari, Marco Barbera, Giulia Calzolai, Carlo Cialdai, Flavio Gatti, Pourya Khosropanah, Ugo Lo Cicero, Franco Lucarelli, Kevin Phelan, Francesco Villa and Paolo Bastia

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12P-21 Soft error measurement for carbon ion radiotherapy

Makoto Sakai, Masami Miyajima, Yudai Kawakami, Hiroaki Masuda, Yoshihiko Hoshino, Takayuki Suto, Hiroshi Sakurai and Tatsuya Ohno

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12P-22 Development of a spectroscopic mapping system for simultaneous analysis of biological functions and trace elements using ion microbeams

*Makoto Nishizawa, Shigeo Matsuyama, Yohei Kikuchi, Syo Toyama, Misako Miwa and Wataru Kada

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12P-23 AMS and IBA system at MALT, The University of Tokyo

Hiroyuki Matsuzaki, Hironori Tokuyama, Takeyasu Yamagata, Yoko Tsuchiya, Miwako Toya and Yuanzhi Qi

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12P-24 Development of a convenient real-time radiation monitoring and measurement device by utilizing radioluminescence from phosphate glass with aluminum impurities

Sota Orimo, Tatsuki Amanuma, Shun Akiyama, Saya Ono, Satoe Konta, Ryota Sindo, Makoto Sakai, Osamu Hanaizumi, Yohei Inaba and Wataru Kada

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12P-25 Study of applying image processing techniques for compact WDS-PIXE systems

Takaaki Matsui, Naoto Hagura, Jun Kawarabayashi and Sou Watanabe

(Tokyo City University, Japan)

12P-26 Impact evaluation of wildfires episodes in central Mexico during May 2019
Francisca Aldape, Javier Flores-Maldonado and Javier Flores Aldape
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12P-27 The importance of elemental analysis for the characterization of aerosols: the perspective of the ACTRIS European reference center
*Fabio Giardi, Silvia Nava, Giulia Calzolai, Luca Carraresi, Pietro Ottanelli, Franco Lucarelli and Massimo Chiari
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12P-28 Basic study on elemental analysis methods utilizing the features of PIXE-PIGE analysis with MeV ion beams
Ryoga Kamata, Naoto Hagura and Jun Kawarabayashi
(Tokyo City University, Japan)

12P-29 Identification of PM10 sources in a high polluted site in Central Italy through the application of the PMF receptor model to daily and hourly data and the emission inventory
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(University of Florence, Italy)

12P-30 A new size-segregated high-time-resolution atmospheric aerosol sampler for PIXE analysis: STRAS (Size and Time Resolved Aerosol Sampler)
F. Lucarelli, G. Calzolai, L. Carraresi, M. Chiari, C. Cialdai, F. Giardi, M. Manetti, S. Nava, V. Bernardoni, F. Crova, A. C. Forello, G. Valli, R. Vecchi, S. Danelli, D. Massabò, P. Prati and V. Vernocchi
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12P-31 Atmospheric pollution derived from FAPM produced in fireworks burning events in Mexico City
*Francisca, Javier Flores-Maldonado, Javier Flores-Aldape and Olivia Rivera-Hernández
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12P-32 Development of a compact microbeam system
Kentaro Kojima, Shigeo Matsuyama, Misako Miwa, Sho Toyama, Makoto Nishizawa and Kyoka Maruta
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12P-33 Verification of artifacts in micro-PIXE analysis of unfixed plant specimens
Misako, Ayumi, Shigeo, Sho, Takeshi, Yasuhiro and Nobuyuki
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12P-35 Required for novel semiconductor materials: ToF-ERDA spectrometer
Mikko Laitinen
(University of Jyväskylä, Finland)

12P-36 Cross section data for the Tritium-Helium-3 nuclear reaction from 0.7 to 5.1 MeV
Mitja Kelemen, Sabina Markelj, Aleksandra Cvetinović, Matej Lipoglavšek, Miha Čekada, Primož Pelicon, Mickael Payet and Christian
(Jozef Stefan Institute, Slovenia)

12P-37 Differential cross-section measurements of the 18O(p,α0) reaction at 170o and 160o, in the energy range Ep=1-2 MeV, for NRA purposes
Anastasia Kotsovolou, Michai9l Axiotis, Michael Kokorris, *Anastasios Lagoyannis, Anastasia Ziagkova and Evangelia Taimpiri
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12P-38 Mixed measurement of the stopping force of 1H and 12C ions through metal foils by time of flight spectrometry: charge exchange considerations
*Mamogo Masenya and Mandla Msimanga
(iThemba LABS, Republic of South Africa)

12P-39 Development of a cryogenic heavy ion RBS/ERD technique for analysing polymeric materials
J.J. Mboukam, M.A. Masenya, M. Madhuku and M. Msimanga
(Tshwane University of Technology, Pretoria, South Africa and iThemba LABS, Tandem and Accelerator Mass Spectrometry Department, Republic of South Africa)

12P-40 TOF-ERDA system for analysis of all-solid-state lithium ion buttery
Keisuke Yasuda, Chika Hasegawa, Haruya Fujii, Tomoki Shima, Shuri Nakamizo and Takuya Majima
(Kyoto Prefectural University, Japan)

12P-41 Formation of crystalline $Si_{1-x}Ge_x$ top layers by high-temperature ion implantation in crystalline silicon
Martin Chicoine, Mathilde Clausse, François Schiettekatte and Guy Terwagne
(University of Montreal, Canada)

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Taisei Toku*, Kousuke Moritani, Tetsuro Masumoto, Yudai Tanaka and Norio Inui
(University of Hyogo, Japan)

12P-43 Heavy ion irradiation effects on ion beam analysis of all-solid-state lithium-ion batteries
*Shuri Nakamizo, Kyoshi Kurihara, Satoshi Yamamoto, Yasutoshi Iriyama, Keisuke Yasuda and Takuya Majima
(Kyoto University, Japan)

12P-44 Study on the effect of matrices containing hydroxy group in ME-SIMS
*HAYATE YOSHIZAWA, TOSHIO SEKI, JIRO MATSUO and MAKIKO FUJII
(Yokohama National University, Japan)

12P-45 Three-Dimensional Elemental Analysis Using Time-of-Flight Rutherford Backscattering Spectrometry and Elastic Recoil Detection Simultaneous Measurements
Satoshi Abo and Fujio Wakaya
(Osaka University, Japan)

12P-46 Quantification of composition gradients in metal-organic frameworks
Gyula Nagy, Wanja Gschwind, Sascha Ott and Daniel Primetzhofer
(Uppsala University, Sweden)

12P-47 Quantification of hydrogen in lithium metal oxide by coincident proton-proton-scattering analysis
*Patrick Reichart, Thomas Köhler, Dirk C. Meyer and Günther Dollinger
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12P-48 Stable hydrogen signals from hydrogenated amorphous carbon films during ERDA measurements
A. Kinomura, S. Nakao, K. Suzuk, Y. Kuzuya, M. Nakajima i and K. Yasuda
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12P-49 High-contrast STIM Imaging of Whole Cell Structures using MeV ions and a Two-stage Amplified Silicon PIN Detector
Guo Zikun, Cheong Wei Qiang Frederick, Yang Chengyuan, Liang Haidong, Mi Zhaohong and Andrew A. Bettiol
(National University of Singapore, Singapore)

12P-50 Applications of pulsed beams for nuclear microscopy
Frederick CHEONG, YANG Chengyuan, Zhaohong MI and Andrew Anthony BETTIOL
(National University of Singapore, Singapore)

12P-51 Experimental investigation on UV light output of YPO4:Gd particles for ion beam induced fluorescent microscopy
Yohei Kikuchi, Shigeo, Shun Kawamura, Fumito Fujishiro, Misako Miwa and Sho Toyama
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12P-52 Lanthanide doping of GaAs by ion implantation for up-conversion luminescence
N. Catarino, M. Dias, P. Jozwik, L. Santos,, R. Almeida and E. Alves
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12P-53 Atomic dispersion measured by MEIS experiments: decomposition of Ag nanoparticles under 200 keV Ne+ ion beam irradiation
*Pedro L. Grande, Bárbara Konrad, Felipe F. Selau 1,, Matthew Sharpe, Alexander Rubinstein, Henrique Trombini, Henrique Fonteles and Paulo F. P. Fichtner 1,
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12P-54 Enhancing Irradiation Stability of MAX Phase Materials: Fabrication, Behavior, and Mechanisms
Ranran Su, Hongliang Zhang and Liqun Shi
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12P-55 Study of Ion beam Modification of Electrical and Structural Properties of Cu2ZnSnS4 Thin Films for Photovoltaic Applications
Tshegofatso B Moipolai, Sabata J Moloi and Morgan Madhuku
(iThemba LABS, Republic of South Africa)

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Elena Vaníčková, Stanislav Průša and Tomáš Šikola
(Brno University of Technology, Czech Republic)

12P-57 High-energy photons and electrons produced by neutron irradiation in nuclear materials
Luca Reali, Mark R. Gilbert, Max Boleininger and Sergei L. Dudarev
(UK Atomic Energy Authority, United Kingdom)

12P-58 Gamma and Ion Irradiation Studies to Elucidate the Physical Phenomenon governing Laser Ablation process on Si
*Kanaka Ravi, R. Sai Prasad, A., Dipanjan, A.P. Gnana, Saif. A., A. P., S. Venugopal and S V S Nageswara
(University of Hyderabad, India)

12P-59 Effects of 120 MeV Ag ion irradiation on the performance of TaOx based Resistive Random Access Memory devices
R. Sai Prasad, Mangababu, K. Ravi, G., Saif. A., A. P. and S.V.S. Nageswara
(University of Hyderabad, India)

12P-60 Helium ion beam-induced luminescence of Al2O3 for charged particle detection
Zsolt Zolnai, Manoj Kumar Pal, Endre Kótai and Edit Szilágyi
(Centre for Energy Research, Hungary)

12P-61 Analysis of deuterium and defects in tungsten by Rutherford backscattering spectroscopy and nuclear reaction analysis in channeling configuration
Sabina Markelj, *Mitja Kelemen, Esther Punzón-Quijorna, Thomas Schwarz-Selinger, Xin Jin, Flyura Djurabekova, Kai Nordlund, Janez Zavašnik, Andreja Šestan, Miguel L. Crespillo, Gaston García López and Rene Heller
(Jozef Stefan Institute, Slovenia)

12P-62 Unveiling the effects of the surface and in-depth nanostructure on the far-UV optical reflectance of thin flouride multilayer coatings
P. López-Reyes, E. Enríquez, M.L. Crespillo, L.V. Rodríguez-De Marcos, J.I. Larruquert, G. García and J. Olivares
(CSIC, Spain)

12P-63 Probing a nanometric Pt film by MEIS, ERBS and ARXPS
Henrique Trombini, Felipe F. Selau, Pedro L. Grande, Maarten Vos and *Jonder Morais
(Universidade Federal do Rio Grande do Sul -UFRGS, Brazil)

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*Damanpreet Kaur and Mukesh Kumar
(Indian Institute of Technology Ropar, India)

12P-66 Studying the uptake of ESS-specific radionuclides by crops cultivated in Southern Sweden
*Robert J.W. Frost, Guillaume Pédehontaa-Hiaa, Christopher L. Rääf and Paula Pongrac
(Uppsala University, Sweden)

12P-67 Micro-PIXE Imaging of Rat Rib Bone
*Haruko Yakumaru, Yugo Kato, Masakazu Oikawa, Chiya Numako, Izumi Tanaka, Akihiro Uehara, Hiroshi Ishihara and Shino Homma-Takeda
(National Institutes for Quantum Science and Technology, Japan)

12P-68 Quantitative elemental analysis of the femur using micro-PIXE analysis
Yugo KATO, Haruko YAKUMARU, Kyoko AYAMA, Masakazu OIKAWA and Shino HOMMA-TAKEDA
(The University of Tokyo, Japan)

12P-69 Micron-scale PIXE mapping with eV energy resolution: The high resolution PIXE beamline at the Surrey Ion Beam Centre
Geoffrey W. Grime, Vladimir Palitsin, Pierre Couture, Roger P. Webb and Melanie Bailey
(University of Surrey, United Kingdom)

12P-70 Millipede - Millimeter sized particle exposure for dedicated biological experiments at the IBC
*René Heller, Jessica Neubauer, Nicole Matejka, Sarah Rudigkeit, Asieh Amarlou, Narayani Subramanian, Shavkat Akhmadaliev and Judith Reindl
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12P-71 PIXE analysis of ancient Chinese Yue celadon
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12P-72 Between manufacturing and trade: IBA analyses of archaeological glass finds from pre-Roman Dacia
Roxana Bugoi1, Despina Măgureanu2, Massimo Chiari3*, Laurent
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12P-73 Compositional study of coins from Ercavica archaeological site in Spain
A. Redondo-Cubero, R. Rubio, S. Isabel Ludeña, S. Viñals and N. Gordillo
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12P-74 Nuclear archaeometry: comparison of PIXE/PIGE and XRF techniques on ceramics
Anikó Angyal1, Zsófia Kertész1, Stella Doncheva2, Péter Szőcs3, Boglárka Döncző1,

Enikő Furu1, Enikő Papp1, Máté Szarka1 and Zita
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12P-75 Optimization of 36Cl AMS at 6 MV
Kimikazu Sasa, Masumi Matsumura and Tsutomu Takahashi
(University of Tsukuba, Japan)

12P-76 The 300 kV multi-element AMS system at the TONO Geoscience Center, JAEA: First performance report
*Natsuko, Masayasu, Akihiro, Masahiro, Yuto, Tomohiro, Yumi, Akiomi and Koji
(Japan Atomic Energy Agency, Japan)

12P-77 Total Ion Beam Analysis using Heavy Ion PIXE
*Masedi C., Ivančica Bogdanović, Mandla, Zdravko, Mamogo and Sabata J.
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12P-78 Ion beam analysis <i>in plasma<i> : photoresist etching and hydrogen monolayer desorption
Louis-Charles R. Fortier, Martin Chicoine, Simon Chouteau, Mathilde Clausse, Émile Lalande, Alexandre W. Lussier, Guy Terwagne, Sjoerd Roorda, Luc Stafford and François Schiettekatte
(Université de Montréal, Canada)

12P-79 Variation of composition and sources of urban atmospheric particulate matter pollution during COVID-19 lockdowns in Debrecen, Hungary
Shafa Aljboor, Anikó Angyal,, Enikő Papp,, Enikő Furu,, Máté Szarka,, Zita Szikszai, and *Zsófia Kertész
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12P-80 Isotopically selected implanted targets of noble gases
S. Sandoval-Hipólito,, E. Andrade,, C. Esquivel-Carillo,, J. Mas-Ruiz, G. Reza,, A. O. Valdez-Guerrero,, A. Huerta, M. Rodríguez-Ceja, E. Chávez and D.J. Marin-Lambarri
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