International Conference on Accelerators for Research and Sustainable Development

From Good Practices Towards Socioeconomic Impact

23-27 May 2022

PROGRAMME

Organized by the International Atomic Energy Agency (IAEA)

IAEA Headquarters Vienna, Austria

Programme Committee:

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Event Organizer, MTCD: Administrative Support, NAPC:	J. Zellinger E. Nazarova T. Kornelyuk O. Bilous
Location of the Event:	
Vie	ernational Atomic Energy Agency enna International Centre (VIC) ilding M, Board Rooms A, B/M1

Wagramer Strasse 5 A-1400 Vienna, Austria Tel.: (+43 1) 2600 21330

Working Language:	English
Resolutions:	No resolutions may be submitted for consideration on any subject; no votes will be taken.

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TIMETABLE

Monday, 23 May 2022

Time	Session No.	Session Title / Break	Venue
10:00–10:30		Opening Session	M Plenary
10:30–11:15	PL1	Plenary Session 1: Accelerators for the Environment	M Plenary
11:15–12:45	PL2	Plenary Session 2: Accelerators for Medical Radioisotopes, Energy Production and Nuclear Research	M Plenary
12:45-14:00		Lunch Break	
14:00–15:30	PS3.A	Parallel Session 3.A: Advances in Accelerator Technologies	Board Room A
14:00–15:30	PS3.B	Parallel Session 3.B: Accelerators for Medical Applications - 1	M Plenary
15:30–16:00		Coffee/Tea Break	
16:00–17:30	PS4.A	Parallel Session 4.A: Accelerators for Environmental Monitoring	Board Room A
16:00–17:30	PS4.B	Parallel Session 4.B: Accelerators for Medical Applications - 2	M Plenary
18:00–20:00		Welcome Reception	M-Building – Ground Floor

Tuesday, 24 May 2022

Time	Session No.	Session Title / Break	Venue
09:00–10:30	PL5	Plenary Session 5: Accelerators for Neutron Therapy, Cultural Heritage, Innovation and Education	M Plenary
10:30–11:00		Coffee/Tea Break	
11:00-12:30	PS6.A	Parallel Session 6.A: Accelerators for BNCT and Cultural Heritage	Board Room A
11:00–12:30	PS6.B	Parallel Session 6.B: Best Practices in Using Accelerators for R&D, Education, Environmental and Industrial Applications	M Plenary
12:30–14:00		Lunch Break	
14:00-15:30	SE 1	Side Event 1: Accelerator-Based Sources of Radiation: Recent Developments	Board Room A
14:00–15:30	PS 1	All posters (see separate page)	M Building
15:30–16:00		Coffee/Tea Break	
16:00–17:30	PS7.A	Parallel Session 7.A: IBA Facilities and their R&D Program	Board Room A
16:00–17:30	PS7.B	Parallel Session 7.B: Regulatory Aspects of Accelerator Facilities	M Plenary

Wednesday, 25 May 2022

Time	Session No.	Session Title / Break	Venue
09:00–10:30	PL8	Plenary Session 8: Accelerators for Nuclear Data and Materials Research	M Plenary
10:30–11:00		Coffee/Tea Break	
11:00–12:30	PS9.A	Parallel Session 9.A: Accelerators for Nuclear Data	Board Room A
11:00–12:30	PS9.B	Parallel Session 9.B: Radiation Technologies and their Applications	M Plenary
12:30-14:00		Lunch Break	
14:00–15:30	SE2	Side Event 2: Collaborating Centers of IAEA	Board Room A
14:00–15:30	SE3	Side Event 3: Women in Accelerator-based Science	M Plenary
15:30–16:00		Coffee/Tea Break	
16:00–17:30	PS10.A	Parallel Session 10.A: Applications of Heavy Ion Beams	Board Room A
16:00–17:30	PS10.B	Parallel Session 10.B: Societal Applications of Accelerators and Sustainable Development	M Plenary

Thursday, 26 May 2022

Time	Session No.	Session Title / Break	Venue
09:00–10:30	PS11	Plenary Session 11: Emerging Accelerator Technologies – Accelerator Technologies for Food Safety and Security	M Plenary
10:30–11:00		Coffee/Tea Break	
11:00–12:30	PS12.A	Parallel Session 12.A: Future Accelerator-based Neutron Sources	Board Room A
11:00–12:30	PS12.B	Parallel Session 12.B: Electron Beams and Applications	M Plenary
12:30–14:00		Lunch Break	
14:00–15:30	SE4	Side Event 4: Promoting Self-Reliance and Sustainability of National Nuclear Institutions Operating Accelerator Facilities	M Plenary
14:00-15:30	PS2	All posters (see separate page)	M Building
15:30–16:00		Coffee/Tea Break	
16:00–17:30	PS13.A	Parallel Session 13.A: Selected Applications of Accelerator-based Analytical Techniques	Board Room A
16:00–17:30	PS13.B	Parallel Session 13.B: Accelerators and Interdisciplinary Applications	M Plenary

Friday, 27 May 2022

Time	Session No.	Session Title / Break	Venue
09:00–10:30	PL14	Plenary Session 14: Accelerators and Multidisciplinary Research and Applications	M Plenary
10:30–11:00		Coffee/Tea Break	
11:00–11:30	PL15	Plenary Session 15: Conference Summary and Highlights	M Plenary
11:30–12:30	PL16	Plenary Session 16: Conference Closing and Award Ceremony	M Plenary

MONDAY, 23 MAY 2022

10:00-10:30 OPENING SESSION

M Plenary

M Plenary

Time	Name	Affiliation & Designating Member State / Organization	Title
10:00-10:05	M. Denecke	Director NAPC, IAEA	Welcome Address
10:05–10:15	R. M. Grossi	Director General, IAEA	Opening Statement
10:15–10:25	N. Mokhtar M. Chudakov H. Liu	DDG-NA, IAEA DDG-NE, IAEA DDG-TC, IAEA	Opening Remarks

10:30-11:15 PLENARY SESSION 1: Accelerators for the Environment M Plenary

Chairpersons: D. Ridikas (IAEA) C. Horak (IAEA)

Time	Paper No	Name	Affiliation & Designating Member State / Organization) Title
40:00 4445		D. Cohen	ANSTO, Australia	Accelerators for Environmental Monitoring and Climate Change Related Studies
10:30–11:15	207	A. Chmielewski	INCT, Poland	Electron Accelerator-Based Systems for Air, Water and Soil Pollution Control

11:15-12:45 PLENARY SESSION 2: Accelerators for Medical Radioisotopes, Energy Production and Nuclear Research

Chairpersons: D. Ridikas (IAEA) C. Horak (IAEA)

Time	Paper No	Name	Affiliation & Designating Member State / Organization	Title
11:15–11:45	209	C. S. Cutler	BNL, USA	50 Years of Isotope Production via High Energy Accelerators at Brookhaven National Laboratory
11:45–12:15	223	H. Ait Abderrahim	SCK CEN, Belgium	Realization of a new Research Infrastructure in Belgium: MYRRHA - Present Status and Focus on Latest Developments of MYRRHA ADS Accelerator
12:15-12:45	208	B. Sharkov	JINR, Russian Federation	Large Scale Accelerator Facilities for Nuclear Research and Practical Applications
12:45-14:00		Lunch Break		

14:00–15:30 PARALLEL SESSION 3.A: Advances in Accelerator Technologies

Chairpersons: N. Alamanos (CEA, France) S. Charisopoulos (IAEA)

Time	Paper No.	Name	Affiliation & Designating Memb State/ Organizatio	
14:00–14:15	204	J. G. Weisend II	ESS, Sweden	The European Spallation Source Accelerator: Overview and Status
14:15–14:30	49	B. Hornberger	Lyncean Technologies, US	Recent Developments in Compact X- ray and Gamma-ray Sources Based on Inverse Compton Scattering
14:30–14:45	101	S. Lauber	GSI, Germany	Alternating Phase Focusing Beam Dynamics for Drift Tube Linacs
14:45–15:00	190	M. Fedurin	BNL, USA	Novel Accelerator Concept Utilizing Cyclotron Resonance (eCRA)
15:00–15:15	177	I. Strydom	iThemba LABS, South Africa	An Overview of the South African Isotope Facility (SAIF)
15:15–15:30	Que	stions and Answe	rs	
15:30-16:00	Coff	ee & Tea break		
14:00–15:30		PARALLEL SESS Medical Applicati	SION 3.B: Accelera ions - 1	tors for M Plenary
Chairperson	s:	C. S. Cutler (BNL, V. Starovoitova (I		
14:00–14:15	44	N. van der Meulen	POI, Switzerland	The Use of PSI's High Intensity Proton Accelerator (HIPA) Complex Towards Medical-Radionuclide Development
14:15–14:30	183	A. Gerbershagen	Groningen,	The New Particle Therapy Research Center (PARTREC) at the University Medical Center Groningen
14:30–14:45	73	G. Pupillo	INFN-LNL, Italy	Research Activities on the Cyclotron- based Production of Innovative Radionuclides: Experience at the Legnaro National Laboratories of INFN
14:45–15:00	124	P. Fernandes Costa Jobim		lon Beam Techniques and Neuroscienœ: What is Next?
15:00–15:15	136	C. N. Coleman	Expert Corps,	Treatment, not Terror: A Unique Cancer Treatment Paradigm for Developing Novel Linear Accelerators for Resource- limited Settings
15:15–15:30	Que	stions and Answe	rs	
15:30-16:00	Coff	ee & Tea break		

16:00–17:30 PARALLEL SESSION 4.A: Accelerators for environmental monitoring

Chairpersons: S. Merchel (VERA, Austria)

R. P. Alvarez (IAEA)

Time	Paper No.	Name	Affiliation & Designating Member State/ Organization	Title of Paper
16:00–16:15	5 186	W. E. Kieser	University of Ottawa, Canada	Accelerator Mass Spectrometry: An Analytical Tool with Applications for Sustainable Society
16:15–16:30) 70	M. Santoso	BATAN, Indonesia	Characteristics of Fine Particulates of Two Largest Cities in Indonesia Using Ion Beam Analysis
16:30–16:45	5 147	L. Popa-Simil	LAAS, USA	Ion beam Usage in Environmental Characterization
16:45–17:00) 45	M. Roumie	LAEC/CNRS, Lebanon	Elemental Characterization of PM2.5 Aerosol Samples in Four Mideastern Cities and Source Apportionment Investigation
17:00–17:15	5 86	S. Pollastri	Elettra, Italy	A Combined XRF and XANES Study on Bottom Ashes from Municipal Solid Waste Incinerator
17.15-17.30	Que	stions and Answ	ers	
17.10 17.00				
16:00–17:30) P fo ns: C		ON 4.B: Accelerators ations - 2	s M Plenary
16:00–17:30 Chairperson) P fo ns: C A	ARALLEL SESSI or Medical Applic . Hoehr (TRIUMF,	ON 4.B: Accelerators ations - 2	A M Plenary Particle Induced X-ray Emission (PIXE) Reveals Crucial Information in Hip Endoprostheses Failures. MeV Ion Beams for Improving Medical Diagnostics
16:00-17:30 Chairperson 16:00-16:15) P. fo ns: C A 5 125	ARALLEL SESSI or Medical Applic . Hoehr (TRIUMF, . Korde (IAEA) E. Punzón-	ON 4.B: Accelerators ations - 2 , Canada)	Particle Induced X-ray Emission (PIXE) Reveals Crucial Information in Hip Endoprostheses Failures. MeV Ion Beams for Improving Medical Diagnostics
16:00-17:30 Chairperson 16:00-16:15) P fo ns: C A 5 125	ARALLEL SESSI or Medical Applic . Hoehr (TRIUMF, . Korde (IAEA) E. Punzón- Quijorna T. Pinheiro	ON 4.B: Accelerators ations - 2 Canada) JSI, Slovenia	Particle Induced X-ray Emission (PIXE) Reveals Crucial Information in Hip Endoprostheses Failures. MeV Ion Beams for Improving Medical Diagnostics Metallacarboranes for Proton Therapy
16:00-17:30 Chairperson 16:00-16:15 16:15-16:30	 P fc ns: C A 5 125 125 158 95 	ARALLEL SESSI or Medical Applic . Hoehr (TRIUMF, . Korde (IAEA) E. Punzón- Quijorna T. Pinheiro R. Khatun	ON 4.B: Accelerators ations - 2 Canada) JSI, Slovenia IST/Univ. de Lisboa, Portugal BAEC, Bangladesh Molecular Cyclotrons	Particle Induced X-ray Emission (PIXE) Reveals Crucial Information in Hip Endoprostheses Failures. MeV Ion Beams for Improving Medical Diagnostics Metallacarboranes for Proton Therapy Using Research Accelerators Dosimetric Verification of Radiotherapy Treatment Planning System Using

17:15–17:30 Questions and Answers

18:00–20:00 WELCOME RECEPTION

M-Building – Ground Floor

TUESDAY, 24 MAY 2022

09:00-10:30 PLENARY SESSION 5: Accelerators for Neutron Therapy, Cultural Heritage, Innovation and Education

Chairpersons: G. Aquilanti (Elettra, Italy) I. Swainson (IAEA)

Time	Paper No	Name	Affiliation & Designating Member State / Organization	Title
09:00–09:30	210	H. Kumada	University of Tsukuba, Japan	Current Status of Compact Accelerator- based Neutron Sources for Boron Neutron Capture Therapy in the World
09:30–10:00	212	L. Beck	CEA, France	Use of Accelerators to Preserve Cultural Heritage Objects and Detect Forgeries
10:00–10:30	205	A. Strasser	Aerial-CRT, France	Best Practices in Establishing and Running Accelerator Facilities to Support Research, Education, and Commercial Uses
10:30-11:00	Со	offee/Tea Break		
11:00–12:30			ESSION 6.A: Accelera ure Therapy (BNCT) a	
Chairperson	IS:	G. Aquilanti (E I. Swainson (I		
11:00–11:15	131	A. Kreiner	CNEA, Argentina	Review of the Different Accelerator- based BNCT Facilities Worldwide and an Assessment According to the Alara Criterion
11:15–11:30	140	S. Taskaev	Budker Institute of Nuclear Physics, Russian Federation	Accelerator-based Neutron Source for Boron Neutron Capture Therapy and other Applications
11:30–11:45	94	I. Carlomagno	Elettra, Italy	X-ray Investigations on Ancient Gold Coins: Synchrotron Radiation Contribution to History and Numismatics
11:45–12:00	10	D. M. Atwa Khalil	NILES, Egypt	Synchrotron Radiation Based Investigations of Colored Layers, Binding Materials and Resins of the God Ptah- Sokar-Osiris Wooden Statuette and its Mummified Falcon which are Dating Back to 26th Pharaonic Dynasty
12:00–12:15	121	V. Corregidor	Univ. de Lisboa, Portugal	Characterization of Cultural Heritage Using a Micro-beam
12:15–12:30	Que	stions and Ans	swers	
12:30–14:00	Lun	ch Break		

11:00–12:30 PARALLEL SESSION 6.B: Best Practices in using Accelerators for R&D, Education, Environmental & Industrial Applications

Chairpersons: D. Cohen (ANSTO, Australia) N. Skukan (IAEA)

Time	Paper No	Name	Affiliation & Designating Member State / Organization	Title
11:00–11:15	24	O. Riabukhin	Ural Federal University, Russian Federation	The Practice of Electron and Proton Accelerators Utilizing for Industry, Education and Science
11:15–11:30	181	S. H. Park	Korea Univ. Sejong, Rep. of Korea	Use of Accelerators for Research and Training in the University Environment
11:30–11:45	60	P. Foka	GSI, Greece	Heavy Ion Therapy MasterClass School and Capacity Building for Future Ion Research and Therapy Facilities
11:45–12:00	230	M. Pivi	MedAustron, Austria	The MedAustron Particle Therapy Accelerator
12:00-12:15	116	F. Zanini	Elettra, Italy	Life Cycle Assessment
12:15-12:30	Que	stions and Answ	ers	
10.00 11.00				

12:30–14:00 Lunch Break

Chairpersons: S. Pillai (Texas A&M University, USA) V. Starovoitova (IAEA) 14:00–14:10 S. Norris DOE/NNSA, USA Opening Remarks 14:10–14:30 J. Schwindling CEA, France Compact Accelerator-based Neutron Sources 14:30–14:50 AL. Lamure RadiaBeam Technologies, USA High Power Electron Beams 14:50–15:10 A. Pierard IBA. Belgium Electron Accelerators as X-ray Sources	14:00–15:30	••••••••••	Accelerator-Based S ent Developments	Sources of M Plenary		
14:10–14:30 J. Schwindling CEA, France Compact Accelerator-based Neutron Sources 14:30–14:50 AL. Lamure RadiaBeam Technologies, USA High Power Electron Beams	Chairpersons:	•				
Sources 14:30–14:50 AL. Lamure RadiaBeam High Power Electron Beams Technologies, USA	14:00–14:10	S. Norris	DOE/NNSA, USA	Opening Remarks		
Technologies, USA	14:10–14:30	J. Schwindling	CEA, France			
14:50–15:10 A. Pierard IBA. Belgium Electron Accelerators as X-ray Sources	14:30–14:50	AL. Lamure	r ta a la B o a l l	High Power Electron Beams		
	14:50–15:10	A. Pierard	IBA, Belgium	Electron Accelerators as X-ray Sources		
15:10-15:30 Round table discussion - Questions and Answers	15:10-15:30	Round table discus	ssion - Questions an	d Answers		
15:30-16:00 Coffee/Tea Break	15:30-16:00	Coffee/Tea Break				

14:00–15:30 POSTER SESSION 1 (See separate page)

M Building

16:00-17:30 PARALLEL SESSION 7.A: IBA facilities and their R&D Board Room A programme Chairpersons: E. Da Costa Alves (Univ. de Lisboa, Portugal) N. Skukan (IAEA) Affiliation & Paper Name Designating Member Title Time State / Organization 16:00-16:15 108 V. Rigato LNL/INFN, Italy Multidisciplinary Physics with MeV Ion Beams at the Laboratori Nazionali di Legnaro using the CN and AN2000 Accelerators 16:15-16:30 229 S. IAFA The IAEA Ion Beam Facility (IBF) project Charisopoulos 16:30-16:45 118 I. Bogdanovic RBI. Croatia Development and Applications of the Radovic Secondary Ion Mass Spectrometry with MeV Ions (MeV SIMS) Technique at the **RBI** Accelerator NCSR Applications of Proton-induced X-rays at 16:45-17:00 151 A. Karydas "Demokritos", the Tandem Accelerator Laboratory of NCSR "Demokritos" Greece 17:00-17:15 19 R.O. Six Decades of Research and CNEA, Argentina Barrachina Development with Accelerators in the Dept. of Interaction of Radiation with Matter of the Bariloche Atomic Center 17:15–17:30 Questions and Answers 16:00-17:30 PARALLEL SESSION 7.B: Regulatory aspects of M Plenary accelerator facilities Chairpersons: R. P. Jimenez (IAEA) N. Ramamoorthy (Independent consultant, India) 16:00-16:15 47 M. Heimann CNSC-CCSN, Agile Regulatory Oversight: Adapting Canada Regulations to Accommodate Rapidly Changing Accelerator Technology 16:15-16:30 98 F. Schmitz Licensing Unconventional Accelerator Bel V, Belgium Projects: A Quest for the Safest Compromise 16:30-16:45 56 G. Rabi Autoridad Regulatoria Regulatory Control at the Construction Nuclear, Argentina Stage of a Radiopharmaceuticals Production Facility with Cyclotron in the Context of Covid-19 Pandemic 16:45-17:00 78 G. Garcia Universidad Commissioning of Operational Radiation Fernandez Protection in Compact Proton Therapy Politecnica de Centers (CPTC) with Small Accelerators Madrid, Spain

WEDNESDAY, 25 MAY 2022

09:00-10:30		ON 8: Accelerators for Materials Research	M Plenary
	F. Ott (CEA, France) A. Koning (IAEA)		
Time Paper No	Name	Affiliation & Designating Member State / Organization	g Title
09:00–09:30 213	M. Rubel	Royal Institute of Technology, Sweden	Accelerator Techniques and Nuclear Data needs for IBA of wall Materials for Fusion reactors
09:30–10:00 218	Y. Wang	Los Alamos National Lab, USA	Application of Accelerators in Nanomaterials Research
10:00–10:30 220	Z. Siketic	Ruđer Bošković Institute, Croatia	Sustainability of the Tandem Accelerator Facility at the Ruđer Bošković Institute
10:30-11:00 Cot	ffee/Tea Break		
	Data		
	M. Rubel (Royal Ir	nstitute of Technology,	Sweden)
	M. Rubel (Royal Ir A. Koning (IAEA)	nstitute of Technology, IAEA	Sweden) Radiation Damages Bohr's Metrics: Accelerator & Elemental Landscapes
-	M. Rubel (Royal Ir A. Koning (IAEA) J.C. Sublet	IAEA	Radiation Damages Bohr's Metrics: Accelerator & Elemental
11:00–11:15 232	M. Rubel (Royal Ir A. Koning (IAEA) J.C. Sublet N. Patronis	IAEA University of Ioannina,	Radiation Damages Bohr's Metrics: Accelerator & Elemental Landscapes Status Report of the N_TOF Facility after the 2nd CERN long
11:00–11:15 232 11:15–11:30 154	M. Rubel (Royal Ir A. Koning (IAEA) J.C. Sublet N. Patronis R. Vlastou-Zanni	IAEA University of Ioannina, Greece National Technical University of Athens,	Radiation Damages Bohr's Metrics: Accelerator & Elemental Landscapes Status Report of the N_TOF Facility after the 2nd CERN long Shutdown Period The Neutron Facility at NCSR "Demokritos" and Neutron Activation Research Activities of
11:00–11:15 232 11:15–11:30 154 11:30–11:45 157	M. Rubel (Royal Ir A. Koning (IAEA) J.C. Sublet N. Patronis R. Vlastou-Zanni B. P. L. Ström	IAEA University of Ioannina, Greece National Technical University of Athens, Greece Uppsala University,	Radiation Damages Bohr's Metrics: Accelerator & Elemental Landscapes Status Report of the N_TOF Facility after the 2nd CERN long Shutdown Period The Neutron Facility at NCSR "Demokritos" and Neutron Activation Research Activities of NTUA Ion Accelerators for Modification and Analysis of Materials: Present Status and an Outlook Towards the

12:30–14:00 Lunch Break

11:00–12:30 PARALLEL SESSION 9.B: Radiation Technologies and their Applications

M Plenary

		v. Starovoltov	a (IAEA)	
Time	Paper No	Name	Affiliation & Designating Member State / Organization	Title
11:00–11:15	92	K. Howie	Texas A&M University, USA	Electron Beam Technology for Preserving Quality Attributes of Mandarins for Enhancing Export Potential
11:15–11:30	159	D. Kaoumi	North Carolina State University, USA	The Use of In-situ Transmission Electron Microscopy to Investigate Microstructure Evolution under Ion Irradiation
11:30–11:45	198	R. Schwarz	Pacific Northwest National Laboratory, USA	Penelope-based User-Friendly Fast Interface for Calculating Distribution in Irradiated Products
11:45–12:00	32	D. Chmielewska Śmietanko	Institute of Nuclear -Chemistry and Technology, Poland	Application of Electron Beam Accelerator for Preservation Biodeteriorated Cultural Heritage Paper- Based Objects: Multiparametric Analysis
12:00–12:15	163	S. Ramarad	Heriot-Watt University Malaysia, Putrajaya	
12:15-12:30	Que	stions and Ans	wers	
12:30-14:00	Lun	ch Break		

14:00-15:30	SIDE EVENT 2	2: Collaborating Center	ers of IAEA Board Room A
Chairpersons:	A. Simon (IAE B. S. Han (IAE		
Time	Name	Affiliation & Designating Member State / Organization	Title
14:00–14:15	S. Hollins	ANSTO, Australia	New and Advanced Techniques and Applications of Nuclear Science and Technology towards a Sustainable Environment
14:15–14:30	M. Kiskinova	Elettra, Italy	IAEA-Elettra Collaborating Center
14:30–14:45	L. Bertrand	ENS Paris-Saclay, France	Implementation of the IAEA Collaborating Center Atoms for Heritage at Université Paris-Saclay
14:45–15:00	R. Nchodu	iThemba LABS, South Africa	iThemba LABS: The IAEA Collab-orating Centre for Accelerator Based Scientific Research & Applications
15:00–15:15	S. Pillai	Texas A&M University, USA	The National Center for Electron Beam Research at Texas A&M University - Two Decades of Advancing Electron Beam and X-ray Technologies Around the World
15:15-15:30	Round table disc	ussion - Questions a	nd Answers
15:30-16:00	Coffee/Tea Break		

14:00-15:30	SIDE EVENT 3: Women in Accelerator-based Science M Plenary				
Chairpersons:	C. Hoehr (TRIUMF, Canada) A. Peeva (IAEA)				
Time	Name	Affiliation & Designating Member State / Organization	Title		
14:00-14:10	C. Hoehr	TRIUMF, Canada	Opening Remarks		
14:10–14:20	J. Donner	SGIM, IAEA	Overview of IAEA's effort in promoting gender parity		
14:20–15:20	Panel discus	sion	Moderator: A. Peeva (IAEA) Participants: D. Cohen, ANSTO N. Alamanos, CEA S. Carvalho, NCNE, Brazil		
			C. Gutierrez, Elettra (recipient of the Marie Curie Fellowship Programme)		

Round table discussion - Questions and Answers 15:20-15:30 Coffee/Tea Break 15:30-16:00

16:00–17:30 PARALLEL SESSION 10.A: Applications of heavy ion Board Room A beams

Chairpersons: B. Sharkov (JINR, Russian Federation) R. Padilla Alvarez (IAEA)

Time Paper No Affiliation & Designating Member State / Organization Title 16:00-16:15 179 P. Kluth Australian National University, Australia Swift Heavy Ion Modified Materials: Applications and Characterisation Using Synchrotron Small Angle X-ray Scattering 16:15-16:30 69 M. Wagner GSI, Germany Three Dimensional Nanochannel Networks Fabricated with Ion Track- Etch Technology and Their Applications 16:30-16:45 233 N. Pessoa Barradas IAEA Specific Considerations and Guidance for the Establishment of Ionizing Radiation Facilities 16:45-17:00 195 M. Lang University of Tennessee, USA Investigating Radiation Effects in Materials Using State-of-the-Art Particle Accelerators 17:00-17:15 165 C. Vyas Michigan State University, India Isotope Harvesting Project: from White Paper to Implementation 17:15-17:30 Questions and Answers Isotope Harvesting Project: from White Paper to Implementation 16:00-16:15 189 S. Norris DOE/NNSA, USA How Support for Machine-Based Sources of Radiation Contributes to Sustainable Development 16:15-16:30 58 B. Nsouli LAEC, Lebanon On the Use of Ion and Cluster Beams Analysis at LAEC for Forensic Sciences: Infrastructure and Applications					
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Barradas for the Establishment of Ionizing Radiation Facilities 16:45–17:00 195 M. Lang University of Tennessee, USA Investigating Radiation Effects in Materials Using State-of-the-Art Particle Accelerators 17:00–17:15 165 C. Vyas Michigan State University, India Isotope Harvesting Project: from White Paper to Implementation 17:15–17:30 Questions and Answers Isotope Harvesting Project: from White Paper to Implementation 16:00–17:30 PARALLEL SESSION 10.B: Societal Applications of Accelerators and Sustainable Development M Plenary Accelerators and Sustainable Development Chairpersons: F. Zanini (Elettra, Italy) K. Kanaki (IAEA) How Support for Machine-Based Sources of Radiation Contributes to Sustainable Development 16:10–16:15 189 S. Norris DOE/NNSA, USA How Support for Machine-Based Sources: Infrastructure and Applications 16:30–16:45 106 A. Magazinik CERN, Switzerland Societal Impact of the Compact Linear Collider Study 16:45–17:30 74 T. Edgecock University of Huddersfield, United Kingdom IFAST Accelerators for Societal Applications 17:00–17:15 54 B. List CERN Sustainability Studies for Linear Colliders	16:15–16:30	69	M. Wagner	GSI, Germany	Networks Fabricated with Ion Track-
Tennessee, USAMaterials Using State-of-the-Art Particle Accelerators17:00–17:15165C. VyasMichigan State University, IndiaIsotope Harvesting Project: from White Paper to Implementation17:15–17:30Questions and Answers16:00–17:30PARALLEL SESSION 10.B: Societal Applications of Accelerators and Sustainable DevelopmentM Plenary Accelerators and Sustainable DevelopmentChairpersons:F. Zanini (Elettra, Italy) K. Kanaki (IAEA)How Support for Machine-Based Sources of Radiation Contributes to Sustainable Development16:00–16:15189S. NorrisDOE/NNSA, USAHow Support for Machine-Based Sources of Radiation Contributes to Sustainable Development16:15–16:3058B. NsouliLAEC, LebanonOn the Use of Ion and Cluster Beams Analysis at LAEC for Forensic Sciences: Infrastructure and Applications16:30–16:45106A. MagazinikCERN, SwitzerlandSocietal Impact of the Compact Linear Collider Study16:45–17:0074T. Edgecock KingdomUniversity of Huddersfield, United KingdomIFAST Accelerators for Societal Applications17:00–17:1554B. ListCERNSustainability Studies for Linear Colliders	16:30–16:45	233		IAEA	for the Establishment of Ionizing
University, India Paper to Implementation 17:15–17:30 Questions and Answers 16:00–17:30 PARALLEL SESSION 10.B: Societal Applications of Accelerators and Sustainable Development M Plenary Chairpersons: F. Zanini (Elettra, Italy) K. Kanaki (IAEA) Mos Support for Machine-Based Sources of Radiation Contributes to Sustainable Development 16:00–16:15 189 S. Norris DOE/NNSA, USA How Support for Machine-Based Sources of Radiation Contributes to Sustainable Development 16:15–16:30 58 B. Nsouli LAEC, Lebanon On the Use of Ion and Cluster Beams Analysis at LAEC for Forensic Sciences: Infrastructure and Applications 16:30–16:45 106 A. Magazinik CERN, Switzerland Societal Impact of the Compact Linear Collider Study 16:45–17:00 74 T. Edgecock University of Huddersfield, United Kingdom IFAST Accelerators for Societal Applications 17:00–17:15 54 B. List CERN Sustainability Studies for Linear Colliders	16:45–17:00	195	M. Lang		Materials Using State-of-the-Art Particle
16:00–17:30 PARALLEL SESSION 10.B: Societal Applications of Accelerators and Sustainable Development M Plenary Accelerators and Sustainable Development Chairpersons: F. Zanini (Elettra, Italy) K. Kanaki (IAEA) How Support for Machine-Based Sources of Radiation Contributes to Sustainable Development 16:00–16:15 189 S. Norris DOE/NNSA, USA How Support for Machine-Based Sources of Radiation Contributes to Sustainable Development 16:15–16:30 58 B. Nsouli LAEC, Lebanon On the Use of Ion and Cluster Beams Analysis at LAEC for Forensic Sciences: Infrastructure and Applications 16:30–16:45 106 A. Magazinik CERN, Switzerland Societal Impact of the Compact Linear Collider Study 16:45–17:00 74 T. Edgecock University of Huddersfield, United Kingdom IFAST Accelerators for Societal Applications 17:00–17:15 54 B. List CERN Sustainability Studies for Linear Colliders	17:00–17:15	165	C. Vyas		
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Collider Study 16:45–17:00 74 T. Edgecock University of Huddersfield, United Kingdom IFAST Accelerators for Societal Applications 17:00–17:15 54 B. List CERN Sustainability Studies for Linear Colliders	16:15–16:30	58	B. Nsouli	LAEC, Lebanon	Analysis at LAEC for Forensic Sciences: Infrastructure and
Huddersfield, United Kingdom Applications 17:00–17:15 54 B. List CERN Sustainability Studies for Linear Colliders	16:30–16:45				Applications
Colliders		106	A. Magazinik	CERN, Switzerland	Societal Impact of the Compact Linear
17:15–17:30 Questions and Answers	16:45–17:00		-	University of Huddersfield, United	Societal Impact of the Compact Linear Collider Study IFAST Accelerators for Societal
		74	T. Edgecock	University of Huddersfield, United Kingdom	Societal Impact of the Compact Linear Collider Study IFAST Accelerators for Societal Applications Sustainability Studies for Linear

THURSDAY, 26 MAY 2022

09:00-10:30 PLENARY SESSION 11: Emerging Accelerator Technologies – Accelerator Technologies for Food Safety and Security

M Plenary

Chairpersons:	T. Gutberlet (FZ Julich, Germany)
	S. Charisopoulos (IAEA)

Time	Paper No	Name	Affiliation & Designating Member State / Organization	Title
09:00–09:30	219	Y. Otake	RIKEN, Japan	RIKEN Accelerator-driven Compact Neutron Systems and RANS Project
09:30–10:00	214	M. Roth	TU Darmstadt Institute for Nuclear Physics, Germany	Laser-driven Ion Accelerators: Unique Beams and Compact Neutron Sources
10:00–10:30	217	S. Pillai	Texas A&M University, USA	Accelerator Technologies for Food Safety and Food quality: Response of Microbial Populations to Ionizing Technologies

10:30–11:00 Coffee/Tea Break

11:00–12:30 PARALLEL SESSION 12.A: Future Accelerator-based Board Room A neutron sources

Chairpersons: A. Kreiner (CNEA, Argentina) H. Ben Abdelouahed (IAEA)

11:00–11:15	129	N. Mayordomo		CANS Production of Technetium-99M and Technetium-101
11:15–11:30	27	R. Frost	Lund University, Sweden	A Compact Accelerator Driven Neutron Source at the Nuclear- Applications Laboratory, Lund University
11:30–11:45	221	F. Ott	CEA, France	The SONATE Project, a New Neutron Scattering Platform for Materials Science Research
11:45–12:00	77	A. Maffini	Politecnico di Milano, Italy	Towards Compact Laser-Driven Accelerators: Exploring the Potential of Advanced Double-Layer Targets
12:00-12:15	227	I. Swainson	IAEA	IAEA activities in support of Compact Accelerator based Neutron Sources
12:15–12:30	Que	stions and Answ	vers	
12:30–14:00	Lun	ch Break		

11:00–12:30	PARALLEL SESSION 12.B: Electron beams and Applications
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M Plenary

Chairpersons: S. Pillai (Texas A&M University, USA) B. S. Han (IAEA)

Time	Paper No	Name	Affiliation & Designating Member State / Organization	Title
11:00–11:15	139	A. Bryazgin	Budker Institute, Russian Federation	ILU RF Electron Accelerators for E-beam and X-ray Applications
11:15–11:30	174	W. A. Parejo Calvo	IPEN / CNEN / SP, Brazil	Electron Beam Processing to Improve Biodegradable Polymers and for Industrial Wastewater Treatment and Recycling
11:30–11:45	15	S. Jebri	National Center of Nuclear Sciences and Technologies, Tunisia	Microbial Quality of Minimally Processed
11:45–12:00	107	M. Vorobyov	Electronics SB RAS,	Low-Energy Electron Accelerators and Sources with Plasma Emitters for Scientific and Technological Purposes
12:00–12:15	8	P. A. Vasquez Salvador	IPEN / CNEN / SP, Brazil	Preservation of Photographic and Cinematographic Films by Electron- Beam Irradiation
12:15–12:30	Que	stions and Ans	wers	
12:30-14:00	Lune	ch Break		

14:00–15:30		SIDE EVENT 4: Promoting Self-Reliance and Sustainability of National Nuclear InstitutionsBoard Room AN. Ramamoorthy (Independent Consultant, India) N. Pessoa Barradas (IAEA)End Consultant, India				
Chairpersons:						
14:00–14:10	N. Pessoa Barradas	IAEA	Opening Remarks			
14:10–14:25	F. A. Deluchi	CNEA, Argentina	Research and Indust Electron Beam Accel			
14:25–14:40	C. Arcilla	Philippine Nuclear Research Institute, Philippines	The new Nuclear Mee Innovation Center	licine Research and		
14:40–14:55	S. A. Hashim	WiN, Malaysia	Promoting Applicatio Accelerator and Radi Malaysia.			
14:55–15:10	S. Rugmai	Synchrotron Light Research Institute, Thailand	The synchrotron proje	ects of Thailand		
15:10-15:30	Round table disc	ussion - Questions a	and Answers			
15:30–16:00	Coffee/Tea Break					

14:00–15:30 POSTER SESSION 2 (See separate page)

M Building

16:00–17:30 PARALLEL SESSION 13.A: Selected Applications of Board Room A Accelerator-Based Analytical Techniques

Chairpersons: M. Jaksic (RBI, Croatia)

A. Migliori (IAEA)

Time	Paper No	Name	Affiliation & Designating Member State / Organization	Title
16:00–16:15	191	M. Chiari	INFN, Italy	PIGE Analysis of Fluorine in Materials for the Circular Economy
16:15–16:30	115		Federal Univ. of Rio Grande, Brazil	Study of Silver Nanoparticles Uptake by Helianthus annuus Crop in Salinity Conditions
16:30–16:45	111	P. Pongrac	JSI, Slovenia	Using Micro-PIXE to Evaluate Nutritional Value of Edible Parts of Plants
16:45–17:00	104	S. Möller	FZ Jülich, Germany	Lithium Depth Profiling in Battery Anodes by Nuclear Reaction Analysis
17:00–17:15	119	G. Provatas	RBI, Croatia	Study of charge Transport in Semiconductors by Ion Beam Induced Charge (IBIC) Microscopy
17:15–17:30	Que	stions and A	nswers	
	Interdisciplinary Applications airpersons: L. Beck (CEA, France) N. Pessoa Barradas (IAEA)			
Chairperson	s:	•		
Chairperson 16:00–16:15		L. Beck (CE) N. Pessoa B	A, France)	Ultra-trace analysis of anthropogenic long-
		L. Beck (CE) N. Pessoa B	A, France) arradas (IAEA)	Ultra-trace analysis of anthropogenic long- lived radionuclides in the environment with AMS
16:00–16:15	231	L. Beck (CE/ N. Pessoa B K. Hain	A, France) arradas (IAEA)	lived radionuclides in the environment with
16:00–16:15 16:15–16:30	231	L. Beck (CE/ N. Pessoa B K. Hain J. M. Lopez-	A, France) arradas (IAEA) VERA, Austria Univ. de Sevilla, Spain	lived radionuclides in the environment with AMS Characterization of Nuclear Waste by
16:00–16:15 16:15–16:30	231 110 215	L. Beck (CEA N. Pessoa B K. Hain J. M. Lopez- Gutierrez N. Skukan	A, France) arradas (IAEA) VERA, Austria Univ. de Sevilla, Spain	lived radionuclides in the environment with AMS Characterization of Nuclear Waste by Accelerator Mass Spectrometry IAEA Activities in Support of Sustainable Operation of Electrostatic Accelerator
16:00–16:15 16:15–16:30 16:30–16:45	231 110 215 40	L. Beck (CE/ N. Pessoa B K. Hain J. M. Lopez- Gutierrez N. Skukan N. Arbor	A, France) arradas (IAEA) VERA, Austria Univ. de Sevilla, Spain IAEA Univ. of Strasbourg	lived radionuclides in the environment with AMS Characterization of Nuclear Waste by Accelerator Mass Spectrometry IAEA Activities in Support of Sustainable Operation of Electrostatic Accelerator Facilities A Monte Carlo and Experimental Tool for Activation Calculations in High Energy X-
16:00–16:15 16:15–16:30 16:30–16:45 16:45–17:00 17:00–17:15	231 110 215 40 20	L. Beck (CE/ N. Pessoa B K. Hain J. M. Lopez- Gutierrez N. Skukan N. Arbor	A, France) arradas (IAEA) VERA, Austria Univ. de Sevilla, Spain IAEA Univ. of Strasbourg France Vinca Institute of Nuclear Sciences, Serbia	lived radionuclides in the environment with AMS Characterization of Nuclear Waste by Accelerator Mass Spectrometry IAEA Activities in Support of Sustainable Operation of Electrostatic Accelerator Facilities A Monte Carlo and Experimental Tool for Activation Calculations in High Energy X- rays Irradiation Process Surface Treatment of Special High-Protein Products Using Low Energy Beams from

FRIDAY, 27 MAY 2022

09:00-10:30 PLENARY SESSION 14: Accelerators and emerging M Plenary applications

Chairpersons: T. Oshima (NIQRST, Japan) A. Simon (IAEA)

Time	Paper No	Name	Affiliation & Designating Member State / Organization	Title	
09:00–09:30	216	O. Girshevitz	BINA, Israel	Forensic Forensic	ntation of Ion Beam Analysis for applications: The way to Global Database through the unification nt analytical techniques
09:30–10:00	206	A. A. Betti	ol Nat. Univ. Singapore, Singapore	Accelera Technolo	tors and Ion Beams for Quantum ogies
10:00–10:30	222	T. Stora	CERN, Switzerland		ive Ion Beams: from Large Scale to Nuclear Medicine ons
10:30-11:00	Со	ffee/Tea Br	eak		
11:00-12:00 PLENARY SESSION 15: M Plena Conference Summary and Highlights D. Ridikas (IAEA) C. Horak (IAEA) C. Horak (IAEA)					M Plenary
Time	Name		ffiliation & Designating N state / Organization	lember	Title
11.00.10.00	C. Ho	ehr Լ	Iniv.Victoria & TRIUMF, C	Canada	Conference Summary and
11:00–12:00		amanos CEA, France		Highlights	
11:00-12:00 PLENARY SESSION 16: M Plenary Conference Closing and Award Ceremony					
				l Ceremor	
Time	Name	Confere		filiation & 1ember	

12:30-17:00 Technical tour to VERA and MEDAUSTRON accelerator facilities

Sotirios Charisopoulos

Danas Ridikas

12:30

Scientific Secretary, IAEA

Closing Remarks

TUESDAY, 24 MAY 2022 and THURSDAY, 26 MAY 2022

Poster Session

Time: 14:00-15:30

Venue: M Building

Paper no	Authors	Designating Member State/ Organization	Title
75	P. Thongjerm	Thailand	The Development of an External Beam Irradiation System for Material Analysis at the Cyclotron Facility in Thailand
53	D. Kottuparamban , A. Muhammed	India	An Optimized Periodic Maintenance Planner for a Commercial Medical Cyclotron Facility
16	S. Petrović, N. Starčević, M. Ćosić	Serbia	The Rainbow Ion-Solid Interaction Potential
71	N. Bergans	Belgium	How Induced Activated Accelerator Parts Have an Impact on the Radiation Safety of a Proton Therapy Facility
26	S. Rimjaem	Thailand	Establishment of the First Accelerator-based Infrared Free-electron Laser Facility in Southeast Asia
175	J. Mira, H. Barnard, L. R. Strydom, H. Anderson, J. Abrahams, J. Broodryk	South Africa	Design of the Sweeper Magnets for the High- Power Bombardment Station for Radioisotope Production at iThemba LABS
41	E. Corrales-Corrales	Costa Rica	Ventilation Air System Issue at the University of Costa Rica's Cyclotron Facility
61	H. A. Abdelrehim	Egypt	The Potential Use of Electron Beam Irradiation to Preserve Micro-biologically Infected Egyptian Papyrus
22	A. Akhavan Agh Ghaleh	Iran	Electron Beam Crosslinking of PE/NG Nanocomposite for Solar Collector Applications
146	L. Popa-Simil	United States	Accelerators Use to Engineer Nano-Materials for Energy
89	L. Dittrich, P. Petersson, S. Moon, M. Rubel, A. Widdowson	Sweden	Accelerator-based Quantification and Depth Profiling of Hydrogen Isotopes and Impurity Atoms in Wall Materials from Controlled Fusion Devices

Paper no	Authors	Designating Member State/ Organization	Title
170	H. Sa'adeh	Jordan	Towards Detection and Identification of Lead in Aerosol Samples Collected in an Urban Area in Amman, Jordan
153	D. Oliveira de Souza	Italy	Organic Carbon Cycling and Stabilization in Paddy Soils Probed by Fe K-edge X- ray Absorption Spectroscopy
200	T. Torims, A. G. Chmielewski, Y. Sun, A. Pawelec, G. Mattausch, M. Vretenar, Z. Zimek, G. Pikurs	Latvia	The Proof-of-concept Results: Development of Hybrid Electron Accelerator System for the Treatment of Marine Diesel Exhaust Gases
21	S. Mejri , I. Hemissi, C. Brinsi, A. Asmi, M. Saidi, Y. Mabrouk	Tunisia	Radiosensitivity of Two Lens Culinaris Medikus Subsp. Culinaris Varieties to Electron Beam Irradiation
100	J. J. Mboukam	Cameroon	Effect of Swift Heavy Ion Irradiation on the Optical Properties of Ion Implanted Polyethylene Terephthalate
152	T. S. Lee , K. H. Loo, S. T. Bee, C. T. Ratnam	Malaysia	Photodegradation Effect of the Electron Beam Irradiated Devulcanized Natural Rubber/polypropylene Compound under Natural Weathering Condition
91	R. Martinez Rodriguez	Brazil	Glycine Bombardment by Alpha Particle – destruction Cross Section Dependence with KeV Energy and Temperature
90	P. R. Oliveira	Brazil	Cluster Ion Emission from C 2 H 2 and C 2 H 6 Ices induced by 252 CF Fission Fragments
12	S. Ghosh	India	Low and High Energy Ion Irradiation on Structural and other Properties of Cubic Zirconia and Ceria: from the Perspective of Nuclear Energy Material
120	T. Dunatov	Croatia	Development and Applications of the Dual-beam Ion Irradiation Faciility for Fusion Materials (DiFU) at RBI, Zagreb
36	M. A. Khan	Pakistan	Low Energy S-band Electron Linear Accelerator(s) Development for Research and Applications Having Socio-economic Impact

Paper no	Authors	Designating Member State/ Organization	Title
46	L. F. Salas Tapia	Colombia	Preliminary Design for a Cyclotron Extraction Beam Line and External Target for Producing Gallium-68 & Technetium- 99m Isotopes: a Developing Countries Scenario
87	A. Gopalakrishna, A. Kumar, P. Maletha, K. Kamaldeep, S.V. Suryanarayana, H. Naik, B.K. Nayak, S.P. Kulkami, P. Mukherjee	India	Developmental Work on Economic Production of High and Low Specific Activity 64Cu – Suitable for Preclinical Studies Using Accelerator Neutrons
202	S. Utermann , A. Jungstand, A. Thielmann, M. Gastrow	Germany	Comparative Analysis of Socio-economic Impact in Two Particle Accelerator Case Studies
68	E. Stancu	Romania	Radiation ISODOSE Measurements Inside Interaction Chamber During the Commissioning Experiments of the CETAL Facility. Gas Target Case
17	A. Mejri , H. Trabelsi, J. Chatti, Z. Trabelsi, M. Kraiem	Tunisia	Developing Radiation Treatment Methodologies for Decontamination for First Use of Personal Protective Equipment (PPE) using Tunisian Electron Beam Accelerator
48	F. Kuntz , A. Nasreddine, N. Ludwig, A. Strasser	France	Feerix, a novel Irradiation Platform for R&D, Education and Training
79	C. da Costa , E. F. da Silveira	Brazil	Degradation of Amino Acids by MeV Ions
66	M. Fulop , J. Ruzicka, P. Ragan, A. Sagatova	Slovakia	Method for detection of illegal cigarette boxes in iron ore cargo
11	I. Vujcic, S. Masic	Serbia	Possibility of Using Sludge from Drinking Water Treatment Plant as Fertilizer in Agriculture after E-beam Treatment: Effects of aging

Paper no	Authors	Designating Member State/ Organization	Title
13	A. Coulibaly	Mali	Shielding Considerations of a Bunker to be Taken into Account by the Regulatory Body for Authorization Purposes: Case Study of Radiotherapy Center in MALI
137	I. Ahmad	Pakistan	Effects of lons Irradiation on TIO2 Nanoparticles: a Review
143	L. Popa-Simil	United States	Review of 20 Years of Industrial Applications of Ion Beam and Radiation Techniques
149	T. Kulevoy , A. Sitnikov, G. Kropachev, S. Grigoriev, V. Skalyga	Russia	Compact Linac Based Neutron Generator
39	H. Kumada	Japan	Current Development Status of the Linac- based BNCT Device of the iBNCT Tsukuba Project
83	Md. N. Hossain	Bangladesh	Establishment of the Cyclotron Facilities in Bangladesh – Present Status and Experiences
7	L. Yu	Thailand	Ion Beams and Ion-accelerators for Biology-orientated Applications and Research – CMU Practices
161	V. Michalopoulou	Greece	Neutron Induced Fission Studies at NCSR "Demokritos" by the NTUA
34	J. Červenák , O. Lebeda	Czech Republic	Measurement of Excitation Functions of Proton-Induced Nuclear Reactions on Dy- nat
168	M. Diakaki	Greece	Neutron Induced Fission Studies at the CERN n_TOF Facility
178	A. H. Barnard , L. R. Strydom, J. Broodryk, G. Steyn, P. Beukes	South Africa	Modelling of the Radiation and Shielding at the South African Isotope Facility Using FLUKA
188	E. Stamati , N. Colonna, A. Mengoni, N. Patronis, R. Vlastou	Greece	NEAR at n_TOF/CERN: The First Multi- foil Activation Measurement

Paper no	Authors	Designating Member State/ Organization	Title
28	I. Aljammaz	Saudi Arabia	Socioeconomic Impact of Cyclotrons in King Faisal Specialist Hospitals & Research Centre in Saudi Arabia
192	R. Hasan , H. Sa'adeh	Jordan	A Comprehensive Overview of the University of Jordan Van de Graaff Accelerator (JUVAC)
64	A. Lausi , M. Attal, A. A. Elkadime	SESAME	SESAME, a Synchrotron Radiation Facility in the Cradle of History
55	A. Maggiolo , G. Rabi, M. Espósito	Argentina	Development and Application of Indicators for the Assessment of Radiation Safety Systems in Radiopharmaceuticals Production Facilities with Cyclotron
5	A. Zaouak Ep Ammar	Tunisia	Removal of Hydroxychloroquine and Acid Red 51 Aqueous Solutions by the Electron Beam Process
14	G. Stankunas	Lithuania	Concrete and Stainless Steel Activation/decay Heat Data for the IFMIF- DONES Test Cell Components
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