

Nuclear Physics and Gamma-ray sources for Nuclear Security and Nonproliferation

NPNSNP

January 28-30, 2014

Venue: Ricotti bldg., Tokai-mura, Japan

Hosted by: Japan Atomic Energy Agency



Ricotti Building

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Program Schedule of the International Workshop

28 January (Tuesday)		Topic Speaker
9:00-9:15	Coffee	
9:15-9:20	Session 1: (Chair: Yosuke Naoi)	Opening Remarks Shojiro Matsuura (President of JAEA, Japan)
9:20-9:30		Welcome Speech Paul Bolton (QuBS, JAEA, Japan)
9:30-10:00		Speech / Nuclear Security Activity of JAEA Masao Senzaki (ISCN, JAEA, Japan)
10:00-10:20	Group Photo	
10:20-10:50	Session 2: (Chair: Calvin R. Howell)	Nuclear Science and Applications with next generation of High Power Lasers and Brilliant Low Energy Gamma Beams at ELI-NP Sydney Gales (ELI-NP, Romania)
10:50-11:20		New non-intrusive inspection technologies for nuclear security and nonproliferation Robert J. Ledoux (Passport Systems Inc., USA)
11:20-11:50		Development of gamma-ray NDA for nuclear safeguards and security at JAEA Ryoichi Hajima (JAEA, Japan)
11:50-13:20	Lunch and Poster Session	
13:20-13:50	Session 3: (Chair: Shizuma Toshiyuki)	Photonuclear Reaction Studies at HI γ S: Developing the Science of Remote Detection of Nuclear Materials Calvin R. Howell (Duke Univ./TUNL, USA)
13:50-14:20		Dipole strength around the particle threshold Deniz Savran (EMMI/GSI, Germany)
14:20-14:40		Resonant photonuclear excitations for neutrino nuclear responses and nuclear isotope detections Hiroyasu Ejiri (Osaka Univ., Japan)

14:40-15:00	Coffee	
15:00-15:30	Session 4: (Chair: Hiroyasu Ejiri)	Nuclear Resonance Fluorescence in Pu-240 and Spent Nuclear Fuel Assay Bernhard A. Ludewigt (LBNL, USA)
15:30-15:50		Non-Destructive Testing for Control of Radioactive Waste Package Stéphane Plumeri (National Radioactive Waste Management Agency, France)
15:50-16:10		Development of first responders' equipment at RN incident sites Ken'ichi Tsuchiya (National Research Institute of Police Science, Japan)
16:10-16:30	Coffee	
16:30-17:00	Session 5: (Chair: Vladimir G. Nedorezov)	SCAPA - the Scottish Centre for the Application of Plasma-based Accelerators Dino Jaroszynski (University of Strathclyde, UK)
17:00-17:30		Compact Short-Pulsed Electron Linac Based Neutron Sources for Precise Nuclear Material Analysis Mitsuru Uesaka (University of Tokyo, Japan)
17:30-18:00		Compact quasi-monoenergetic gamma ray sources based on Laser Plasma Accelerators Cameron G.R. Geddes (LBNL, USA)
18:00-18:30		The Overview of Optical Cavity R&D for γ -ray generation based on Inverse Compton Scattering Junji Urakawa (KEK, Japan)
18:30-20:00	Dinner	

29 January (Wednesday)		Topic Speaker
9:00-9:30	Session 6: (Chair: Hideaki Ohgaki)	Advanced laser-Compton gamma-ray sources for nuclear materials detection, assay and imaging Christopher P. J. Barty (LLNL, USA)
9:30-9:50		Compact Gamma-Beam Source Based on Compton Storage Ring for Nuclear Security Peter Gladkikh (NSC, KIPT, Kharkov, Ukraine)
9:50-10:10		Developments of optical resonators and optical recirculators for Compton X/gamma ray machines Aurelien Martens (LAL/IN2P3, France)
10:10-10:40	Coffee	
10:40-11:00	Session 7: (Chair: Shigeru Kubono)	Low-lying “Pygmy” Dipole Resonances and Strength Functions Volker Werner (Technical University of Darmstadt, Germany)
11:00-11:20		NRF-Based NDA of Nuclear Material using Monochromatic γ -ray Beam Toshiyuki Shizuma (JAEA, Japan)
11:20-11:40		Improving the Assay of ^{239}Pu in Spent and Melted Fuel Using the Nuclear Resonance Fluorescence Integral Resonance Transmission Method Christopher T. Angell (JAEA, Japan)
11:40-13:00	Lunch	
13:00-13:30	Session 8: (Chair: Sydney Gales)	Laser Compton Scattering Gamma-ray Beam Source at NewSUBARU Storage Ring Shuji Miyamoto (University of Hyogo, Japan)
13:30-14:00		Energy Calibration of Electron and Gamma-ray Beams at NewSUBARU-GACKO Tatsushi Shima (Osaka Univ., Japan)
14:00-14:20		A paradigm for the nondestructive assay of spent fuel assemblies and similar large objects, with emphasis on the role of photon-based techniques Alan Bolind (JAEA, Japan)
14:20-14:40		Medium effect in the photoexcitation of α cluster in ^6Li Tamio Yamagata (Konan Univ., Japan)

14:40-15:00	Coffee	
15:00-15:30	Session 9: (Chair: Michio Seya)	Nuclear Safeguard with Cosmic-Ray-Muon Imaging Haruo Miyadera (Toshiba Corporation, Japan)
15:30-15:50		Compact radiation for nuclear waste management and transmutation Eugene Bulyak (NSC KIPT, Kharkov, Ukraine)
15:50-16:10		Compact Intense Neutron Generators based on Inertial Electrostatic Confinement of D-D Fusion Plasmas Kai Masuda (Kyoto Univ., Japan)
16:10-16:40	Coffee	
16:40-17:10	Session 10: (Chair: Bernhard A. Ludewigt)	NRF based Nondestructive Inspection System for SNM by using Laser-Compton-Backscattering Gamma-rays Hideaki Ohgaki (IAE, Kyoto Univ., Japan)
17:10-17:40		Development of Measurement Methods for Detection of Special Nuclear Materials using D-D Pulsed Neutron Source Tsuyoshi Misawa (RRI, Kyoto Univ., Japan)
17:40-18:20		Challenges of a new proposed Compton Source for the ELI-NP European Infrastructure Luca Serafini (INFN-Milano, Italy)

30 January (Thursday)		Topic Speaker
9:00-9:30	Session 11: (Chair: Yoshiaki Kiyanagi)	SOFIA, a next-generation facility for fission yields measurements and fission study: First results and perspectives Laurent Audouin (IPNOrsay, University of Paris Sud, France)
9:30-10:00		Present Status of Nuclear Data for Nuclear Nonproliferation Masayuki Igashira (Tokyo Institute of Technology, Japan)
10:00-10:20		Development of the experimental photo-nuclear reaction database in Hokkaido University Nuclear Data Center Ayano Makinaga (Hokkaido Univ., Japan)
10:20-10:40	Coffee	
10:40-11:10	Session 12: (Chair: Dino Jaroszynski)	Laser Compton scattering photon beams and other gamma-ray sources: Project for coherent γ -ray source on basis of femtosecond laser at ILC MSU Vladimir G. Nedorezov (RAS, INR, Russia)
11:10-11:30		Laser driven ion acceleration study in JAEA Kiminori Kondo (JAEA, Japan)
11:30-11:50		Nuclear Forensics and Nuclear Security: African Perspective Olajide Lawel (University of the Gambia, South Africa)
11:50-12:50	Lunch	
12:50-13:20	Session 13: (Chair: Mamoru Fujiwara)	Prospect of Nuclear Research at a laser-photon Storage ring electron Compton Scatter Beamline of 15 MeV γ - Rays Chary Rangacharyulu (University of Saskatchewan, Canada)
13:20-13:40		Status of new JENDL Photonuclear Data File Kazuaki Kosako (Shimizu Corporation, Japan)
13:40-14:00		Calibration of lanthanum bromide scintillation detectors Mahmoud I. Abbas (Alexander Univ., Egypt)
14:00-14:30		IRIDE: An Interdisciplinary Research Infrastructure based on Dual Electron linac & laser Massimo Ferrario (INFN-LNF, Italy)
14:30-14:50		Closing Remarks Christopher P. J. Barty (LLNL, USA)
14:50-15:10		Final Remarks Mamoru Fujiwara (Osaka Univ., Japan)
15:10-18:40		Excursion to KEK Compact ERL (Return to Riccoti)