

Poster Sessions

Date / Time	December 8 (Thu.), 2022 / 15:00-18:00
Place	Conference Room (2F)

P_A_01

15:00-18:00

Nuclides Identification Study Using the Gamma Spectroscopy in the Medical Linear Accelerators

Na Hye Kwon¹, Dong Wook Kim¹, Suah Yu², Jinsung Kim¹, Young Jae Jang^{3,4}, Kum Bae Kim⁴, Sang Hyoun Choi⁴

¹Yonsei University College of Medicine, Republic of Korea, ²Kangwon National University, Republic of Korea, ³Korea University, Republic of Korea, ⁴Korea Institute of Radiological and Medical Sciences, Republic of Korea

P_A_02

15:00-18:00

Cold Neutron Prompt Gamma Activation System at HANARO Research Reactor

Gwang-Min Sun, Jaegi Lee, M.S. Kim, B.G. Park

Korea Atomic Energy Research Institute, Republic of Korea

P_A_03

15:00-18:00

Rapid Analysis of Uranium and Thorium Concentrations in Powder Rock Samples by a Delayed Neutron Counting

Gwang-Min Sun, Jaegi Lee, B.G. Park, Young Rang Uhm, Bo Young Han

Korea Atomic Energy Research Institute, Republic of Korea

P_A_04

15:00-18:00

Development of Monte Carlo Simulation for $4\pi\beta(\text{LS})-\gamma$ Coincidence System

Jinyu Kim, Bo-Young Han, Gwang-Min Sun, Taeyun Kim

Korea Atomic Energy Research Institute, Republic of Korea

P_A_05

15:00-18:00

Evaluation of Elemental Monitor and Quantitative Analysis Methods for Air Particulate Matter in ROK

Bo-Young Han, Yong-Hyun Nam, Jong-Hwa Moon, Ji-Seok Kim

Korea Atomic Energy Research Institute, Republic of Korea

P_A_06

15:00-18:00

Characterization of Neutron Transmutation Doped-SiC Wafer Using Non-Destructive Tests

Junesic Park¹, Byung-Gun Park¹, Seongjun Kim², Yun Ji Shin³, Gwang-Min Sun¹

¹Korea Atomic Energy Research Institute, Republic of Korea, ²National Institute for Nanomaterials Technology, Republic of Korea, ³Korea Institute of Ceramic Engineering and Technology, Republic of Korea

P_A_07

15:00-18:00

Current Status of R&D on Decommissioning Calandria at Wolsong Unit 1

Minchul Kim, Hyunmin Kim, Jihwan Yu, Gilim Kim

Korea Hydro & Nuclear Power Central Research Institute, Republic of Korea

P_A_08

15:00-18:00

Characterization of Neutron Spectra at PTS Irradiation Holes of HANARO Reactor through Monte Carlo Simulation for k_0 -INAA

K.B. Dasari¹, B.G. Park², J.H. Moon², H. Cho³, S.P. Hong², Y.J. Jwa¹, K.S. Lee³, G.M. Sun²

¹Research Institute of Natural Science, Republic of Korea, ²Korea Atomic Energy Research Institute, Republic of Korea, ³Korea Research Institute of Standards and Science, Republic of Korea

P_A_09

15:00-18:00

Evaluation of Thermal Neutron Fluence for Irradiation Testing of High Density Fission Moly Targets at OR Irradiation Hole in HANARO

Seongwoo Yang, Sung Jae Park, Yoon Taeg Shin, Kee Nam Choo, Hae Sun Jeong, Ye Eun Na, Chul Yong Lee

Korea Atomic Energy Research Institute, Republic of Korea

P_A_10

15:00-18:00

Determination of Trace, Minor and Major Elements of Andhra Pradesh Medicinal Plants through PIXE Method

M. Ratnaraju^{1,2}, P. V. Madhusudhana Rao², K. B. Dasari³, M. K. Raju², B. Chandra Sekhar⁴

¹Maharajah's College, India, ²Andhra University, India, ³Gyeongsang National University, Republic of Korea, ⁴Vignan's Institute of Engineering for Women, India

P_C_01

15:00-18:00

Site-Specific Parameters to be Considered for Calculation of DCGL for Decommissioning Nuclear Facilities

Hyung-Woo Seo, Ji-Hwan Yu, Gi-Lim Kim, Hyun-Min Kim

Korea Hydro & Nuclear Power Central Research Institute, Republic of Korea

P_C_02

15:00-18:00

Study on Characterization and Management Plan of Cutting Debris during Decommissioning of Nuclear Power Plant

Jihwan Yu, Hyoung-woo Seo, Minchul Kim, Gilim Kim, Hyunmin Kim

Korea Hydro & Nuclear Power Central Research Institute, Republic of Korea

P_C_03

15:00-18:00

A Study on the Management Plan for Nuclear Power Plant Decommissioning Radioactive Waste

JunKi Baik, SukWon Jung, ChanGeun Park, GangWoo Ryu

Korea Hydro & Nuclear Power Central Research Institute, Republic of Korea

P_C_04

15:00-18:00

Method for Demolition and Disposal of Contaminated Buildings in Korea Research Reactor 1 and 2

Geun-Ho Kim^{1,2}, Doseong Hwang¹, Jung Ho Song³, Junhyuck Im¹, Junhee Lee¹, Minyoung Kang¹, Kwang Pyo Kim²

¹Korea Atomic Energy Research Institute, Republic of Korea, ²Kyung Hee University, Republic of Korea, ³BRnC, Republic of Korea

P_C_05

15:00-18:00

Gamma Camera Applications for Decommissioning Nuclear Power Plant

Jong Sun Hwang, Hyejin Jung, Kwangho Jo

Korea Hydro & Nuclear Power Central Research Institute, Republic of Korea

P_C_06

15:00-18:00

An Approach to Calculation of Individual Doses on Drop Accident Scenarios during Decommissioning of Nuclear Power Plant

Kwangho Jo, JongSun Hwang, Hyejin Jung

Korea Hydro & Nuclear Power Central Research Institute, Republic of Korea

P_C_09

15:00-18:00

Synthesis and Characterization of Hydrogen Organic Framework for Iodine Trapping

Viktoriya Kim^{1,2}, Jeongmook Lee^{1,2}, Tae-Hyeong Kim², Jong-Yun Kim^{1,2}, Sang Ho Lim^{1,2}

¹University of Science and Technology, Republic of Korea, ²Korea Atomic Energy Research Institute, Republic of Korea

P_C_10

15:00-18:00

Spectroscopic and Thermodynamic Studies on Chemical Reactions of Nitrocatechol and Uranium(VI) in Aqueous Solution

Kyeongmin Lee^{1,2}, Seonggyu Choi², Wansik Cha²

¹University of Science and Technology, Republic of Korea, ²Korea Atomic Energy Research Institute, Republic of Korea

P_C_11

15:00-18:00

Study of the γ Radiation Rate Conversion Method for Clearance Determination of Natural Uranium-Contaminated Soil

Jeongwook Moon¹, Tack-Jin Kim¹, Kyungmin Kim¹, Byung-Moon Jun¹, Sungbin Park¹, Wonhyuk Jang¹, Yong Kyun Kim²

¹Korea Atomic Energy Research Institute, Republic of Korea, ²Hanyang University, Republic of Korea

P_C_12

15:00-18:00

Effective Detection Method of Radioactive Particles for Solving Impurity and Solubility Problems

Hye-Sung Jung, Chung-Hun Han, Hee-Jung Im

Jeju National University, Republic of Korea

P_C_13

15:00-18:00

Analysis of Inorganic Anions in the KURT Samples by Capillary Electrophoresis Using Suppressed Electroosmotic Flow

Jihye Kim, Wansik Cha, Hee-Kyung Kim, Ja-Young Goo

Korea Atomic Energy Research Institute, Republic of Korea

P_C_14

15:00-18:00

Improved Stability of UO₂ against Surface Oxidation by Gd Doping: First-Principles Study

Minjoon Hong, Byungchan Han

Yonsei University, Republic of Korea

P_C_15

15:00-18:00

Methodology for Characterization of Radioactive Aerosols from Laser Cutting during Decommissioning and Decontamination Process

Joonsoo Ock¹, Wonseok Yang², Sungyeol Choi¹

¹Seoul National University, Republic of Korea, ²Korea Advanced Institute of Science and Technology, Republic of Korea

P_E_01

15:00-18:00

Study of the Radioactivity Concentrations of Natural Radionuclides by Atmospheric Phenomenon in Fine Dust of Jeju, Korea

Chung-Hun Han, Sohyeon Lim, Hee-Jung Im

Jeju National University, Republic of Korea

P_E_02

15:00-18:00

Radon and Uranium Content Distribution in Groundwater of the Eorae Mountain Area, Chungju, Korea

Yoon Yeol Yoon, Dong Chan Koh, Byoung Woo Yum, Byong Wook Cho

Korea Institute of Geoscience and Mineral Resources, Republic of Korea

P_E_03

15:00-18:00

A Study on the Rapid Pretreatment Method for Determination of ⁵⁵Fe and ⁶³Ni in Decommissioning Samples

Chae-yeon Lee^{1,2}, Jong-Myoung Lim¹, Hyuncheol Kim¹, Da-Young Gam¹

¹Korea Atomic Energy Research Institute, Republic of Korea, ²Chungnam National University, Republic of Korea

P_E_04

15:00-18:00

Space Part Test Environment Based on the 100 MeV Proton Beam at KOMAC

Hyeok-Jung Kwon, Sang-Pil Yun, Jeong-Jeung Dang, Han-Sung Kim, Seunghyun Lee, Dong-Hwan Kim, Young-Gi Song, Kye-Ryung Kim

Korea Atomic Energy Research Institute, Republic of Korea

P_E_05

15:00-18:00

Evaluation of Tritium Enrichment Factor by Alkaline Water Electrolysis

Jimin Kim^{1,2}, Hye Hyun Kim¹, Jong-Myoung Lim¹, Hyuncheol Kim^{1,2}

¹Korea Atomic Energy Research Institute, Republic of Korea, ²University of Science and Technology, Republic of Korea

P_E_06

15:00-18:00

Particulate Matter (PM) Analysis by Combining Gamma Spectroscopy and Environmental Factors

YoungJin Park¹, JiSeok Kim¹, YoungSoo Kim¹, JongWu Kim^{1,2}, HanJin Kim^{1,2}, JinHyung Kwon^{1,2}

¹Korea Atomic Energy Research Institute, Republic of Korea, ²Hanyang University, Republic of Korea

P_E_07

15:00-18:00

Development and Evaluation of a Compact Gamma Camera for Radiation Monitoring

Dong-Hee Han¹, Seung-Jae Lee², Hak-Jae Lee³, Jang-Oh Kim¹, Kyung-Hwan Jung¹, Da-Eun Kwon¹, Cheol-Ha Baek¹

¹Kangwon National University, Republic of Korea, ²Dongseo University, Republic of Korea, ³ARALE Laboratory Co., Ltd., Republic of Korea

P_E_08

15:00-18:00

A Study on the Characteristics of the Airborne Gross Alpha-Beta Activities in the Vicinity of Nuclear Facilities

Da-Young Gam¹, Chae-Yeon Lee^{1,2}, Ji-Young Park¹, Hyuncheol Kim¹, Jong Myoung Lim¹

¹Korea Atomic Energy Research Institute, Republic of Korea, ²Chungnam National University, Republic of Korea

P_E_09

15:00-18:00

Development of Neutron Imaging System for Air Cargo Inspection

Jae Yeon Park, Jungho Mun, Jae Hyun Lee, Moonsik Chae, Minwoong Lee, Nam Ho Lee

Korea Atomic Energy Research Institute, Republic of Korea

P_E_10

15:00-18:00

Material Discrimination Using X-Rays and Neutrons

Jaehyun Lee, Jinhyung Park, JaeYeon Park, Jungho Mun, Moonsik Chae

Korea Atomic Energy Research Institute, Republic of Korea

P_E_11

15:00-18:00

Rapid Determination of Actinides in Steel Samples

Jiyoung Park, Yong-Jin Lee, Chae-Yeon Lee, Da-Young Gam, Hyuncheol Kim, Jong-Myoung Lim

Korea Atomic Energy Research Institute, Republic of Korea

P_E_12

15:00-18:00

Optimal Scan Time of X-Ray Computed Tomography for the Inspection of Pest-Infested Fruits

Taeyun Kim^{1,2}, Jaegi Lee², Gwang-Min Sun², Byung-Gun Park², Hae Jun Park², Deuk-Soo Choi³, Sung-Joon Ye²

¹Seoul National University, Republic of Korea, ²Korea Atomic Energy Research Institute, Republic of Korea, ³Animal and Plant Quarantine Agency, Republic of Korea

P_E_13

15:00-18:00

Development of a Mobile Real-Time Gamma-Ray Measurement System Using Shipboard

Chang-Jong Kim, Mee Jang, Hyuncheol Kim, Jong-Myoung Lim

Korea Atomic Energy Research Institute, Republic of Korea

P_E_14

15:00-18:00

Cosmic Proton-Induced Damage M&S and Radiation Tolerance Design in CMOS Logic

Minwoong Lee¹, Namho Lee¹, Huijeong Gwon¹, Jongyeol Kim¹, Younggwan Hwang¹, Seongik Cho²

¹Korea Atomic Energy Research Institute, Republic of Korea, ²Jeonbuk National University, Republic of Korea

P_E_15

15:00-18:00

Evaluation of Radiation Damage Effect by Modification of the Chemical Structure in Polymer

Pyeong Seok Choi, Ha-Eun Shim, Byoung-Min Lee, You-Ree Nam, Dae-Hee Lim, Hui-Jeong Gwon

Korea Atomic Energy Research Institute, Republic of Korea

P_E_16

15:00-18:00

Properties of Gamma-Ray Irradiated Partially Fluorinated Polystyrene

Byoung-Min Lee, Ha Eun Shim, Dae-Hee Lim, You Ree Nam, Pyeong Seok Choi, Hui-Jeong Gwon

Korea Atomic Energy Research Institute, Republic of Korea

P_E_17

15:00-18:00

Study of Naturally Occurring Radioactive Material (NORM) in Coal and Technically Enhanced Naturally Occurring Radioactive Material (TENORM) in Coal Ash Using Low Level Background Gamma Ray Spectrometry

Neeraj Chauhan¹, Ulrich W. Scherer², Noor Babbar¹, Niti Jaswal¹, Mahsa Farasat², Samantha Goedert², Amrit Pal Toor¹, Alok Srivastava¹

¹Panjab University, India, ²Hochschule-Mannheim, Germany

P_E_18

15:00-18:00

Effects of Gamma-Ray Irradiation on Polyethylene, Poly(vinylidene fluoride), and Polytetrafluoroethylene

Ha Eun Shim, You Ree Nam, Byoung-Min Lee, Dae-Hee Lim, Pyeong Seok Choi, Hui-Jeong Gwon

Korea Atomic Energy Research Institute, Republic of Korea

P_F_01

15:00-18:00

Anisotropic Emission Properties of Prompt Fission Neutrons from Diverse States of Nuclear Material Samples

Seonkwang Yoon^{1,2}, Hee Seo³, Young-Su Kim², Chaehun Lee², Hodong Kim^{1,2}

¹University of Science & Technology, Republic of Korea, ²Korea Atomic Energy Research Institute, Republic of Korea, ³Jeonbuk National University, Republic of Korea

P_F_02

15:00-18:00

Solid Phase Characterization and Groundwater Solubility of Synthetic Uranophane

Wansik Cha¹, Junghwan Park¹, Hye Ran Noh^{1,2}, Euo Chang Jung¹, Sang Ho Lim^{1,2}, Hye-Ryun Cho¹, Hee-Kyung Kim¹

¹Korea Atomic Energy Research Institute, Republic of Korea, ²University of Science and Technology, Republic of Korea

P_F_04

15:00-18:00

Determination of Relative Concentrations of Metallic and Non-Metallic Elements in Aerosols by NAA

Jei-Won Yeon, Minsik Kim, Myung-Hee Yun

Korea Atomic Energy Research Institute, Republic of Korea

P_F_05

15:00-18:00

Effect of Decomposition Products of Organic Compound on the Formation of Volatile Organic Iodide under Gamma Irradiation Conditions

Minsik Kim, Jei-Won Yeon

Korea Atomic Energy Research Institute, Republic of Korea

P_F_06

15:00-18:00

Improving the Sensitivity of Nuclear Material Analysis with LA-ICPMS Using Desolvator

Jeongmook Lee^{1,2}, Chi-Gyu Lee¹, Tae-Hyeong Kim¹, Junghwan Park¹, Jong-Yun Kim^{1,2}, Sang Ho Lim^{1,2}

¹Korea Atomic Energy Research Institute, Republic of Korea, ²University of Science and Technology, Republic of Korea

P_F_07

15:00-18:00

Sorption of Methylene Blue from Aqueous Solution by Anderson-Type Polyoxometalate

Hye Ran Noh^{1,2}, Jong-Yun Kim^{1,2}, Tae-Hyeong Kim¹, Jeongmook Lee^{1,2}, Jung Hwan Park^{2,3}, Sang Ho Lim^{1,2}

¹University of Science and Technology, Republic of Korea, ²Korea Atomic Energy Research Institute, Republic of Korea, ³Korea Advanced Institute of Science and Technology, Republic of Korea

P_F_08

15:00-18:00

Quantification of Boron and Uranium in Uranium Dioxide Samples by Using Prompt Gamma Activation Analysis

M.Y. Kang, J.G. Lee, B.G. Park, Insu Chang, G.M. Sun

Korea Atomic Energy Research Institute, Republic of Korea

P_F_09

15:00-18:00

Geographical Authentication for Growth by Applying Multivariate Statistical Analysis to Elemental Concentrations of Korean Panax Ginseng

M.Y. Kang, J.G. Lee, Young Rang Uhm, Insu Chang, G.M. Sun

Korea Atomic Energy Research Institute, Republic of Korea

P_F_10

15:00-18:00

Influence of Uranium Enrichment on the Etching Rate of Polycarbonate Fission Track Detector Containing Uranium Particles

Chi-Gyu Lee¹, Jeongmook Lee^{1,2}, Junghwan Park¹, Sang Ho Lim^{1,2}

¹Korea Atomic Energy Research Institute, Republic of Korea, ²University of Science and Technology, Republic of Korea

P_F_11

15:00-18:00

Novel Adsorption Bio-Material for Radioactive Copper

JungHo Chae^{1,2}, JunYoung Lee¹, SangWook Kim², JeongHoon Park¹

¹Korea Atomic Energy Research Institute, Republic of Korea, ²Dongguk University, Republic of Korea

P_F_12

15:00-18:00

Electrochemical Monitoring of Chloride Ion Concentration in High-Temperature Hydrogenated Lithium Borate Solution

Myung-Hee Yun¹, Jei-Won Yeon¹, Minsik Kim²

¹Korea Atomic Energy Research Institute, Republic of Korea, ²Korea Institute of Toxicology, Republic of Korea

P_F_13

15:00-18:00

Technical Challenges in High-Temperature Viscosity Measurement System for Chloride Melts

Eunkyeom Lee^{1,2}, Chan-Yong Jung², Sang Ho Lim^{1,2}, Tae-Hyeong Kim², Jong-Yun Kim^{1,2}

¹University of Science and Technology, Republic of Korea, ²Korea Atomic Energy Research Institute, Republic of Korea

P_F_14

15:00-18:00

Determination of Phase Transition Temperatures of NaCl-MgCl₂-UCl₃ Molten Salts by Electrical Conductivity Measurements

Hwakyeung Jeong¹, Chan-Yong Jung¹, Sang-Eun Bae^{1,2}, Sang Ho Lim^{1,2}, Tae-Hyeong Kim¹, Jong-Yun Kim^{1,2}

¹Korea Atomic Energy Research Institute, Republic of Korea, ²University of Science and Technology, Republic of Korea

P_F_15

15:00-18:00

Analysis of Raman Mapping Image of MEF7 Cell

Sung-Joon Ye, Kiok Han, Rodrigo Hernandez Millares

Seoul National University, Republic of Korea

P_F_16

15:00-18:00

Study on the Chemical Properties for CeO₂ with Mo Epsilon Particle

Yeon Ju Lee, Young-Sang Youn

Yeungnam University, Republic of Korea

P_F_17

15:00-18:00

Study on the Corrosion Rate for Ni-Based Alloys under KCl Molten Salt

Su Ji Choi, Young-Sang Youn

Yeungnam University, Republic of Korea

P_H_01

15:00-18:00

Scientific Analysis for Roofiles Excavated from Jeju Hangpaduri Fortress

Kyoungsuk Ahn¹, Min-Su Han²

¹Korea Foundation for the Traditional Architecture and Technology, Republic of Korea, ²Korea National University of Cultural Heritage, Republic of Korea

P_H_02

15:00-18:00

Mössbauer Spectroscopic Investigation of Iron Oxide-Based Ancient Red Pigments Excavated from Gaya Cultural Area

Dong Hyeok Moon¹, Na Ra Lee¹, Young Rang Uhm², Woo Rim Han³, So Jin Kim¹

¹National Research Institute of Cultural Heritage, Republic of Korea, ²Korea Atomic Energy Research Institute, Republic of Korea, ³Gaya National Research Institute of Cultural Heritage, Republic of Korea

P_H_03

15:00-18:00

Determination of Chemical Composition and Firing Technology of Ancient Potteries through by Nuclear and Atomic Spectroscopic Techniques

K.B. Dasari¹, H. Cho², T. Lee³, G.M. Sun⁴, N. Lakshmana Das⁵

¹Gyeongsang National University, Republic of Korea, ²Korea Research Institute of Standards and Science, Republic of Korea, ³Korea Basic Science Institute, Republic of Korea, ⁴Korea Atomic Energy Research Institute, Republic of Korea, ⁵GITAM University, India

P_I_01

15:00-18:00

Parametric Optimization of Si Detector Response Function for Neutron Depth Profiling Using Particle Swarm Optimization

Jinhwan Kim, Byung-gun Park

Korea Atomic Energy Research Institute, Republic of Korea

P_I_02

15:00-18:00

Fast Neutron Coincidence Counter Using Plastic Scintillation Detectors for the UTRU/RE Waste Form in the Waste Burden Minimization Technology

Chaehun Lee¹, Seonkwang Yoon^{1,2}, Seonkyu Ahn¹, Hee Seo³

¹Korea Atomic Energy Research Institute, Republic of Korea, ²University of Science and Technology, Republic of Korea, ³Jeonbuk National University, Republic of Korea

P_I_03

15:00-18:00

Effects of Fast Neutron Irradiation on Switching of BJT

Sung Ho Ahn, Gwang-Min Sun

Korea Atomic Energy Research Institute, Republic of Korea

P_I_04

15:00-18:00

Development of Neutron Transmutation Doping Device for SiC at HANARO

Byung-Gun Park, Gi-Doo Kang, Wan-Seok Oh, Myong-Seop Kim, Gwang Min Sun

Korea Atomic Energy Research Institute, Republic of Korea

P_I_05

15:00-18:00

Development of Hot-Wire Sensor for Measurement of Thermal Conductivity of Chloride Molten Salts

Aung Koko, Siwon Seo, Jaeyoung Lee

Handong Global University, Republic of Korea

P_I_06

15:00-18:00

Feasibility Studies on Quality Assurance of High Pure Platinum Dish Using Attenuation Technique

J.S. Brahmaji Rao, G.V.S. Ashok Kumar, K. Sundararajan

Indira Gandhi Centre for Atomic Research, India

P_I_07

15:00-18:00

Preliminary Studies on Characterization of ²⁴¹Am-Be Neutron Source for PGNAAs Experiments

J.S. Brahmaji Rao, R. Senthilvadivu, G.V.S. Ashok Kumar, K. Sundararajan

Indira Gandhi Centre for Atomic Research, India

P_I_08

15:00-18:00

Development of a Real-Time Gamma Camera for High Radiation Fields

Minju Lee, Sang-Han Lee, Yoonhee Jung

Korea Research Institute of Standards and Science, Republic of Korea

P_I_09

15:00-18:00

Coincidence Time Resolution Analysis Based on Digital Constant Fraction Discriminator (dCFD)

Seong Pyo Hong¹, Bo-Young Han¹, Gwang-Min Sun¹, Jaegi Lee¹, Young-Su Jeong^{1,2}

¹Korea Atomic Energy Research Institute, Republic of Korea, ²Daegu Catholic University, Republic of Korea

P_I_10

15:00-18:00

Monitoring of Uranium Concentration in NaCl-MgCl₂ Melt

Chan-Yong Jung, Tae-Hyeong Kim, Sang-Eun Bae

Korea Atomic Energy Research Institute, Republic of Korea

P_M_01

15:00-18:00

Synthesis of ⁵⁷Fe-N/C, Fe@SiO₂ Catalysts Using E-Beam Irradiation for PEMFCs

Chaewon Lee^{1,2}, Young Rang Uhm¹, Gwang-Min Sun¹, Haein Choi-Yim²

¹Korea Atomic Energy Research Institute, Republic of Korea, ²Sookmyung Women's University, Republic of Korea

P_M_02

15:00-18:00

Analysis of Porosity of ZIF-Based Gas Separation Membranes Using Positron Annihilation Lifetime Spectroscopy (PALs)

Muhammad Shoaib Tahir, Je-won Lee, Iqra Rabani, Young Soo Seo

Sejong University, Republic of Korea

P_M_03

15:00-18:00

Mössbauer and Magnetic Properties of Nanometer-Sized Iron Oxides by a Sol-Gel Method

Sung Yong An^{1,2,3}

¹Seoul School of Integrated Sciences and Technologies, Republic of Korea, ²Franklin University Switzerland, Switzerland, ³Samsung Electro-Mechanics, Republic of Korea

P_M_04

15:00-18:00

A Monte Carlo Study on Positron Behavior in Multi-Layered Structures for Positron Annihilation Spectroscopy

Kilyoung Ko¹, Hyunwoong Choi¹, Wonku Kim¹, Yongsun Yi², Jaegi Lee³, Gyuseong Cho¹

¹Korea Advanced Institute of Science and Technology, Republic of Korea, ²Khalifa University of Science Technology and Research, United Arab Emirates, ³Korea Atomic Energy Research Institute, Republic of Korea

P_M_05

15:00-18:00

Mössbauer Study of Superparamagnetic AFe₂O₄(A=Mn, Fe, Co) Nanoparticles for Biomedical Applications

Hyun Ho An¹, Chul Sung Kim², Ji Hyun Moon¹, Nam Seob Lee¹, Sung Baek Kim¹

¹Konyang University, Republic of Korea, ²Kookmin University, Republic of Korea

P_M_06

15:00-18:00

Mössbauer Spectroscopy Applied to Study of Red-Burnished Pottery Body from South Korea

Hyunkyung Choi, Young Rang Uhm, Gwang-Min Sun

Korea Atomic Energy Research Institute, Republic of Korea

P_M_07

15:00-18:00

Mössbauer Spectroscopy of ⁵⁷Fe-N_x Active Sites in ⁵⁷Fe-N-C Electro-Catalysts Prepared E-Beam Irradiation

Young Rang Uhm¹, Chaewon Lee¹, Hyunkyung Choi¹, Jaegi Lee¹, Gwang-Min Sun¹, Chul Sung Kim²

¹Korea Atomic Energy Research Institute, Republic of Korea, ²Kookmin University, Republic of Korea

P_M_08

15:00-18:00

Positron Annihilation Lifetime Spectroscopy of Red Ocher in Neolithic and Bronze Age Pottery Excavated from Korea

Jaegi Lee¹, Young-Su Jeong^{1,2}, Young Rang Uhm¹, Gwang-Min Sun¹, Min Su Han³

¹Korea Atomic Energy Research Institute, Republic of Korea, ²Daegu Catholic University, Republic of Korea, ³Korea National University of Cultural Heritage, Republic of Korea

P_M_09

15:00-18:00

Effect of Polymer Adhesive in Positron Source for Positron Annihilation Lifetime Spectroscopy (PALS)

Young Su Jeong^{1,2}, Jaegi Lee², Gwang-Min Sun², Bo-Young Han², Young Rang Uhm², Yongmin Kim¹

¹Daegu Catholic University, Republic of Korea, ²Korea Atomic Energy Research Institute, Republic of Korea

P_M_10

15:00-18:00

Correction on the Source-Supporting Foil of Kapton, Aluminum (Al), and Nickel (Ni) in Positron Annihilation Lifetime Spectroscopy (PALS)

Young Su Jeong^{1,2}, Jaegi Lee², Gwang-Min Sun², Bo-Young Han², Young Rang Uhm², Yongmin Kim¹

¹Daegu Catholic University, Republic of Korea, ²Korea Atomic Energy Research Institute, Republic of Korea

P_M_11

15:00-18:00

A Review of Positron-Annihilation Induced Auger Electron Spectroscopy (PAES) Study of Metal and Semiconductor Surfaces

Jaehong Kim

Institute for Basic Science, Republic of Korea

P_R_01

15:00-18:00

Measurement of Scintillation Pixel Position of PET Detector Module Based on Simulation Data

Seung-Jae Lee¹, Cheol-Ha Baek²

¹Dongseo University, Republic of Korea, ²Kangwon National University, Republic of Korea

P_R_02

15:00-18:00

A Prediction to Mechanical Parameters Using Log and DICOM-RT Files with Machine Learning

Pilsu Kim, Manjin Ha, Byung Jun Min

Chungbuk National University Hospital, Republic of Korea

P_R_03

15:00-18:00

Prediction Factor of Radiation Treatment Response in Lung Cancer Patients Using Radiomics Features and Deep-Learning Classification Model

Manjin Ha, Pilsu Kim, Byung Jun Min

Chungbuk National University Hospital, Republic of Korea

P_R_04

15:00-18:00

Hybrid Model- and Deep Learning-Based Metal Artifact Reduction Method in Cone-Beam Computed Tomography

Jin Hur¹, Yeong-Gil Shin¹, Ho Lee²

¹Seoul National University, Republic of Korea, ²Yonsei University College of Medicine, Republic of Korea

P_R_05

15:00-18:00

Non-Blind-Based Deblurring Method for the Digital Breast Tomosynthesis with Deep Image Prior

Subong Hyun, Seoyoung Lee, Hyengseok Kim, Seungryong Cho

Korea Advanced Institute of Science and Technology, Republic of Korea

P_R_06

15:00-18:00

Development of Prototype Rubidium-82 Generator for Myocardial Perfusion PET Imaging

Kye-Ryung Kim¹, Yong-Sub Cho¹, Sang-Pil Yun¹, Hyeok-Jung Kwon¹, Young-Gi Song¹, Hyeonggi Kim², Sang-Jin Han², Jung Young Kim², Kyo Chul Lee², Jin Su Kim²

¹Korea Atomic Energy Research Institute, Republic of Korea, ²Korea Institute of Radiological & Medical Sciences, Republic of Korea

P_D_01

15:00-18:00

Calculation of Self-Absorption and Coincidence Summing Correction Factors for Urine Bioassay by Means of Monte Carlo Simulation

MinSeok Park, Jaeryong Yoo, Minsu Cho

Korea Institute of Radiological and Medical Sciences, Republic of Korea

P_D_02

15:00-18:00

Development of the Shielding Evaluator for Low Energy Generator Facility

Park Hyesung², Kwon Nahye¹, Kim Sang Rok³, Kim Jinsung¹, Yoo Hwidong², Choi Sanghyoun³, Kim Dong Wook¹

¹Yonsei University College of Medicine, Republic of Korea, ²Yonsei University, Republic of Korea, ³Korea Institute of Radiological & Medical Sciences, Republic of Korea

[W1C] Session C. Radiochemistry	
Date / Time	December 7 (Wed.), 2022 / 13:00-15:00
Place	S306 (3F)
Chairpersons	Dr. Jong-Yun KIM (KAERI) Dr. Sang Ho LIM (KAERI)

W1C_01

[INVITED]

13:00-13:30

Determination of Long-Lived Radiocesium by Inductively Coupled Plasma Mass Spectrometry

Shiho Asai^{1,2}

¹National Metrology Institute of Japan, Japan, ²National Institute of Advanced Industrial Science and Technology, Japan

W1C_02

13:30-14:00

Thermodynamics of Aqueous Thorium(IV) Complexes with Aromatic Monocarboxylic Model Ligands

Seonggyu Choi^{1,2}, Kiwan Jang², Jong-il Yun²

¹Korea Atomic Energy Research Institute, Republic of Korea, ²Korea Advanced Institute of Science and Technology, Republic of Korea

W1C_03

14:00-14:30

Laser-Induced Breakdown Spectroscopy in Extreme Environments – Process Monitoring in Molten Salts for Radioactive Waste Management

Yunu Lee¹, Richard I. Foster², Hyeongbin Kim², Sungyeol Choi²

¹Korea Advanced Institute of Science and Technology, Republic of Korea, ²Seoul National University, Republic of Korea

W1C_04

14:30-15:00

Structural Insights on Am(III)-Isosaccharinate Complexes Based on a Spectroscopic Study and Density Functional Theory Calculations

Hee-Kyung Kim¹, Keunhong Jeong², Hye-Jin Cho¹, Ung Hwi Yoon², Hye-Ryun Cho¹

¹Korea Atomic Energy Research Institute, Republic of Korea, ²Korea Military Academy, Republic of Korea

[W1E] Session E. Radiation in Environment, Space	
Date / Time	December 7 (Wed.), 2022 / 13:00-14:20
Place	Auditorium (2F)
Chairpersons	Dr. Hui-Jeong GWON (KAERI) Dr. Mee JANG (KAERI)

W1E_01

[INVITED]

13:00-13:20

Ultra-Sensitive Determination of Atmospheric Iodine-129 and Its Species Using Accelerator Mass Spectrometer

Luyuan Zhang¹, Xiaolin Hou¹, Tong Zhang², Miao Fang¹, Hyuncheol Kim³, Huan Jiang², Ning Chen¹, Peng Cheng¹, Yunchong Fu¹, Qi Liu¹

¹Chinese Academy of Sciences, China, ²Xi'an Institute for Innovative Earth Environment Research, China

W1E_02

13:20-13:40

Enhanced Biodegradation of Plastic Polymer with Microorganisms Using the Radiation-Induced Oxidation

Jong-Hyun Jung¹, Kwang-Woo Jung¹, In-Tae Hwang¹, Sangyong Lim¹, Hui-Jeong Gwon¹, Myung-Ji Seo²

¹Korea Atomic Energy Research Institute, Republic of Korea, ²Incheon National University, Republic of Korea

W1E_03

13:40-14:00

Optimization of the Rapid Method for ⁹⁰Sr Determination in Seawater Using DGA Resin

Gahyun Kim^{1,2}, Sang-do Choi¹, Heewon Kim¹, Jong-Myoung Lim¹, Hyuncheol Kim^{1,2}

¹Korea Atomic Energy Research Institute, Republic of Korea, ²University of Science and Technology, Republic of Korea

W1E_04

14:00-14:20

Identification of Gamma Emitting Natural Isotopes in Environmental Sample Spectra: An Artificial Neural Network Approach

Bharathi Paleti, G Hanumat Sastry

University of Petroleum and Energy Studies, India

[W1I] Session I. Instrumentations and Sensors	
Date / Time	December 7 (Wed.), 2022 / 13:00-15:00
Place	S301+S302 (3F)
Chairpersons	Prof. Manhee JEONG (Jeju Nat'l Univ.) Dr. Byung Gun PARK (KAERI)

W1I_01

13:00-13:20

Development of an Active Radon Mitigation System with a Highly Sensitive Radon Detector

Sanghoon Hwang^{1,2}, Minji Han^{1,2}, J.M. Lee^{1,2}, K.B. Lee^{1,2}, B.C. Kim¹, D.H. Heo¹

¹Korea Research Institute of Standards and Science, Republic of Korea, ²University of Science and Technology, Republic of Korea

W1I_02

13:20-13:40

Development of Thoron (²²⁰Rn) Detector at KRISS

Minji Han^{1,2}, S.H. Hwang^{1,2}, J.M. Lee^{1,2}, K.B. Lee^{1,2}, B.C. Kim¹, D.H. Heo¹

¹Korea Research Institute of Standards and Science, Republic of Korea, ²University of Science and Technology, Republic of Korea

W1I_03

13:40-14:00

Determination of ⁵⁵Fe and ⁵⁹Ni Using Silicon Drift Detector

Jinhyung Lee, Chang-Jong Kim, Mee Jang, Jiyoung Park, Jong-Myoung Lim, Sang Bum Hong, Hyuncheol Kim

Korea Atomic Energy Research Institute, Republic of Korea

W1I_04

14:00-14:20

Critical Limit for Single Escape Peak of Co-60 for Avoiding the Cs-137 Misdetection

Myong-Seop Kim, Byung-Gun Park

Korea Atomic Energy Research Institute, Republic of Korea

W1I_05

14:20-14:40

Design and Fabrication of X-Ray/Neutron Simultaneous Detector

Chang Goo Kang, Su Jin Kim, Jeong Min Park, Han Soo Kim, Jang Ho Ha, Young Soo Kim

Korea Atomic Energy Research Institute, Republic of Korea

W1I_06

14:40-15:00

Study of Cooking Methods Impact on Elements of Pulses by Using EDXRF

B.Aruna, P.V. Lakshmi Narayana, A. D. P. Rao

Andhra University, India

[W2A] Session A. Activation Analysis	
Date / Time	December 7 (Wed.), 2022 / 15:20-16:40
Place	S305 (3F)
Chairpersons	Dr. GwangMin SUN (KAERI) Dr. Hana CHO (KRISS)

W2A_01

[INVITED]

15:20-15:40

PGAA Measurement of Chloride Diffusion Profile in Concrete Cylinders

H.H. Chen-Mayer¹, N.S. Berke², R.M. Livingston^{1,3}

¹National Institute of Standards and Technology, USA, ²Tourney Consulting Group, USA, ³University of Maryland, USA

W2A_02

15:40-16:00

Utilization of KAERI-ICERR Facilities

Sung Ho Ahn, Gwang-Min Sun

Korea Atomic Energy Research Institute, Republic of Korea

W2A_03

16:00-16:20

Activation Products Formation in Nuclear Fuel of APR1400 Reactor

Mikolaj Oettingen^{1,2}

¹AGH University of Science and Technology, Poland, ²KEPCO International Nuclear Graduate School, Republic of Korea

W2A_04

16:20-16:40

Safety Analysis of Radioisotope Production in HANARO by Using MCNP and COMSOL Simulation

Taeyun Kim^{1,2}, Jaegi Lee², Gwang-Min Sun², Bo-Young Han², Byung-Gun Park², Sung-Joon Ye²

¹Seoul National University, Republic of Korea, ²Korea Atomic Energy Research Institute, Republic of Korea

[W2C] Session C. Radiochemistry	
Date / Time	December 7 (Wed.), 2022 / 15:20-17:20
Place	S306 (3F)
Chairpersons	Dr. Jong-Yun KIM (KAERI) Dr. Sang Ho LIM (KAERI)

W2C_01

15:20-15:50

Retention of Niobium by Cementitious Materials

Yongheum Jo^{1,2}, Nese Cevirim-Papaioannou¹, Markus Fuss¹, Karsten Franke³, Benny de Blochouse⁴, Marcus Altmaier¹, Xavier Gaona¹
¹Karlsruhe Institute of Technology, Germany, ²Korea Atomic Energy Research Institute, Republic of Korea, ³Helmholtz-Zentrum Dresden-Rossendorf, Germany, ⁴ONDRAF/NIRAS, Belgium

W2C_02

15:50-16:20

Radionuclides Remediation Using Synthetic Chemical and Biological Approaches

Woorim Son¹, Ji Seong Moon¹, Jinhee Park², Jinkyu Park¹

¹Gyeongsang National University, Republic of Korea, ²Daegu Gyeongbuk Institute of Science & Technology, Republic of Korea

W2C_03

16:20-16:50

Sunlight-Induced Uranium Extraction with Triazine-Based Carbon Nitride as Both Photocatalyst and Adsorbent

Shuang Liu^{1,2}, Yuexiang Lu², Sungyeol Choi¹

¹Seoul National University, Republic of Korea, ²Tsinghua University, China

W2C_04

16:50-17:20

Thermodynamic Modeling of Cs Oxide in Molten Slag and Application to the Design of Nuclear Waste Treatment Process of Steels

In-Ho Jung

Seoul National University, Republic of Korea

[W2E] Session E. Radiation in Environment, Space

Date / Time December 7 (Wed.), 2022 / 15:20-17:20

Place Auditorium (2F)

Chairpersons Dr. Junga HWANG (KASI)

W2E_01

15:20-15:40

Conceptional Design of Particle Dosimeter and Spectrometer on the Moon

Sunghwan Kim¹, Ukwon Nam², Won-Kee Park², Jongdae Sohn², Young-Jun Choi², Bobae Kim³, Hongjoo Kim³, Hwanbae Park³, Sukwon Youn⁴, Sung-Joon Ye⁴, Insoo Jun⁵

¹Cheongju University, Republic of Korea, ²Korea Astronomy and Space Science Institute, Republic of Korea, ³Kyungpook National University, Republic of Korea, ⁴Seoul National University, Republic of Korea, ⁵Jet Propulsion Laboratory, USA

W2E_02

15:40-16:00

Shielding Simulation of the Cosmic Radiation Damage in the Super Low Altitude

Junga Hwang^{1,2}, Hojin Lee^{1,2}, Jongdae Sohn^{1,2}, Jaeyoung Kwak^{1,2}

¹University of Science and Technology, Republic of Korea, ²Korea Astronomy and Space Science Institute, Republic of Korea

W2E_03

16:00-16:20

Compact Electron Accelerator System to Treat Livestock Odor in KAERI

Moonsik Chae, Jaehyun Lee, Jaeyeon Park, Taehoon Kim

Korea Atomic Energy Research Institute, Republic of Korea

W2E_04

16:20-16:40

Ambient Dose Equivalent Calibration of LEO-DOS Particle Dosimeter and Spectrometer (PDS)

Sukwon Youn¹, Uk-won Nam², Sunghwan Kim³, Won-Kee Park², Bongkon Moon², Sung-Joon Ye¹

¹Seoul National University, Republic of Korea, ²Korea Astronomy and Space Science Institute, Republic of Korea, ³Cheongju University, Republic of Korea

W2E_05

16:40-17:00

Monte Carlo-Based Calibration Method of Miniaturized Tissue Equivalent Proportional Counter

Mingi Eom, Sukwon Youn, Sung-Joon Ye

Seoul National University, Republic of Korea

W2E_06

17:00-17:20

Extraction of ²³⁵U and ²³⁹Pu Prompt Energy Spectra in NEOS-II

Jinyu Kim¹, Bo-Young Han¹, Chang-Seong Moon², Eun-Ju Jeon³, Gwang-Min Sun¹, Hyang-Kyu Park⁴, Hyon-Suk Jo², Intae Yu⁵, Jaison Lee³, Jong-Geon Kim⁵, Kang Soon Park³, Kim Siyeon⁶, Ki-Young Jung⁶, Moo Hyun Lee³, Seon-Hee Seo³, Yeoungduk Kim^{3,7}, Yoomin Oh³, Youngju Ko³, Young Soo Yoon⁸

¹Korea Atomic Energy Research Institute, Republic of Korea, ²Kyungpook National University, Republic of Korea, ³Institute for Basic Science, Republic of Korea, ⁴Korea University, Republic of Korea, ⁵Sungkyunkwan University, Republic of Korea, ⁶Chung-Ang University, Republic of Korea, ⁷Sejong University, Republic of Korea, ⁸Korea Research Institute of Standards and Science, Republic of Korea

[W2M] Session M. Mossbauer and PAS	
Date / Time	December 7 (Wed.), 2022 / 15:20-17:20
Place	S301+S302 (3F)
Chairpersons	Prof. Sunghyun YOON (KNU) Dr. Jaehong KIM (IBS)

W2M_01

15:20-15:40

Mössbauer and Magnetic Properties of Graphene Oxide Coatings on Fe and FeCo Powders for High Frequency Applications

Sung Yong An^{1,2,3}

¹Seoul School of Integrated Sciences and Technologies, Republic of Korea, ²Franklin University Switzerland, Switzerland, ³Samsung Electro-Mechanics, Republic of Korea

W2M_02

15:40-16:00

Variable Temperature ⁵⁷Fe Mössbauer Studies of ⁵⁷FeN@Pt/C Catalyst

Hyunkyung Choi^{1,2}, Young Rang Uhm¹, Jae Sung Baik², Hyunjoon Lee³, Eunjik Lee³, Gu-Gon Park³, Sung-Dae Yim³, Chul Sung Kim²

¹Korea Atomic Energy Research Institute, Republic of Korea, ²Kookmin University, Republic of Korea, ³Korea Institute of Energy Research, Republic of Korea

W2M_03

16:00-16:20

Positron Annihilation Lifetime Study of Defect in Silicon Carbide for Neutron Transmutation Doping

Jaegi Lee¹, Junesic Park¹, Young-Su Jeong^{1,2}, Byung-Gun Park¹, Bo-Young Han¹, Gwang-Min Sun¹

¹Korea Atomic Energy Research Institute, Republic of Korea, ²Daegu Catholic University, Republic of Korea

W2M_04

16:20-16:40

Understanding of Correlation between Gas Separation Properties and Free Volume Elements of Fluorinated Polyimide Membranes Aid by Positron Annihilation Lifetime Spectroscopy

Nam Gyu Im, Hyo Won Kim

Korea Institute of Energy Technology, Republic of Korea

W2M_05

[INVITED]

16:40-17:00

Pore Architecture and Flexibility of Zeolitic Imidazole Frameworks: Positron Annihilation Spectroscopic Studies

Sandeep Kumar Sharma^{1,2,3}

¹Bhabha Atomic Research Centre, India, ²Homi Bhabha National Institute, India, ³Seoul National University, Republic of Korea

W2M_06

17:00-17:20

Effect of Rolling Temperature on Advanced Reduced-Activation Alloy (ARAA) Using Positron Annihilation Spectroscopy (PAS)

Young Su Jeong^{1,2}, Jaegi Lee², Young-Bum Chun², Young-Rang Uhm², Gwang-Min Sun², Yongmin Kim¹

¹Daegu Catholic University, Republic of Korea, ²Korea Atomic Energy Research Institute, Republic of Korea

[T1D] Session D. Radiation Dosimetry in Radiological Sciences and Emergency	
Date / Time	December 8 (Thu.), 2022 / 13:00-14:40
Place	S305 (3F)
Chairpersons	Dr. Jungil LEE (KAERI) Dr. In Jung KIM (KRISS)

T1D_01

13:00-13:20

Update of ESR/Alanine Dosimetry for Electron Beam at KRISS

Jong In Park, In Jung Kim, Chul-Young Yi, Yun Ho Kim, Young Min Seong, Hyun Moon Kim, Sangmin Lee

Korea Research Institute of Standards and Science, Republic of Korea

T1D_02

13:20-13:40

Development of Techniques for Precision Dose Measurement and Control Based on National Measurement Standard for the Realization of Flash-RT

In Jung Kim, Jong In Park, Chul-Young Yi, Yun Ho Kim, Sangmin Lee, Young Min Seong, Hyun Moon Kim

Korea Research Institute of Standards and Science, Republic of Korea

T1D_03

13:40-14:00

Simultaneous Overmodulated Multi-Harmonic Signals Acquisition Using Digital Signal Processing for L-Band EPR Tooth Dosimetry

Jeonghun Oh¹, Chang Uk Koo¹, Jong In Park², Kwon Choi¹, Junyoung Lee¹, Hiroshi Hirata³, Sung-Joon Ye^{1,4}

¹Seoul National University, Republic of Korea, ²Korea Research Institute of Standards and Science, Republic of Korea, ³Hokkaido University, Japan, ⁴Seoul National University Hospital, Republic of Korea

T1D_04

14:00-14:20

Motion Compensation System for In Vivo Electron Paramagnetic Resonance Tooth Dosimetry

Chang Uk Koo¹, Jong In Park², Jeonghun Oh¹, Kwon Choi¹, Hiroshi Hirata³, Sung-Joon Ye^{1,4}

¹Seoul National University, Republic of Korea, ²Korea Research Institute of Standards and Science, Republic of Korea, ³Hokkaido University, Japan, ⁴Seoul National University Hospital, Republic of Korea

T1D_05

14:20-14:40

Enhanced Dosimetric Accuracy Using Quality Factor Compensation Method for In Vivo Electron Paramagnetic Resonance Tooth Dosimetry

Kwon Choi¹, Chang Uk Koo¹, Jeonghun Oh¹, Jiwon Kim¹, Jong In Park², Sung Hwan Kim³, Jong Hun Lee³, Dae Gyu Kang³, Sung-Joon Ye¹

¹Seoul National University, Republic of Korea, ²Korea Research Institute of Standards and Science, Republic of Korea, ³The Catholic University of Korea, Republic of Korea

[T1F] Session F. Radiochemistry	
Date / Time	December 8 (Thu.), 2022 / 13:00-16:00
Place	S306 (3F)
Chairpersons	Dr. Wansik CHA (KAERI) Dr. Jeong Hoon PARK (KAERI)

T1F_01

13:00-13:20

Thermodynamic Studies of Pu(III) Hydrolysis in Aqueous Solutions

Sangki Cho^{1,2}, Hee-Kyung Kim^{1,2}, Tae-Hyeong Kim¹, Wansik Cha¹, Hyejin Cho¹, Hye-Ryun Cho^{1,2}

¹Korea Atomic Energy Research Institute, Republic of Korea, ²University of Science and Technology, Republic of Korea

T1F_02

13:20-13:40

Current Status of Computational Study of Selective Absorption of Xe/Kr by MOF

Jungho Ahn, Kunok Chang

Kyunghee University, Republic of Korea

T1F_03

13:40-14:00

Integration of First-Principles Computation and Machine Learning Models to Characterize Materials Properties of a Spent Nuclear Fuel and Remedy Radioactive Pollution

Minjoon Hong, Hoje Chun, Byungchan Han

Yonsei University, Republic of Korea

T1F_04

14:00-14:20

The Automated Development of Atomwise and Non-Polarizable Force Fields for Molten Salts Using Genetic Algorithms

Abdullah Bin Faheem¹, Jong-Yun Kim², Tae-Hyeong Kim², Kyung-Koo Lee¹

¹Kunsan National University, Republic of Korea, ²Korea Atomic Energy Research Institute, Republic of Korea

T1F_05

14:20-14:40

Applications of Radioisotopes for Bionanomaterials

Jeong Hoon Park, Lee Jun Young, Pyeong Seok Choi, Min Goo Hur

Korea Atomic Energy Research Institute, Republic of Korea

T1F_06

14:40-15:00

Veterinary Use of Radiopharmaceuticals and Their Introduction to Korea

Jae Cheong Lim

Korea Atomic Energy Research Institute, Republic of Korea

T1F_07

15:00-15:20

Production, Separation and Quality Control of Cobalt-57 in RFT-30 Cyclotron Facility

Jun Young Lee, JungHo Chae, Min Goo Hur, Jeong Hoon Park

Korea Atomic Energy Research Institute, Republic of Korea

T1F_08

15:20-15:40

The Elemental Analysis of Packaged Meals Procured at Debre Tabor Market Places in Ethiopia by Using EDX

G. Mekuannent Alemye, A.D.P. Rao, P.V. Lakshmi Narayana

Andhra University, India

T1F_09

15:40-16:00

Human Health Risk Assessment Through Marine Fish Consumption in Andhra Pradesh by the Heavy Metals Accumulation

Jayasree Aleti¹, Srinivasulu A¹, Tanushree panigrahi², Jaganmoy Biswasi³, A.D.P. Rao¹

¹Andhra University, India, ²Gitam University, India, ³UGC-DAE Consortium for Scientific Research, India

[T1R] Session R. Radiation in Medicine	
Date / Time	December 8 (Thu.), 2022 / 13:00-15:20
Place	Auditorium (2F)
Chairpersons	Prof. Hwiyoung KIM (Yonsei Univ.) Dr. Wonmo SUNG (The Catholic Univ. Korea) Prof. Jimin LEE (UNIST)

T1R_01	[INVITED]	13:00-13:40
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End-to-End Validation of RefleXion System for Biology-Guided Radiation Therapy (BgRT)

Yang Kyun Park, Grant Gibbard, Jun Tan, Tingliang Zhuang, Bin Cai

University of Texas Southwestern Medical Center, USA

T1R_02		13:40-14:00
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The Impact of Blood Dose in the Radiation-Induced Lymphopenia and Prognosis of Hepatocellular Carcinoma Patients after Radiation Therapy

Sangseok Ha¹, Tae Hoon Lee², Jaeman Son², Chang Heon Choi², Hyun-Cheol Kang^{2,3}, Wonmo Sung¹

¹The Catholic University of Korea, Republic of Korea, ²Seoul National University Hospital, Republic of Korea, ³Seoul National University College of Medicine, Republic of Korea

T1R_03		14:00-14:20
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Synthesis of Brain Tumor Dataset via Free-Form Mask in Normal MRI Using Generative Adversarial Networks

Kyuri Kim¹, Yoonho Na¹, Jimin Lee², Sung-Joon Ye¹, Hwiyoung Kim³

¹Seoul National University, Republic of Korea, ²Ulsan National Institute of Science and Technology, Republic of Korea, ³Yonsei University College of Medicine, Republic of Korea

T1R_04		14:20-14:40
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Generation of Missing Brain Tumor MRI Sequence with GANs

Yoonho Na¹, Kyuri Kim¹, Hwiyoung Kim², Sung-Joon Ye¹, Jimin Lee³

¹Seoul National University, Republic of Korea, ²Yonsei University College of Medicine, Republic of Korea, ³Ulsan National Institute of Science and Technology, Republic of Korea

T1R_05		14:40-15:00
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Utilization of the LEM Model for Assessing the Radiation Treatment Effect in terms of DNA Damage Estimates in Critical Targets

Ali Abu Shqair, Eun-Hee Kim

Seoul National University, Republic of Korea

T1R_06		15:00-15:20
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Radionuclide Metrology in Nuclear Medicine: A Case Study with Activity Measurement of ¹⁸F-FDG

Agung Agusbudiman^{1,2}, Kyoung Beom Lee^{1,2}, Jong Man Lee^{1,2}, Sang Hoon Hwang^{1,2}, Byoung Chul Kim², Dong Hye Heo², Ka-Young Park², Eun Hee Kwon², Minji Han^{1,2}

¹University of Science and Technology, Republic of Korea, ²Korea Research Institute of Standards and Science, Republic of Korea

[T1H] Session H. Radiation in Cultural Heritages	
Date / Time	December 8 (Thu.), 2022 / 13:00-14:40
Place	S301+S302 (3F)
Chairpersons	Prof. Min Su HAN (NUCH) Dr. Young Rang UHM (KAERI)

T1H_01	[INVITED]	13:00-13:20
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Utilization of Radiation Technology in the Conservation Science of Cultural Heritage

Min-Su Han

Korea National University of Cultural Heritage, Republic of Korea

T1H_02		13:20-13:40
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Provenance Study on Korea Traditional Ceramics by NAA

Gyuhoo Kim

Kongju National University, Republic of Korea

T1H_03		13:40-14:00
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Application of Mössbauer Spectroscopy on the Korean Cultural Heritages: Pigment, Neolithic Tools and Goryoceladon

Young Rang Uhm¹, Hyunkyung Choi¹, Jaegi Lee¹, Gwang-Min Sun¹, Chul Sung Kim²

¹Korea Atomic Energy Research Institute, Republic of Korea, ²Kookmin University, Republic of Korea

T1H_04		14:00-14:20
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TL/OSL Signal Characteristics According to Types of Porcelain and Firing Temperature

Jae Won Choi^{1,2}, Bom Sok Kim¹, Myung Jin Kim¹, Min Su Han²

¹RADPION Inc., Republic of Korea, ²Korea National University of Cultural Heritage, Republic of Korea

T1H_05		14:20-14:40
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A Comparative Study on the Production and Provenance of Khmer Stoneware through Analysis of Rare Earth Components - Focusing on the Sherds Excavated from Preah Pithu -

Ho-Il Choi, Min-Soo Han

Korea National University of Cultural Heritage, Republic of Korea

☐ **Poster Sessions**

Date / Time	December 8 (Thu.), 2022 / 15:00-18:00
Place	Conference Room (2F)

P_A_01

15:00-18:00

Nuclides Identification Study Using the Gamma Spectroscopy in the Medical Linear Accelerators

Na Hye Kwon¹, Dong Wook Kim¹, Suah Yu², Jinsung Kim¹, Young Jae Jang^{3,4}, Kum Bae Kim⁴, Sang Hyoun Choi⁴

¹Yonsei University College of Medicine, Republic of Korea, ²Kangwon National University, Republic of Korea, ³Korea University, Republic of Korea, ⁴Korea Institute of Radiological and Medical Sciences, Republic of Korea

P_A_02

15:00-18:00

Cold Neutron Prompt Gamma Activation System at HANARO Research Reactor

Gwang-Min Sun, Jaegi Lee, M.S. Kim, B.G. Park

Korea Atomic Energy Research Institute, Republic of Korea

P_A_03

15:00-18:00

Rapid Analysis of Uranium and Thorium Concentrations in Powder Rock Samples by a Delayed Neutron Counting

Gwang-Min Sun, Jaegi Lee, B.G. Park, Young Rang Uhm, Bo Young Han

Korea Atomic Energy Research Institute, Republic of Korea

P_A_04

15:00-18:00

Development of Monte Carlo Simulation for $4\pi\beta(\text{LS})-\gamma$ Coincidence System

Jinyu Kim, Bo-Young Han, Gwang-Min Sun, Taeyun Kim

Korea Atomic Energy Research Institute, Republic of Korea

P_A_05

15:00-18:00

Evaluation of Elemental Monitor and Quantitative Analysis Methods for Air Particulate Matter in ROK

Bo-Young Han, Yong-Hyun Nam, Jong-Hwa Moon, Ji-Seok Kim

Korea Atomic Energy Research Institute, Republic of Korea

P_A_06

15:00-18:00

Characterization of Neutron Transmutation Doped-SiC Wafer Using Non-Destructive Tests

Junesic Park¹, Byung-Gun Park¹, Seongjun Kim², Yun Ji Shin³, Gwang-Min Sun¹

¹Korea Atomic Energy Research Institute, Republic of Korea, ²National Institute for Nanomaterials Technology, Republic of Korea, ³Korea Institute of Ceramic Engineering and Technology, Republic of Korea

P_A_07

15:00-18:00

Current Status of R&D on Decommissioning Calandria at Wolsong Unit 1

Minchul Kim, Hyunmin Kim, Jihwan Yu, Gilim Kim

Korea Hydro & Nuclear Power Central Research Institute, Republic of Korea

P_A_08

15:00-18:00

Characterization of Neutron Spectra at PTS Irradiation Holes of HANARO Reactor through Monte Carlo Simulation for k_0 -INAA

K.B. Dasari¹, B.G. Park², J.H. Moon², H. Cho³, S.P. Hong², Y.J. Jwa¹, K.S. Lee³, G.M. Sun²

¹Research Institute of Natural Science, Republic of Korea, ²Korea Atomic Energy Research Institute, Republic of Korea, ³Korea Research Institute of Standards and Science, Republic of Korea

P_A_09

15:00-18:00

Evaluation of Thermal Neutron Fluence for Irradiation Testing of High Density Fission Moly Targets at OR Irradiation Hole in HANARO

Seongwoo Yang, Sung Jae Park, Yoon Taeg Shin, Kee Nam Choo, Hae Sun Jeong, Ye Eun Na, Chul Yong Lee

Korea Atomic Energy Research Institute, Republic of Korea

P_A_10

15:00-18:00

Determination of Trace, Minor and Major Elements of Andhra Pradesh Medicinal Plants through PIXE Method

M. Ratnaraju^{1,2}, P. V. Madhusudhana Rao², K. B. Dasari³, M. K. Raju², B. Chandra Sekhar⁴

¹Maharajah's College, India, ²Andhra University, India, ³Gyeongsang National University, Republic of Korea, ⁴Vignan's Institute of Engineering for Women, India

P_C_01

15:00-18:00

Site-Specific Parameters to be Considered for Calculation of DCGL for Decommissioning Nuclear Facilities

Hyung-Woo Seo, Ji-Hwan Yu, Gi-Lim Kim, Hyun-Min Kim

Korea Hydro & Nuclear Power Central Research Institute, Republic of Korea

P_C_02

15:00-18:00

Study on Characterization and Management Plan of Cutting Debris during Decommissioning of Nuclear Power Plant

Jihwan Yu, Hyoung-woo Seo, Minchul Kim, Gilim Kim, Hyunmin Kim

Korea Hydro & Nuclear Power Central Research Institute, Republic of Korea

P_C_03

15:00-18:00

A Study on the Management Plan for Nuclear Power Plant Decommissioning Radioactive Waste

JunKi Baik, SukWon Jung, ChanGeun Park, GangWoo Ryu

Korea Hydro & Nuclear Power Central Research Institute, Republic of Korea

P_C_04

15:00-18:00

Method for Demolition and Disposal of Contaminated Buildings in Korea Research Reactor 1 and 2

Geun-Ho Kim^{1,2}, Doseong Hwang¹, Jung Ho Song³, Junhyuck Im¹, Junhee Lee¹, Minyoung Kang¹, Kwang Pyo Kim²

¹Korea Atomic Energy Research Institute, Republic of Korea, ²Kyung Hee University, Republic of Korea, ³BRnC, Republic of Korea

P_C_05

15:00-18:00

Gamma Camera Applications for Decommissioning Nuclear Power Plant

Jong Sun Hwang, Hyejin Jung, Kwangho Jo

Korea Hydro & Nuclear Power Central Research Institute, Republic of Korea

P_C_06

15:00-18:00

An Approach to Calculation of Individual Doses on Drop Accident Scenarios during Decommissioning of Nuclear Power Plant

Kwangho Jo, JongSun Hwang, Hyejin Jung

Korea Hydro & Nuclear Power Central Research Institute, Republic of Korea

P_C_09

15:00-18:00

Synthesis and Characterization of Hydrogen Organic Framework for Iodine Trapping

Viktoriya Kim^{1,2}, Jeongmook Lee^{1,2}, Tae-Hyeong Kim², Jong-Yun Kim^{1,2}, Sang Ho Lim^{1,2}

¹University of Science and Technology, Republic of Korea, ²Korea Atomic Energy Research Institute, Republic of Korea

P_C_10

15:00-18:00

Spectroscopic and Thermodynamic Studies on Chemical Reactions of Nitrocatechol and Uranium(VI) in Aqueous Solution

Kyeongmin Lee^{1,2}, Seonggyu Choi², Wansik Cha²

¹University of Science and Technology, Republic of Korea, ²Korea Atomic Energy Research Institute, Republic of Korea

P_C_11

15:00-18:00

Study of the γ Radiation Rate Conversion Method for Clearance Determination of Natural Uranium-Contaminated Soil

Jeongwook Moon¹, Tack-Jin Kim¹, Kyungmin Kim¹, Byung-Moon Jun¹, Sungbin Park¹, Wonhyuk Jang¹, Yong Kyun Kim²

¹Korea Atomic Energy Research Institute, Republic of Korea, ²Hanyang University, Republic of Korea

P_C_12

15:00-18:00

Effective Detection Method of Radioactive Particles for Solving Impurity and Solubility Problems

Hye-Sung Jung, Chung-Hun Han, Hee-Jung Im

Jeju National University, Republic of Korea

P_C_13

15:00-18:00

Analysis of Inorganic Anions in the KURT Samples by Capillary Electrophoresis Using Suppressed Electroosmotic Flow

Jihye Kim, Wansik Cha, Hee-Kyung Kim, Ja-Young Goo

Korea Atomic Energy Research Institute, Republic of Korea

P_C_14

15:00-18:00

Improved Stability of UO₂ against Surface Oxidation by Gd Doping: First-Principles Study

Minjoon Hong, Byungchan Han

Yonsei University, Republic of Korea

P_C_15

15:00-18:00

Methodology for Characterization of Radioactive Aerosols from Laser Cutting during Decommissioning and Decontamination Process

Joonsoo Ock¹, Wonseok Yang², Sungyeol Choi¹

¹Seoul National University, Republic of Korea, ²Korea Advanced Institute of Science and Technology, Republic of Korea

P_E_01

15:00-18:00

Study of the Radioactivity Concentrations of Natural Radionuclides by Atmospheric Phenomenon in Fine Dust of Jeju, Korea

Chung-Hun Han, Sohyeon Lim, Hee-Jung Im

Jeju National University, Republic of Korea

P_E_02

15:00-18:00

Radon and Uranium Content Distribution in Groundwater of the Eorae Mountain Area, Chungju, Korea

Yoon Yeol Yoon, Dong Chan Koh, Byoung Woo Yum, Byong Wook Cho

Korea Institute of Geoscience and Mineral Resources, Republic of Korea

P_E_03

15:00-18:00

A Study on the Rapid Pretreatment Method for Determination of ⁵⁵Fe and ⁶³Ni in Decommissioning Samples

Chae-yeon Lee^{1,2}, Jong-Myoung Lim¹, Hyuncheol Kim¹, Da-Young Gam¹

¹Korea Atomic Energy Research Institute, Republic of Korea, ²Chungnam National University, Republic of Korea

P_E_04

15:00-18:00

Space Part Test Environment Based on the 100 MeV Proton Beam at KOMAC

Hyeok-Jung Kwon, Sang-Pil Yun, Jeong-Jeung Dang, Han-Sung Kim, Seunghyun Lee, Dong-Hwan Kim, Young-Gi Song, Kye-Ryung Kim

Korea Atomic Energy Research Institute, Republic of Korea

P_E_05

15:00-18:00

Evaluation of Tritium Enrichment Factor by Alkaline Water Electrolysis

Jimin Kim^{1,2}, Hye Hyun Kim¹, Jong-Myoung Lim¹, Hyuncheol Kim^{1,2}

¹Korea Atomic Energy Research Institute, Republic of Korea, ²University of Science and Technology, Republic of Korea

P_E_06

15:00-18:00

Particulate Matter (PM) Analysis by Combining Gamma Spectroscopy and Environmental Factors

YoungJin Park¹, JiSeok Kim¹, YoungSoo Kim¹, JongWu Kim^{1,2}, HanJin Kim^{1,2}, JinHyung Kwon^{1,2}

¹Korea Atomic Energy Research Institute, Republic of Korea, ²Hanyang University, Republic of Korea

P_E_07

15:00-18:00

Development and Evaluation of a Compact Gamma Camera for Radiation Monitoring

Dong-Hee Han¹, Seung-Jae Lee², Hak-Jae Lee³, Jang-Oh Kim¹, Kyung-Hwan Jung¹, Da-Eun Kwon¹, Cheol-Ha Baek¹

¹Kangwon National University, Republic of Korea, ²Dongseo University, Republic of Korea, ³ARALE Laboratory Co., Ltd., Republic of Korea

P_E_08

15:00-18:00

A Study on the Characteristics of the Airborne Gross Alpha-Beta Activities in the Vicinity of Nuclear Facilities

Da-Young Gam¹, Chae-Yeon Lee^{1,2}, Ji-Young Park¹, Hyuncheol Kim¹, Jong Myoung Lim¹

¹Korea Atomic Energy Research Institute, Republic of Korea, ²Chungnam National University, Republic of Korea

P_E_09

15:00-18:00

Development of Neutron Imaging System for Air Cargo Inspection

Jae Yeon Park, Jungho Mun, Jae Hyun Lee, Moonsik Chae, Minwoong Lee, Nam Ho Lee

Korea Atomic Energy Research Institute, Republic of Korea

P_E_10

15:00-18:00

Material Discrimination Using X-Rays and Neutrons

Jaehyun Lee, Jinhyung Park, JaeYeon Park, Jungho Mun, Moonsik Chae

Korea Atomic Energy Research Institute, Republic of Korea

P_E_11

15:00-18:00

Rapid Determination of Actinides in Steel Samples

Jiyoung Park, Yong-Jin Lee, Chae-Yeon Lee, Da-Young Gam, Hyuncheol Kim, Jong-Myoung Lim

Korea Atomic Energy Research Institute, Republic of Korea

P_E_12

15:00-18:00

Optimal Scan Time of X-Ray Computed Tomography for the Inspection of Pest-Infested Fruits

Taeyun Kim^{1,2}, Jaegi Lee², Gwang-Min Sun², Byung-Gun Park², Hae Jun Park², Deuk-Soo Choi³, Sung-Joon Ye²

¹Seoul National University, Republic of Korea, ²Korea Atomic Energy Research Institute, Republic of Korea, ³Animal and Plant Quarantine Agency, Republic of Korea

P_E_13

15:00-18:00

Development of a Mobile Real-Time Gamma-Ray Measurement System Using Shipboard

Chang-Jong Kim, Mee Jang, Hyuncheol Kim, Jong-Myoung Lim

Korea Atomic Energy Research Institute, Republic of Korea

P_E_14

15:00-18:00

Cosmic Proton-Induced Damage M&S and Radiation Tolerance Design in CMOS Logic

Minwoong Lee¹, Namho Lee¹, Huijeong Gwon¹, Jongyeol Kim¹, Younggwan Hwang¹, Seongik Cho²

¹Korea Atomic Energy Research Institute, Republic of Korea, ²Jeonbuk National University, Republic of Korea

P_E_15

15:00-18:00

Evaluation of Radiation Damage Effect by Modification of the Chemical Structure in Polymer

Pyeong Seok Choi, Ha-Eun Shim, Byoung-Min Lee, You-Ree Nam, Dae-Hee Lim, Hui-Jeong Gwon

Korea Atomic Energy Research Institute, Republic of Korea

P_E_16

15:00-18:00

Properties of Gamma-Ray Irradiated Partially Fluorinated Polystyrene

Byoung-Min Lee, Ha Eun Shim, Dae-Hee Lim, You Ree Nam, Pyeong Seok Choi, Hui-Jeong Gwon

Korea Atomic Energy Research Institute, Republic of Korea

P_E_17

15:00-18:00

Study of Naturally Occurring Radioactive Material (NORM) in Coal and Technically Enhanced Naturally Occurring Radioactive Material (TENORM) in Coal Ash Using Low Level Background Gamma Ray Spectrometry

Neeraj Chauhan¹, Ulrich W. Scherer², Noor Babbar¹, Niti Jaswal¹, Mahsa Farasat², Samantha Goedert², Amrit Pal Toor¹, Alok Srivastava¹

¹Panjab University, India, ²Hochschule-Mannheim, Germany

P_E_18

15:00-18:00

Effects of Gamma-Ray Irradiation on Polyethylene, Poly(vinylidene fluoride), and Polytetrafluoroethylene

Ha Eun Shim, You Ree Nam, Byoung-Min Lee, Dae-Hee Lim, Pyeong Seok Choi, Hui-Jeong Gwon

Korea Atomic Energy Research Institute, Republic of Korea

P_F_01

15:00-18:00

Anisotropic Emission Properties of Prompt Fission Neutrons from Diverse States of Nuclear Material Samples

Seonkwang Yoon^{1,2}, Hee Seo³, Young-Su Kim², Chaehun Lee², Hodong Kim^{1,2}

¹University of Science & Technology, Republic of Korea, ²Korea Atomic Energy Research Institute, Republic of Korea, ³Jeonbuk National University, Republic of Korea

P_F_02

15:00-18:00

Solid Phase Characterization and Groundwater Solubility of Synthetic Uranophane

Wansik Cha¹, Junghwan Park¹, Hye Ran Noh^{1,2}, Euo Chang Jung¹, Sang Ho Lim^{1,2}, Hye-Ryun Cho¹, Hee-Kyung Kim¹

¹Korea Atomic Energy Research Institute, Republic of Korea, ²University of Science and Technology, Republic of Korea

P_F_04

15:00-18:00

Determination of Relative Concentrations of Metallic and Non-Metallic Elements in Aerosols by NAA

Jei-Won Yeon, Minsik Kim, Myung-Hee Yun

Korea Atomic Energy Research Institute, Republic of Korea

P_F_05

15:00-18:00

Effect of Decomposition Products of Organic Compound on the Formation of Volatile Organic Iodide under Gamma Irradiation Conditions

Minsik Kim, Jei-Won Yeon

Korea Atomic Energy Research Institute, Republic of Korea

P_F_06

15:00-18:00

Improving the Sensitivity of Nuclear Material Analysis with LA-ICPMS Using Desolvator

Jeongmook Lee^{1,2}, Chi-Gyu Lee¹, Tae-Hyeong Kim¹, Junghwan Park¹, Jong-Yun Kim^{1,2}, Sang Ho Lim^{1,2}

¹Korea Atomic Energy Research Institute, Republic of Korea, ²University of Science and Technology, Republic of Korea

P_F_07

15:00-18:00

Sorption of Methylene Blue from Aqueous Solution by Anderson-Type Polyoxometalate

Hye Ran Noh^{1,2}, Jong-Yun Kim^{1,2}, Tae-Hyeong Kim¹, Jeongmook Lee^{1,2}, Jung Hwan Park^{2,3}, Sang Ho Lim^{1,2}

¹University of Science and Technology, Republic of Korea, ²Korea Atomic Energy Research Institute, Republic of Korea, ³Korea Advanced Institute of Science and Technology, Republic of Korea

P_F_08

15:00-18:00

Quantification of Boron and Uranium in Uranium Dioxide Samples by Using Prompt Gamma Activation Analysis

M.Y. Kang, J.G. Lee, B.G. Park, Insu Chang, G.M. Sun

Korea Atomic Energy Research Institute, Republic of Korea

P_F_09

15:00-18:00

Geographical Authentication for Growth by Applying Multivariate Statistical Analysis to Elemental Concentrations of Korean Panax Ginseng

M.Y. Kang, J.G. Lee, Young Rang Uhm, Insu Chang, G.M. Sun

Korea Atomic Energy Research Institute, Republic of Korea

P_F_10

15:00-18:00

Influence of Uranium Enrichment on the Etching Rate of Polycarbonate Fission Track Detector Containing Uranium Particles

Chi-Gyu Lee¹, Jeongmook Lee^{1,2}, Junghwan Park¹, Sang Ho Lim^{1,2}

¹Korea Atomic Energy Research Institute, Republic of Korea, ²University of Science and Technology, Republic of Korea

P_F_11

15:00-18:00

Novel Adsorption Bio-Material for Radioactive Copper

JungHo Chae^{1,2}, JunYoung Lee¹, SangWook Kim², JeongHoon Park¹

¹Korea Atomic Energy Research Institute, Republic of Korea, ²Dongguk University, Republic of Korea

P_F_12

15:00-18:00

Electrochemical Monitoring of Chloride Ion Concentration in High-Temperature Hydrogenated Lithium Borate Solution

Myung-Hee Yun¹, Jei-Won Yeon¹, Minsik Kim²

¹Korea Atomic Energy Research Institute, Republic of Korea, ²Korea Institute of Toxicology, Republic of Korea

P_F_13

15:00-18:00

Technical Challenges in High-Temperature Viscosity Measurement System for Chloride Melts

Eunkyeom Lee^{1,2}, Chan-Yong Jung², Sang Ho Lim^{1,2}, Tae-Hyeong Kim², Jong-Yun Kim^{1,2}

¹University of Science and Technology, Republic of Korea, ²Korea Atomic Energy Research Institute, Republic of Korea

P_F_14

15:00-18:00

Determination of Phase Transition Temperatures of NaCl-MgCl₂-UCl₃ Molten Salts by Electrical Conductivity Measurements

Hwakyeung Jeong¹, Chan-Yong Jung¹, Sang-Eun Bae^{1,2}, Sang Ho Lim^{1,2}, Tae-Hyeong Kim¹, Jong-Yun Kim^{1,2}

¹Korea Atomic Energy Research Institute, Republic of Korea, ²University of Science and Technology, Republic of Korea

P_F_15

15:00-18:00

Analysis of Raman Mapping Image of MEF7 Cell

Sung-Joon Ye, Kiok Han, Rodrigo Hernandez Millares

Seoul National University, Republic of Korea

P_F_16

15:00-18:00

Study on the Chemical Properties for CeO₂ with Mo Epsilon Particle

Yeon Ju Lee, Young-Sang Youn

Yeungnam University, Republic of Korea

P_F_17

15:00-18:00

Study on the Corrosion Rate for Ni-Based Alloys under KCl Molten Salt

Su Ji Choi, Young-Sang Youn

Yeungnam University, Republic of Korea

P_H_01

15:00-18:00

Scientific Analysis for Roofiles Excavated from Jeju Hangpaduri Fortress

Kyoungsuk Ahn¹, Min-Su Han²

¹Korea Foundation for the Traditional Architecture and Technology, Republic of Korea, ²Korea National University of Cultural Heritage, Republic of Korea

P_H_02

15:00-18:00

Mössbauer Spectroscopic Investigation of Iron Oxide-Based Ancient Red Pigments Excavated from Gaya Cultural Area

Dong Hyeok Moon¹, Na Ra Lee¹, Young Rang Uhm², Woo Rim Han³, So Jin Kim¹

¹National Research Institute of Cultural Heritage, Republic of Korea, ²Korea Atomic Energy Research Institute, Republic of Korea, ³Gaya National Research Institute of Cultural Heritage, Republic of Korea

P_H_03

15:00-18:00

Determination of Chemical Composition and Firing Technology of Ancient Potteries through by Nuclear and Atomic Spectroscopic Techniques

K.B. Dasari¹, H. Cho², T. Lee³, G.M. Sun⁴, N. Lakshmana Das⁵

¹Gyeongsang National University, Republic of Korea, ²Korea Research Institute of Standards and Science, Republic of Korea, ³Korea Basic Science Institute, Republic of Korea, ⁴Korea Atomic Energy Research Institute, Republic of Korea, ⁵GITAM University, India

P_I_01

15:00-18:00

Parametric Optimization of Si Detector Response Function for Neutron Depth Profiling Using Particle Swarm Optimization

Jinhwan Kim, Byung-gun Park

Korea Atomic Energy Research Institute, Republic of Korea

P_I_02

15:00-18:00

Fast Neutron Coincidence Counter Using Plastic Scintillation Detectors for the UTRU/RE Waste Form in the Waste Burden Minimization Technology

Chaehun Lee¹, Seonkwang Yoon^{1,2}, Seonkyu Ahn¹, Hee Seo³

¹Korea Atomic Energy Research Institute, Republic of Korea, ²University of Science and Technology, Republic of Korea, ³Jeonbuk National University, Republic of Korea

P_I_03

15:00-18:00

Effects of Fast Neutron Irradiation on Switching of BJT

Sung Ho Ahn, Gwang-Min Sun

Korea Atomic Energy Research Institute, Republic of Korea

P_I_04

15:00-18:00

Development of Neutron Transmutation Doping Device for SiC at HANARO

Byung-Gun Park, Gi-Doo Kang, Wan-Seok Oh, Myong-Seop Kim, Gwang Min Sun

Korea Atomic Energy Research Institute, Republic of Korea

P_I_05

15:00-18:00

Development of Hot-Wire Sensor for Measurement of Thermal Conductivity of Chloride Molten Salts

Aung Koko, Siwon Seo, Jaeyoung Lee

Handong Global University, Republic of Korea

P_I_06

15:00-18:00

Feasibility Studies on Quality Assurance of High Pure Platinum Dish Using Attenuation Technique

J.S. Brahmaji Rao, G.V.S. Ashok Kumar, K. Sundararajan

Indira Gandhi Centre for Atomic Research, India

P_I_07

15:00-18:00

Preliminary Studies on Characterization of ²⁴¹Am-Be Neutron Source for PGNAA Experiments

J.S. Brahmaji Rao, R. Senthilvadivu, G.V.S. Ashok Kumar, K. Sundararajan

Indira Gandhi Centre for Atomic Research, India

P_I_08

15:00-18:00

Development of a Real-Time Gamma Camera for High Radiation Fields

Minju Lee, Sang-Han Lee, Yoonhee Jung

Korea Research Institute of Standards and Science, Republic of Korea

P_I_09

15:00-18:00

Coincidence Time Resolution Analysis Based on Digital Constant Fraction Discriminator (dCFD)

Seong Pyo Hong¹, Bo-Young Han¹, Gwang-Min Sun¹, Jaegi Lee¹, Young-Su Jeong^{1,2}

¹Korea Atomic Energy Research Institute, Republic of Korea, ²Daegu Catholic University, Republic of Korea

P_I_10

15:00-18:00

Monitoring of Uranium Concentration in NaCl-MgCl₂ Melt

Chan-Yong Jung, Tae-Hyeong Kim, Sang-Eun Bae

Korea Atomic Energy Research Institute, Republic of Korea

P_M_01

15:00-18:00

Synthesis of ⁵⁷Fe-N/C, Fe@SiO₂ Catalysts Using E-Beam Irradiation for PEMFCs

Chaewon Lee^{1,2}, Young Rang Uhm¹, Gwang-Min Sun¹, Haein Choi-Yim²

¹Korea Atomic Energy Research Institute, Republic of Korea, ²Sookmyung Women's University, Republic of Korea

P_M_02

15:00-18:00

Analysis of Porosity of ZIF-Based Gas Separation Membranes Using Positron Annihilation Lifetime Spectroscopy (PALs)

Muhammad Shoaib Tahir, Je-won Lee, Iqra Rabani, Young Soo Seo

Sejong University, Republic of Korea

P_M_03

15:00-18:00

Mössbauer and Magnetic Properties of Nanometer-Sized Iron Oxides by a Sol-Gel Method

Sung Yong An^{1,2,3}

¹Seoul School of Integrated Sciences and Technologies, Republic of Korea, ²Franklin University Switzerland, Switzerland, ³Samsung Electro-Mechanics, Republic of Korea

P_M_04

15:00-18:00

A Monte Carlo Study on Positron Behavior in Multi-Layered Structures for Positron Annihilation Spectroscopy

Kilyoung Ko¹, Hyunwoong Choi¹, Wonku Kim¹, Yongsun Yi², Jaegi Lee³, Gyuseong Cho¹

¹Korea Advanced Institute of Science and Technology, Republic of Korea, ²Khalifa University of Science Technology and Research, United Arab Emirates, ³Korea Atomic Energy Research Institute, Republic of Korea

P_M_05

15:00-18:00

Mössbauer Study of Superparamagnetic AFe₂O₄(A=Mn, Fe, Co) Nanoparticles for Biomedical Applications

Hyun Ho An¹, Chul Sung Kim², Ji Hyun Moon¹, Nam Seob Lee¹, Sung Baek Kim¹

¹Konyang University, Republic of Korea, ²Kookmin University, Republic of Korea

P_M_06

15:00-18:00

Mössbauer Spectroscopy Applied to Study of Red-Burnished Pottery Body from South Korea

Hyunkyung Choi, Young Rang Uhm, Gwang-Min Sun

Korea Atomic Energy Research Institute, Republic of Korea

P_M_07

15:00-18:00

Mössbauer Spectroscopy of ⁵⁷Fe-N_x Active Sites in ⁵⁷Fe-N-C Electro-Catalysts Prepared E-Beam Irradiation

Young Rang Uhm¹, Chaewon Lee¹, Hyunkyung Choi¹, Jaegi Lee¹, Gwang-Min Sun¹, Chul Sung Kim²

¹Korea Atomic Energy Research Institute, Republic of Korea, ²Kookmin University, Republic of Korea

P_M_08

15:00-18:00

Positron Annihilation Lifetime Spectroscopy of Red Ocher in Neolithic and Bronze Age Pottery Excavated from Korea

Jaegi Lee¹, Young-Su Jeong^{1,2}, Young Rang Uhm¹, Gwang-Min Sun¹, Min Su Han³

¹Korea Atomic Energy Research Institute, Republic of Korea, ²Daegu Catholic University, Republic of Korea, ³Korea National University of Cultural Heritage, Republic of Korea

P_M_09

15:00-18:00

Effect of Polymer Adhesive in Positron Source for Positron Annihilation Lifetime Spectroscopy (PALS)

Young Su Jeong^{1,2}, Jaegi Lee², Gwang-Min Sun², Bo-Young Han², Young Rang Uhm², Yongmin Kim¹

¹Daegu Catholic University, Republic of Korea, ²Korea Atomic Energy Research Institute, Republic of Korea

P_M_10

15:00-18:00

Correction on the Source-Supporting Foil of Kapton, Aluminum (Al), and Nickel (Ni) in Positron Annihilation Lifetime Spectroscopy (PALS)

Young Su Jeong^{1,2}, Jaegi Lee², Gwang-Min Sun², Bo-Young Han², Young Rang Uhm², Yongmin Kim¹

¹Daegu Catholic University, Republic of Korea, ²Korea Atomic Energy Research Institute, Republic of Korea

P_M_11

15:00-18:00

A Review of Positron-Annihilation Induced Auger Electron Spectroscopy (PAES) Study of Metal and Semiconductor Surfaces

Jaehong Kim

Institute for Basic Science, Republic of Korea

P_R_01

15:00-18:00

Measurement of Scintillation Pixel Position of PET Detector Module Based on Simulation Data

Seung-Jae Lee¹, Cheol-Ha Baek²

¹Dongseo University, Republic of Korea, ²Kangwon National University, Republic of Korea

P_R_02

15:00-18:00

A Prediction to Mechanical Parameters Using Log and DICOM-RT Files with Machine Learning

Pilsu Kim, Manjin Ha, Byung Jun Min

Chungbuk National University Hospital, Republic of Korea

P_R_03

15:00-18:00

Prediction Factor of Radiation Treatment Response in Lung Cancer Patients Using Radiomics Features and Deep-Learning Classification Model

Manjin Ha, Pilsu Kim, Byung Jun Min

Chungbuk National University Hospital, Republic of Korea

P_R_04

15:00-18:00

Hybrid Model- and Deep Learning-Based Metal Artifact Reduction Method in Cone-Beam Computed Tomography

Jin Hur¹, Yeong-Gil Shin¹, Ho Lee²

¹Seoul National University, Republic of Korea, ²Yonsei University College of Medicine, Republic of Korea

P_R_05

15:00-18:00

Non-Blind-Based Deblurring Method for the Digital Breast Tomosynthesis with Deep Image Prior

Subong Hyun, Seoyoung Lee, Hyengseok Kim, Seungryong Cho

Korea Advanced Institute of Science and Technology, Republic of Korea

P_R_06

15:00-18:00

Development of Prototype Rubidium-82 Generator for Myocardial Perfusion PET Imaging

Kye-Ryung Kim¹, Yong-Sub Cho¹, Sang-Pil Yun¹, Hyeok-Jung Kwon¹, Young-Gi Song¹, Hyeonggi Kim², Sang-Jin Han², Jung Young Kim², Kyo Chul Lee², Jin Su Kim²

¹Korea Atomic Energy Research Institute, Republic of Korea, ²Korea Institute of Radiological & Medical Sciences, Republic of Korea

P_D_01

15:00-18:00

Calculation of Self-Absorption and Coincidence Summing Correction Factors for Urine Bioassay by Means of Monte Carlo Simulation

MinSeok Park, Jaeryong Yoo, Minsu Cho

Korea Institute of Radiological and Medical Sciences, Republic of Korea

P_D_02

15:00-18:00

Development of the Shielding Evaluator for Low Energy Generator Facility

Park Hyesung², Kwon Nahye¹, Kim Sang Rok³, Kim Jinsung¹, Yoo Hwidong², Choi Sanghyoun³, Kim Dong Wook¹

¹Yonsei University College of Medicine, Republic of Korea, ²Yonsei University, Republic of Korea, ³Korea Institute of Radiological & Medical Sciences, Republic of Korea