



Poster Session 2

Date / Time September 8 (Tue.), 2026 / 16:00~17:00

Place 3F, Foyer

[TP_1]

Enhanced Sensitivity of Nuclear Material Analysis by LA-ICP-MS Using a Membrane Desolvator

Jeongmook Lee^{1,2}, Tae-Hyeong Kim¹, Jong-Yun Kim^{1,2}, Byungman Kang¹, Dong-Woo Lee^{1,2}, Sang Ho Lim^{1,2}

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[TP_2]

A PIPS Detector-Based Gas Chamber System for In-Situ Measurement of Atmospheric ⁸⁵Kr

Jinhyung Lee, Jaehyeon Seo, Mee Jang, Hyemi Cha, Juyeol Yun, Wanno Lee

Korea Atomic Energy Research Institute

[TP_3]

Advanced Safety Protocols and System Separation Strategies for Nuclear Power Plant Decommissioning: Focusing on Air Gapping and Line Breaking

Jihwan Yu, Minchul Kim, Hyuchang Choi, Sukwon Jung, Hyunmin Kim, Gangwoo Ryu, Minseong Kim

Korea Hydro & Nuclear Power Central Research Institute

[TP_5]

Analytical Methods for Quantifying Volatile Iodine Species in Nuclear Safety Studies

Jei-Won Yeon

Korea Atomic Energy Research Institute

[TP_6]

Design of a Hierarchical Porous Pt@SDVB Hydrophobic Catalyst for Catalytic Hydrogen–Deuterium Exchange

Van-Toan Nguyen¹, Dong Woo Lee^{1,2}, Chan Woo Park¹, Sang Ho Lim^{1,2}, Jong-Yun Kim^{1,2}

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[TP_7]

Equation Oriented Pore Network Modeling and Microstructure Optimization of Vanadium Redox Flow Batteries

Seung Hun Lee, Jong Woo Kim

Incheon National University

[TP_8]

Equation-Oriented Model Based Techno-Economic Assessment on CIRCE (Combined Industrial Reforming and Catalytic Exchange) Process

Ji Su Hyeon¹, Dong Wan Kim¹, Sang Ho Lim^{2,3}, Jong-Yun Kim^{2,3}, Jong Woo Kim¹

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

[TP_9]

Ultra-Trace Determination of Iodine-129 in Decommissioning Wastes by ICP-MS/MS Using Optimized Mixed-Matrix Composition

Seoha Kim, Eunmi An, Seokhan Kim, Homyung Lee, Minjoo Kwak, Jeongmin Park, Yeong Su Ha, Seungho Lee

Korea Research Institute of Decommissioning



[TP_10]

Establishment of an Integrated Analytical Approach for Accelerator-Derived Radionuclides in Operational Radioactive Waste at RAON

Danhye Gil, Beomyeol Baek, Jongwook Kim, Inseok Hong

Institute for Basic Science

[TP_11]

Simultaneous Simulation of True and Random Coincidence Summing Effect Using MCNP PTRAC in Gamma-Ray Spectrometry

Kyungmin Kim^{1,2}, Wanook Ji¹, Young-Yong Ji¹, Jung Bo Yoo¹, Jisoo Kim², Gyuseong Cho²

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

[TP_12]

Uncertainty-Based Evaluation of Inter-Laboratory Radiochemical Analysis Using Simulated Radioactive Samples

Eunmi An^{1,2}, Homyung Lee¹, Seoha Kim¹, Seokhan Kim¹, Minjoo Kwak¹, Jeongmin Park¹, Yeong Su Ha¹, Seungho Lee¹

¹Korea Research Institute of Decommissioning, ²Catholic University of Pusan

[TP_13]

Direct LA-ICP-QMS Method for Rapid Determination of U and Gd in Nuclear Fuel Pellets

Young Hyun Kim¹, Gyuhye Kim², Haneol Lee¹, Jung Youn Choi¹, Sang Hyeok Lee¹, Hyun Ju Kim¹

¹Korea Institute of Nuclear Nonproliferation and Control, ²Korea Research Institute of Standards and Science

[TP_14]

Qualitative and Quantitative Analysis of Gaseous Tritium Species in GTLS Consumer Products Using Precision Gas Mass Spectrometry

Jeong Eun Kim¹, Min Jun Kim², Bong Gi Kim², Kiryong Hong³, Jin Bok Lee³, Jin Seog Kim³, Junghwan Park¹, Jeongmook Lee¹, Sang Ho Lim¹

¹Korea Atomic Energy Research Institute, ²Korea Institute of Nuclear Safety, ³Korea Research Institute of Standards and Science

[TP_15]

A Comprehensive FTIR Spectroscopy Method for Full-Range Quantitative Analysis of Heavy Water (0.2 to 99.9% D₂O)

Do-Ahn Won¹, Hye Jin Cho¹, Dong Woo Lee^{1,2}, Sang Ho Lim^{1,2}, Jong-Yun Kim^{1,2}

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[TP_16]

Analysis of Chelating Agents in Radioactive Waste: Evaluation of EDTA, NTA, and DTPA Complexes with Nickel Using HPLC-MS

Daeun Kang^{1,2}, Jihye Kim¹

¹Korea Atomic Energy Research Institute, ²Hanyang University

[TP_17]

Free-Volume and Chemical Characterization of Proton Exchange Membranes by Positron Annihilation Spectroscopy

Jaegi Lee, Young-Su Jeong, Young Rang Uhm

Korea Atomic Energy Research Institute



[TP_18]

Structure, Magnetic, Electric, and Mössbauer Studies for Multiferroic Rare-Earth Orthoferrite $RFeO_3$ ($R=Y, Tb, Dy, Er, Ho$)

Hyun Ho Ahn, Gyeong Tae Lee, Sung Baek Kim

Konyang University

[TP_19]

Preliminary Study on Proton Irradiation of a Trench Field-Stop IGBT for Switching-Loss Reduction

Jinhwan Kim¹, Kyung Min Kim^{1,2}, Gye-Ryung Kim¹

¹Korea Atomic Energy Research Institute, ²Sejong University

[TP_20]

Assessing the Potential of Mössbauer Spectroscopy for Redox Reconstruction in Paleozoic Sedimentary Rocks: An Example from the Sesong Formation, Taebaek Group, Korea

Dong Hyeok Moon, Seung-Bae Lee

Korea Institute of Geoscience and Mineral Resources

[TP_21]

Effects of Gamma Irradiation on Spinel Ferrites: A Comparative Structural and Magnetic Study

Hyunkyung Choi¹, Hyun Ho An², Chul Sung Kim³, Gwang-Min Sun¹

¹Korea Atomic Energy Research Institute, ²Konyang University, ³Kookmin University

[TP_22]

Comparative Study of Time-Resolved Luminescence in UID, Sn-Doped and Fe-Doped β -Ga₂O₃ under Oxygen-Ion Excitation

Ruotong Chang, Hongtao Hu, Xiaoxiao Zhou, Zhaochao Guo, Shasha Lv, Menglin Qiu

Beijing Normal University

[TP_23]

Characterization and Calibration of Novel FCVA-Prepared TaN Thin-Film Nuclear Targets Using RBS and Narrow Resonance Profiling

Hongtao Hu, Ruotong Chang, Xiaoxiao Zhou, Zhiwei Qin, Jun Su, Menglin Qiu

Beijing Normal University

[TP_24]

External Beam PIXE Facility based on the 1.7 MV Tandem Accelerator of KOMAC

Kye-Ryung Kim, Han-Sung Kim, Young-Gi Song, Jae-Ha Kim, Hyeok-Jung Kwon

Korea Atomic Energy Research Institute

[TP_25]

Cherenkov Radiation-Driven Reactive Oxygen Species Production via Optically Tunable Zirconium-89 Labeled Metal-Organic Frameworks

Byeongchan Lee, Taewan Kim, Jun Young Lee, Jeong Hoon Park

Korea Atomic Energy Research Institute



[TP_26]

Proton-Induced Production of High-Yield ^{67}Cu Using Enriched Zinc Targets

Myung-Hwan Jung, Won-Je Cho, Hye-Min Jang, Sung-Cheol Yang

Korea Atomic Energy Research Institute

[TP_27]

Study on the Production and Radiochemical Separation of Cu-67 at GRIPF(Gyeongju Radiolotope Production Facility)

Hye Min Jang, Myung-hwan Jung, Chorong Kim, Wonje Cho

Korea Atomic Energy Research Institute

[TP_28]

Millimeter-Sized Mesoporous Silica Beads Templated with Alginate for Efficient Strontium Removal

Hye Jin Cho^{1,2}, Inseok Hong¹, Jong-Yun Kim², Sang Ho Lim²

¹*Institute for Basic Science*, ²*Korea Atomic Energy Research Institute*

[TP_29]

Development of U/Pu Separation Procedure for Pyroprocessing Salt Samples Using a Gas-Pressurized Extraction Chromatography

Hwakyung Jeong¹, Ranhee Park¹, Jeong Eun Kim¹, Junghwan Park¹, Jonghui Han¹, Sang Ho Lim^{1,2}

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

[TP_30]

Effects of Process Parameters on Tritium Recovery in Wet Oxidation–Distillation Analysis

Sora Choi, Shinkyung Lee, Kwangeun Lee, Tae-Hong Park, Jung Bo Yoo, Jai Il Park

Korea Atomic Energy Research Institute

[TP_31]

Selective Capture of Boric Acid from Simulated Radioactive Wastewater Using Diol-Functionalized PAN Nanofibers

Hee-Man Yang, Ga-Eun Lee, Ye-Won Jeong, Kirak Lee, Hwan-Seo Park

Korea Atomic Energy Research Institute

[TP_32]

Conceptual Design of a Closed-Loop Nanofiltration–Diffusion Dialysis System for the Treatment of Strongly Acidic Radioactive Liquid Waste

Danhye Gil¹, Wongu Youn¹, Byungju Lim², Jaekyeong Lee³, Sungso Lim³, Yongheum Jo⁴, Taehoon Lee⁵

¹*Institute for Basic Science*, ²*Korea Institute of Machinery and Materials*, ³*VICTEX Co., Ltd.*, ⁴*Hanyang University*,

⁵*Sungkyunkwan University*

[TP_33]

Development of Rapid Sequential Chemical Separation Procedure for DTM Nuclides Measurement in Fe-Rich Radioactive Wastes

Hyeon Young Cho, Gyuhyeon Kim, So Yeon Min, Ji Won Kim, Bo Jong Yoo, Gwang Tae Joo, Seung Jae Han, Kwang Soon Choi

Korasol Co., Ltd.



[TP_34]

Optimization of Pretreatment for the Analysis of ^{55}Fe , ^{63}Ni , and ^{90}Sr Isotopes in the Nuclear Wastes

Jiyeon Ryoo^{1,2}, Sang-Han Lee¹, Yun Ji Heo^{1,2}, Aran Kim^{1,3}, Yoonhee Jung¹

¹Korea Research Institute of Standards and Science, ²Chungnam National University, ³Korea University

[TP_35]

Selective Uranium Recovery from Seawater Using HDEHP-Functionalized Pore-Expanded Mesoporous Silica

Hye Ran Noh¹, Suk Bon Yoon², Tae-Hyeong Kim¹, Dong Woo Lee^{1,3}, Jeongmook Lee^{1,3}, Sang Ho Lim^{1,3}, Jong-Yun Kim^{1,3}

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[TP_36]

Review of Conventional and Emerging Lithium Isotope Separation Methods

Gun Woo Yoon¹, Seungmo Yeon¹, Han Lim Cha², Jong-Il Yun¹

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

[TP_37]

Selective Extraction of Radioisotopes from Aqueous Media via Electrochemically Switched Ion Exchange

Chanyong Jung, Sang-Eun Bae

Korea Atomic Energy Research Institute

[TP_38]

Physics-Informed Untrained Neural Network for Quantitative Radionuclide Identification and Activity Estimation in HPGe Gamma Spectroscopy

Gyohyeok Song¹, Jeonghoon Lee^{1,2}, Jaehyun Park¹, Gyuseong Cho¹, Jisoo Kim¹

¹Korea Advanced Institute of Science and Technology, ²Yonsei University

[TP_39]

Standard Reference Data for Specific Heat of Cladding Materials

Kweonho Kang, Jaesoo Ryu, Chang Hwa Lee

Korea Atomic Energy Research Institute

[TP_40]

KAERI-ICERR's Activities Using HANARO and Ancillary Facilities

Sung Ho Ahn, Youngmi Nam, Gwang Min Sun, Jin Won Shin, Young Soo Han, Jintae Hong, Young Gwan Jin

Korea Atomic Energy Research Institute

[TP_41]

Optimization of Counting Time for in-vivo Radiobioassay in Population Monitoring

MinSeok Park, Kihoon Kim, Minsu Cho

Korea Institute of Radiological and Medical Sciences

[TP_42]

Battery-Floating AC Wheatstone Bridge with Software Lock-In-Amplifier for Ultra-Low-Noise Graphite Calorimetry in FLASH Radiotherapy

Jaegi Lee, Junhyeok Kim, Byung-Gun Park, Cheolhong Im, Wanseok Oh

Korea Atomic Energy Research Institute



[TP_43]

Preliminary Study on a Technical and Regulatory Assessment Framework for the Deployment of Betavoltaic Batteries

Deokseong Kim, Kilyoung Ko, Changyu Ko, Jongbum Kim, Gujin Kang, Jinjoo Kim, Jintae Hong
Korea Atomic Energy Research Institute

[TP_44]

Dosimetric Impact of Source Modeling and Day 30 Post-Implant Changes in I-¹²⁵ Low Dose Rate Prostate Brachytherapy

Kyung Hwan Chang¹, Yeonok Park², Woo Shik Kim^{2,3}, Jai Wo Lee², Jaeho Cho², Ho Lee²
¹*Far East University*, ²*Yonsei University College of Medicine*, ³*Korea University*

[TP_45]

Applications of Low-Temperature Mössbauer Spectroscopy in Archaeological Iron Corrosion Studies

Young Rang Uhm, Seoeun Jang, Hyunkyung Choi, Gwang Min Sun
Korea Atomic Energy Research Institute

[TP_46]

Dose Distribution Prediction for Optimizing Radiation Conservation Treatment of Cultural Heritage Objects

Juyeon Choi¹, Young Rang Uhm¹, Hae-Jun Park¹, Jung Il Song², Jaegi Lee¹
¹*Korea Atomic Energy Research Institute*, ²*Cultural Heritage Conservation Science Center*

[TP_47]

Development of a Compact IMU-Based Embedded Logger for In-Situ Monitoring of Sample Transport Dynamics in a Pneumatic Transfer System

Seongpyo Hong¹, Kishore Babu Dasari^{1,2,3}, Bo-young Han¹, Gwang-Min Sun¹
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