

Ⅲ. 분과별 논제 및 발표자

제 1 분과 A

원자로시스템기술 (Reactor System Technology)

좌 장 김영일(KIM YEONG IL), 김용완(Kim Yong Wan)

발표장소 탐라

일 정 | 10. 21(목)

- 09:00 LACANES Benchmarking of Thermal Hydraulic Loop Models for LBE Integral Test Loop Phase-I: isothermal steady state forced convection**
Jae Hyun Cho, Jun Lim, and Il Sooon Hwang(SNU)
- 09:20 Evaluation of Applicability of LWR General Design Requirements to SFR**
Young Gill Yune, Changwook Huh, Hyung Joon Ahn, Jaeho Song, and Kyun-Tae Kim(KINS)
- 09:40 Study on Deterministic Regulatory Framework for the Development of Safety Analysis System of Sodium Fast Reactors**
Soon Joon HONG, Su Hyun HWANG, Yeon Joon CHOO, and Byung Chul LEE(FNC Tech)
Young Gill YUNE, Chang Wook HUH, and Kyun-Tae KIM(KINS)
- 10:00 Preliminary Acceptance Criteria for Safety Analysis of KALIMER-600 SFR**
Young-Min KWON, Kwi-Lim LEE, Kwi-Seok HA, Won-Pyo Chang, and Hae-Yong JEONG(KAERI)
- 10:20 Potential Improvements of Supercritical Recompression CO₂ Brayton Cycle Coupled with KALIMER-600 by Modifying Critical Point of CO₂**
Woo Seok Jeong, Jeong Ik Lee, Yong Hoon Jeong, and Hee Cheon NO(KAIST)
- 10:40 Coffee Break**
- 11:00 A Design of He-Molten Salt Intermediate Heat Exchanger for VHTR**
Hui-Seong Jeong and Kwang-Hyun Bang(KMU)
- 11:20 Materials Development for the Sulfuric Acid Decomposer in Iodine-Sulfur(IS)cycle for Nuclear Hydrogen Production System**
Jae-Won Park, Hyung-Jin Kim, Sung-Deok Hong, and Yongwan Kim(KAERI)
- 11:40 Design Characteristics of the Passive Auxiliary Feedwater System in APR +**
Jong Cheon and Han-Gon Kim(KHNP)
- 12:00 Automatic Control of Reactor Temperature and Power Distribution for a Daily Load-following Operation**
Keuk Jong Yu and Han Gon Kim(KHNP)
- 12:20 ROP Case Identification Using Group-wise ROP Detector Signal Variation**
E.K.Lee(KEPCO RI)

일 정 | 10. 21(목) 13:00-15:00

- P01B01 Linear Programming Optimization of Nuclear Fuel Cycle in Korea**
Jewhan Lee, Yoon Il Chang, and Soon Heung Chang(KAIST)
- P01B02 Multi-dimensional Analysis for Sodium Hot Pool Using MARS-LMR in Steady State**
Seung Min Woo and Soon Heung Chang(KAIST)
- P01B03 Conceptual Design for BOP of the Sodium-cooled Fast Reactor**
Tae Geung Yoo(FNC Tech)
Seong O Kim, Eui Kwang Kim, and Seung Hwan Seong(KAERI)
- P01B04 Investigation of a Plugging Meter for Measuring Impurity Content in Liquid Sodium (I)**
Jong-Hyeun Choi, Jong-Man Kim, Byoung-Hae Choi, Ji-Young Jeong, and Yong-Bum Lee(KAERI)
- P01B05 Preliminary Experiment of a Water Scaled Model for the Thermal Hydraulic Study of 600MWe-SFR**
J.E. Cha, H.W. Kim, S.O. Kim, and Y.I. Kim(KAERI)
- P01B06 Scaled Heat Exchanger Design of the Sodium Thermal-hydraulic Experimental Facility; STELLA-1**
Jae-Hyuk EOH, Tae-Ho LEE, Hyeong-Yeon LEE, Ji-Woong HAN, and Yong-Bum Lee(KAERI)
- P01B07 Effect of Heat Transfer Correlations of a Channel Sodium Flow on Thermal Sizing of Sodium-to-sodium Heat Exchangers**
Jae-Hyuk EOH, Ji-Woong HAN, Seong-O KIM, and Jae-Eun CHA(KAERI)
- P01B08 Preliminary Seismic Analysis of the Elevated Temperature IHTS Piping of a Sodium-cooled Fast Reactor**
Chang-Gyu PARK, Jong-Bum KIM, and Gyeong-Hoi KOO(KAERI)
- P01B09 Blind Post-test Analysis of Phenix End-of-Life Natural Circulation Test with the MARS-LMR**
Hae-Yong Jeong, Kwi-Seok Ha, Young-Min Kwon, Won-Pyo Chang, Su-Dong Suk, and Kwi-Lim Lee(KAERI)
- P01B10 Transducer Design of Electromagnetic Flow Meter Used at Sodium Thermal Hydraulic Test Facility in KAERI**
Tae-Joon Kim, Tae-Ho Lee, In-Koo Hwang, Ji-Young Jeong, Jong-Man Kim, Byoung-Hae Choi, Yong-Bum Lee, Yeong-il Kim, and DoHee Hahn(KAERI)
- P01B11 Wastage of Steam Generator Tubes by Sodium-water Reaction**
Ji-Young Jeong, Jong-Man Kim, Tae-Joon Kim, Jong-Hyeun Choi, Byung-Ho Kim, and Yong-bum Lee(KAERI)

Ⅲ. 분과별 논제 및 발표자

제1분과 C

원자로시스템기술 - Poster (Reactor System Technology)

좌 장 박천태(Park Cheon Tae), 이원재(Lee Won Jae)

발표장소 8층로비

일 정 | 10. 21(목) 13:00-15:00

- P01C01 An Improvement of MATRA-LMR/FB for the Blockage Depth Analysis**
Won-Pyo Chang, Young-Min Kwon, Ki-Suk Ha, and Hae-Yong Jeong(KAERI)
- P01C02 High Temperature Fatigue Crack Growth Tests for Mod.9Cr-1Mo Compact Tension Specimen at 20 Hz Loading Frequency**
Jong-Bum Kim, Chang-Gyu Park, and Hyeong-Yeon Lee(KAERI)
Jong-Hoon Lee and Bum-Joon Kim(SKKU)
- P01C03 Sodium-Cooled Fast Reactor Helical Coil Steam Generator**
Eui Kwang Kim and Seong-O Kim(KAERI)
- P01C04 Preliminary Requirement for Internal Structure Configuration of 600 MWe SFR**
Ji-Woong Han, Jae-Hyuk Eoh, and Seong-O Kim(KAERI)
- P01C05 Feasibility Study on New Concept of DHRS in KALIMER-600**
Kwi-Seok Ha, Hae-Young Jeong, Won-Pyo Chang, Young-Min Kwon, and Kwi-Lim Lee(KAERI)
- P01C06 Analysis of Core Disruptive Accidents in a Small Sodium Fast Reactor**
S.D. Suk and H.Y. Jeong(KAERI)
- P01C07 Core Design Studies for a 600 MWe Demonstration TRU Burner Reactor**
Hoon Song, Won Seok Park, and Sang Ji Kim(KAERI)
- P01C08 Improved Design for Battery Reactor Vessel Assembly**
Hyunng M. Son and Kune Y. Suh(SNU)
Kune Y. Suh(PHILOSOPHIA)
- P01C09 Design Evaluation of the ABTR Internal structure on Seismic Loads**
S. H. Kim, G. H. Koo, and J. B. Kim(KAERI)
- P01C10 Ultrasonic Waveguide Sensor with a Layer-structured Plate**
Young-Sang Joo, Jin-Ho Bae, and Jong-Bum Kim(KAERI)
- P01C11 Simulations of Propagation and Radiation of A₀-mode Lamb Wave in Ultrasonic Waveguide Sensor**
Jin-Ho Bae, Young-Sang Joo, and Jong-Bum Kim(KAERI)
Hui-Nam Rhee(SCNU)

일 정 | 10. 21(목) 13:00-15:00

- P01D01 Preliminary Evaluation of Application of Current General Design Requirements to Hydrogen Generation Nuclear Plant**
Changwook Huh, Young Gill Yune, Jaeho Song, and Kyun-Tae Kim(KINS)
- P01D02 Whole-Core Thermal Analysis of Prismatic Very High Temperature Reactor**
Nam-il Tak, Min-Hwan Kim, Hong-Sik Lim, Ji Su Jun, and Chang Keun Jo(KAERI)
- P01D03 Mixture Gas-water Loop Design to Investigate Thermal Hydraulic Performance of a PCHE**
In Hun Kim and Hee Cheon No(KAIST)
- P01D04 High-temperature Structural Modeling on the PHE Prototype for KAERI's Helium Gas Loop**
Keenam Song, Y-W Kim, and S-D Hong(KAERI)
H-Y Park(AD Solution)
- P01D05 CFD Analysis of Hot Spot Fuel Temperature in the Control Fuel Block Assembly of a VHTR Core**
Min-Hwan Kim, Nam-il Tak, and Jae Man Noh(KAERI)
- P01D06 A Study on the Buoyancy and Radiation Effects of the Experimental Helium Loop for VHTR Simulation**
Churl Yoon, Sung Deok Hong, Jae Man Noh, Yong Wan Kim, and Jong Hwa Chang(KAERI)
- P01D07 The State of the Art in VHTR PIRT and Event Classification for Regulatory Safety Assessment Methodology**
Su Hyun HWANG, Soon Joon HONG, Seong Su JEON, and Byung Chul LEE(FNC Tech)
Chang Wook HUH and Kyun-Tae KIM(KINS)
- P01D08 Operation Experiences of the Small Scale Nitrogen Loop with a Water-Cooling Printed Circuit Heat Exchanger**
Chang Soo Kim, Dong-Un Seo, Tae-Ho Yoo, Sung-Deok Hong, and YongWan Kim(KAERI)
- P01D09 Thermal Stress Mitigation in the Fuel Elements of the Very High Temperature Reactor**
Ji-Ho Kang, Nam-il Tak, and Min Hwan Kim(KAERI)
- P01D10 Evaluation of Core Bypass Flow in the Prismatic VHTR with a Multi-block Experiment**
Jeong-Hun Lee, Su-Jong Yoon, and Goon-Cherl Park(SNU)
Min-Hwan Kim(KAERI)

Ⅲ. 분과별 논제 및 발표자

제 1 분과 E

원자로시스템기술 - Poster (Reactor System Technology)

좌 장 김영기(Kim Young Ki), 이종호(Lee, Jong Ho)

발표장소 8층로비

일 정 | 10. 21(목) 13:00-15:00

- P01E01 Design of the Intermediate Heat Exchanging-depressurizing Loop for Low Pressure Operation of the SI Cycle**
Young Soo Kim, Hee Cheon NO, Ho Joon Yoon, and Jin Young Choi(KAIST)
- P01E02 An Experimental Study of HI Decomposition Through Adsorption-desorption Process in the Sulfur-Iodine Cycle**
Jin Young Choi, Hee Cheon No, and Young Soo Kim(KAIST)
- P01E03 Computer Program for Equipment Sizing on the Secondary Helium Loop of a VHTR-SI Hydrogen Production System**
Jiwoon Chang, jihwan Kim, Youngjoon Shin, Cheung Youn, Taehoon Lee, Kiyoung Lee, Yongwan Kim, and Jonghwa Chang(KAERI)
- P01E04 A Visualization Program for the Dynamic Simulation of a Hlx Distillation Column in the VHTR-SI Process**
Jiwoon Chang, Youngjoon Shin, Cheung Youn, Taehoon Lee, Kiyoung Lee, Yongwan Kim, and Jonghwa Chang(KAERI)
- P01E05 Preliminary Thermo-hydraulic Analysis of Sulfuric Acid Loop for NHDD System**
DongUn Seo and G. C. Park(SNU)
C.S. Kim, S. D. Hong, and Y. W. Kim(KAERI)
- P01E06 Development of a CEDM Thermal Analysis Model for Coil Temperature Estimation**
Jin Seok Park, Myoung Goo Lee, In Yong Kim, and Taek Sang Choi(KEPCO E&C)
- P01E07 Uncertainty Assessment of the Core Thermal-Hydraulic Analysis Using the Monte Carlo Method**
Sun Rock Choi, Jaewoon Yoo, Dae-Hyun Hwang, and Sang-Ji Kim(KAERI)
- P01E08 Study on the Effect of Branching Outlet Pipe Using CFD Method**
Jonghark Park, Heetaek Chae, Heonil Kim, and Cheol Park(KAERI)
- P01E09 Analysis on Electromagnetic Characteristics of Research Reactor Control Rod Drive Mechanism for Thrust Force Improvement**
Hyung Huh, Myoung Hwan Choi, Je Yong Yu, Yeong Garp Cho, and Jong In Kim(KAERI)
- P01E10 Verification Test for Improved CRDM Damping Mechanism with Dual Hydraulic Cylinder**
Yeong Garp Cho, Jeong Soo Ryu, Jin Won Shin, and Jung-Hee Lee(KAERI)
- P01E11 Micro-dimple Effect on High-cobalt Material (2)**
Jae-Seon Lee, Chul-Hwa Song, and Hyung-Gil Jun(KAERI)
Jae-Gon Lee(KHNP)

제 2분과 A

원자로물리 및 계산과학 (Reactor Physics and Computational Science)

좌 장 김상지(Sang Ji Kim), 임채준(Chae Joon Lim)

발표장소 아라

일 정 | 10. 21(목)

- 09:00 Study on Uncertainty of Containment Spray Model Using Monte Carlo Simulation**
SEUNG-CHAN LEE and SANG-YEOL KIM(KHNP)
- 09:20 Evaluation of Detached Eddy Simulation Applicability to Random Hydraulic Load Analysis for Reactor Vessel Internals**
Kyu Hyung Kim, Yong Soo Kim, and Do Young Ko(KHNP)
- 09:40 Axial Offset Biasing With Burnup Dependent Albedo Constants**
D.I. Chang, H.S. Woo, K.B. Seong, and J.T. Kwon(KEPCO NF)
- 10:00 Effect of Rare Earth Element Recycling on Sodium Cooled Fast Reactor Core Performance**
Jaewoon Yoo, Jinwook Jang, and Sang-Ji Kim(KAERI)
- 10:20 MUST Code Solutions for the Two Group Eigenvalue Problems**
Jong Woon Kim, Ser Gi Hong, and Young-Ouk Lee(KAERI)
- 10:40 Coffee Break**
- 11:00 Linear Discontinuous Expansion-based Sub-cell Balance Difference Schemes for 3-D Unstructured Geometry S_N Transport Calculation**
Ser Gi Hong, Young Ouk Lee, and Kyo Youn Kim(KAERI)
- 11:20 Simulation of Time-dependent P_3 Equations Using a Semi-Analog Medium**
A. Pirouzmand and K.Hadad(SU)
Kune Y. Suh(SNU)
- 11:40 Development of a 2-D Simplified P_3 FEM Solver for Arbitrary Geometry Applications**
Eun Hyun Ryu and Han Gyu Joo(SNU)

Ⅲ. 분과별 논제 및 발표자

제 2분과 B

원자로물리 및 계산과학 - Poster (Reactor Physics and Computational Science)

좌 장 김강석(Kang Seog Kim), 우승웅(Sweng Woong Woo)

발표장소 8층로비

일 정 10. 21(목) 13:00-15:00

- P02B01 Long-lived Hybrid Incore Detector for Core Monitoring and Protection**
Kyoon Ho Cha(KEPCO RI)
- P02B02 A Preliminary Analysis of SMART Reactor Core Using the COREDAX Code**
Jaejun Lee, Jong Hyuck Won, and Nam Zin Cho(KAIST)
Yong Ho Ryu and Ju Yeop Park(KINS)
- P02B03 Monte Carlo Burn-up Calculation of the PBMR Core with Pebble Flow Velocity**
Hong-Chul KIM, Song Hyun Kim, and Jong Kyung KIM(HYU)
Jae Man NOH(KAERI)
- P02B04 Verification of ASTRA Code with PWR MOX/UO₂ Transient Benchmark Problem**
Tae Young Han, Joo Il Yoon, Jae Hee Kim, Chang Kyu Lee, and Beom Jin Cho(KEPCO NF)
- P02B05 Implementation of The Efficient Multigroup Solution in PARCS for Designing Innovative Cores**
Joo Il Yoon, Tae Young Han, Jae Hee Kim, Chang Kyu Lee, and Beom Jin Cho(KEPCO NF)
- P02B06 A Look at Dynamic Fluctuations Following Control Rods Motion Using a Simplified Stochastic Reactor Kinetics Model**
Pham Nhu Viet HA and Jong Kyung KIM(HYU)
- P02B07 Advanced On-line Isothermal Temperature Coefficient Measurement for a Physics Test**
Sun-Kwan Hong(KHNP)
- P02B08 Development of RFSP - NUCIRC Interaction Module**
Geun-Suk Choi and Joo-Hwan Park(KAERI)
- P02B09 Benchmark Calculations of Phase-B Test about CANDU**
Geun-Suk Choi, Gyuhong Roh, and Joo-Hwan Park(KAERI)
- P02B10 An Evaluation of Criticality Margin by an Application of Parallelogram Lattice Arrangement in the Nuclear Fuel Storage Rack**
Song Hyun Kim, Hong-Chul Kim, Chang Ho Shin, and Jong Kyung Kim(HYU)
Kyo-Youn Kim(KAERI)
- P02B11 Simulation of the Material Flow and Calculation of the MUF Uncertainty in the Pyroprocess**
Ji-Sun Seo, Bo-Young Han, Dae-Yong Song, Hee-Sung Shin, and Ho-Dong Kim(KAERI)

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- P02B12 Analysis of Wolsong-1 Reactor Power Pulses with Boron in Moderator at Plutonium Peak**
Hyung-Jin Kim, Young-Suk Jung, and Seong-Soo Choi(ACT Co., Ltd)
Sung-Min Kim(KHNP)
- P02B13 Wolsong-1 Reactor Power Pulse Simulations with Stuck-in Shutoff Rod at Plutonium Peak**
Young-Suk Jung, Hyung-Jin Kim, and Seong-Soo Choi(ACT Co., Ltd)
Sung-Min Kim(KHNP)
- P02B14 Effect of Initial Conditions on Power Pulses of Wolsong-1 Reactor at Plutonium Peak**
Kyoung-Hyun Kim, Young-Suk Jung and Hyung-Jin Kim(ACT Co., Ltd)
Sung-Min Kim(KHNP)
- P02B15 Three Dimensional Visualization for the Steam Injection into Water Pool Using Electrical Resistance Tomography**
Anil Kumar Khambampati, Jeong Seong Lee, Sin Kim, and Kyung Youn Kim(JNU)
- P02B16 Assessment of Cobalt Adjuster Effect on CANDU Reactors**
Won Young Kim and Joo Hwan Park(KAERI)
- P02B17 Numerical Simulation of Daily Load Follow Operation for APR1000 Using KISPAC-1D**
Yu Sun Choi(KEPCO RI)
- P02B18 Optimization of Input Weighting Factors for Model Predictive Controller**
Yu Sun Choi(KEPCO RI)
- P02B19 Validation of New Covariance Data of ²⁴⁰Pu via k_{eff} Uncertainty Estimates**
Do Heon Kim, Choong-Sup Gil, Hyeong Ill Kim, and Young-Ouk Lee(KAERI)

Ⅲ. 분과별 논제 및 발표자

제 2분과 C

원자로물리 및 계산과학 (Reactor Physics and Computational Science)

좌 장 조범진(Beom Jin Cho), 배성만(Seong Man Bae)

발표장소 아라

일 정 | 10. 22(금)

- 09:00 Development of CAD Based Geometric Module for Monte Carlo Calculations**
Min Su Kwark, Han Gyu Joo, and Hyung Jin Shim(SNU)
- 09:20 A Method Development for Dancoff Factor Calculation Based on Monte Carlo Method**
Song Hyun Kim, Hong-Chul KIM, and Jong Kyung Kim(HYU)
Jae Man NOH(KAERI)
- 09:40 A Krylov Subspace Method with Newton Divided Difference Applied to Depletion Calculation in ORIGEN 2.2**
Yoon Hee Lee and Nam Zin Cho(KAIST)
- 10:00 A Krylov Subspace Method for Unstructured Mesh S_N Transport Computation**
Han Jong Yoo and Nam Zin Cho(KAIST)
Jong Woon Kim, Ser Gi Hong, and Young-Ouk Lee(KAERI)
- 10:20 Discrete Ordinates Method-like Computation with Group Condensation and Angle Collapsing in Transport Theory**
Jong Hyuck Won and Nam Zin Cho(KAIST)
- 10:40 Coffee Break**
- 11:00 Continuous-energy Resonance Calculation Method Using Wavelets Scaling Function Expansion**
Hongchun Wu and Weiyan Yang(XJTU)
- 11:20 Temperature-dependent Resonance Treatment in the Direct Resonance Integral Method**
Kang-Seog Kim(KAERI)
- 11:40 Application of the Method of Characteristics to Slowing Down Calculation for an Explicit Geometrical Effect**
Kang-Seog Kim and Ser Gi Hong(KAERI)

제3분과A

방사성폐기물관리 (Radioactive Waste Management)

좌 장 백민훈(Min-Hoon Baik), 임두현(Doo-Hyun Lim)

발표장소 라마다볼룸1

일 정 | 10. 21(목)

- 09:00** **Chemical Processes at the Surface of Various Clays on Acid-base Titration**
K.K. Park, Y.S. Park, and E.C. Jung(KAERI)
- 09:20** **Site Characterization & Preliminary Performance Assessment Calculation Applied to JAEA-Horonobe URL Site of Japan**
Doo-Hyun Lim(GOLDER)
Koichiro Hatanaka and Eiichi Ishii(JAEA)
- 09:40** **Uncertainty of Stochastically Generated Fracture Networks for the SA of a Subsurface Radwaste Repository**
Sung- Hoon Ji(KAERI)
Young-Jin Park(UW)
Kang-Kun Lee(SNU)
- 10:00** **Geo-synthetic Study on the Geological and Hydro-geological Model around KURT Area**
K. W. Park, K. S. Kim, Y. K. Koh, and J. W. Choi(KAERI)
- 10:20** **A GoldSim Model for Colloid Facilitated Nuclide Transport**
Youn-Myoung Lee and Jongtae Jeong(KAERI)
- 10:40** **Coffee Break**
- 11:00** **Modeling of Solute Transport in a Fractured Rock Zone at KURT**
Chung-Kyun PARK, Jae-Kwang LEE, Min-Hoon BAIK, and Jong-Tae JEONG(KAERI)
- 11:20** **Semi-Analysis for the Pseudo-Colloid Migration of Multi-member Decay Chains in the Fractured Porous Medium with the Flux Boundary**
Mi-seon Jeong(UST)
Yongsoo Hwang and Chul-Hyung Kang(KAERI)
- 11:40** **Selenate Sorption onto Chlorite Surface: Identification of Oxidation State of Selenium Using X-ray Absorption Near Edge Structure (XANES)**
Min-Hoon Baik and Jae-Kwang Lee(KAERI)
- 12:00** **Reactive Transport of Nuclide in the Presence of Bacteria in the Fractured Rock: Model Development and Verification**
Jung-Woo Kim and Min-Hoon Baik(KAERI)

Ⅲ. 분과별 논제 및 발표자

12:20 Evaluation of Metal Waste Inventory from Pyroprocessing of PWR Spent Fuels for a Deep Geological Disposal System Design

Dong-keun Cho, DongHak KooK, Jongwon Choi, and Heui-Joo Choi(KAERI)

12:40 Assessment of the Nuclide Inventory for Uranium-contaminated HEPA Filter Wastes

Young-Yong Ji, Dae-Seok Hong, Il-Sik Kang, Tae-Kuk Kim, and Woo-Seog Ryu(KAERI)

일 정 | 10. 21(목) 13:00-15:00

- P03B01 Analytical Techniques of CRUD by EPMA**
Y.H. Jung, S.J. Baik, B.O. Yoo, S.B. Ahn, and W.S. Ryu(KAERI)
- P03B02 Disposal Cost Efficiency for the Four Alternatives**
S. K. Kim, M. S. Lee, W. I. Ko, and H. D. Kim(KAERI)
- P03B03 Characterization of SiO₂-KCoFC Composite Ion Exchanger for Cs Removal in Radioactive Waste Solution**
Jung-Joon LEE, Jei-kwon MOON, and Kune-Woo LEE(KAERI)
- P03B04 Chemical Gel for Surface Decontamination**
Chong Hun Jung, J. K. Moon, H. J. Won, K. W. Lee, and C. K. Kim(KAERI)
- P03B05 Laser Decontamination of Type 304 Stainless Steel by the String Type Beam at 532 nm**
Hui-Jun Won, B Baigalmaa, Sun-Hee Jung, Jei-Kwon Moon, Chong-Hun Jung, and Kune-Woo Lee(KAERI)
- P03B06 Comparison Extraction Rates by Supercritical CO₂ Decontamination according to Elapsed Time after Heavy Metal Ions Were Adsorbed**
Jeongken Lee(KAERI)
Kwangheon Park(KHU)
- P03B07 The Development of Treatment Process Technology for Uranium Electrokinetic Leachate**
Dong-Bin Shon, Gye-Nam Kim, Hey-min Park, Ki-Hong Kim, Jin-Ho Park, Ki Won Lee, and Un-Soo Chung(KAERI)
- P03B08 Preliminary Evaluation of Gas Generation from the Korean LILW Repository Using the SMOGG Code**
Sukhoon Kim and Juyoul Kim(FNC Tech)
Jin Beak Park and Sunjong Lee(KRMC)
- P03B09 Advanced Operational Practices for Reducing of Carbon-14 Stack Emissions at CANDU Plant**
Wook Sohn(KEPCO RI)
- P03B10 A New Target Design with a Beryllium Multiplier for a Lead Slowing Down Time Spectrometer (LSDTS) System**
Chang Je Park, Kyung Yong Noh, and Youngdeok Lee(KAERI)
- P03B11 Shielding and Criticality Safety Analysis of KSC-1 Cask for the High Burnup PWR Spent Fuels**
Hyoung-Mun Kwon, Jung-Nam Jang, Yong-Hwa Hwang, In-Chan Kwon, Duck-Kee Min, and Yong-Bum Chun(KAERI)

Ⅲ. 분과별 논제 및 발표자

- P03B12 Preliminary Radiation Safety Assessment for Engineering Barrier of HANARO Spent Fuel Disposal System**
DongHak Kook, DongKeun Cho, and Heui-Joo Choi(KAERI)
- P03B13 Ion Transport Modeling in a Bipolar Membrane**
Jungsoo Kim and Kwangheon Park(KHU)
Kwang-Wook Kim(KAERI)
- P03B14 Modeling of Oxygen Potential in Uranium-oxygen System.**
Soyoung Kim and Kwangheon Park(KHU)
- P03B15 Regulatory Framework for Advanced Fuel Cycle Facility Using Pyroprocess in Korea**
Seung-Young Jeong(KINS)
- P03B16 2010 Status of Uranium Conversion Plant Decommissioning Project**
D.S. Hwang, K.I.Lee, Y.D. Choi, and U.S. Chung(KAERI)
- P03B17 Dismantling Experiment of Mock-up Tube Bundle of Steam Generator**
Sung-Kyun Kim and Kune-Woo Lee(KAERI)
- P03B18 Methodologies for Three-dimensional Computational Modeling on Electrorefiner**
Jaeyeong Park, Sungyeol Choi, and Il Soon Hwang(SNU)
- P03B19 Dechlorination of LiCl-KCl Waste by Using an Inorganic Composite (SAP 1071) and Fabrication of Wasteforms**
Hwan-Seo Park, Hyeun-Hae Park, In-Hak Cho, In-Tae Kim, Byeung-Gil Ahn, and Yong-Zun Cho(KAERI)
- P03B20 Demonstration test of Steam Generator Tube using Abrasive Blasting Technology**
B.Y. Min, G.N. Kim, W.K. Choi, and K.W. Lee(KAERI)
D.H. Kim, K.H. Kim, and B.T. Kim(SKHT)
- P03B21 The state of the Primary Degradation Factors and Models of Concrete Cask in Spent Fuel Dry Storage System**
J.S. Kim, K.S. Lee, J.W. Choi and S. Kwon(KAERI)
- P03B22 Oxidation of Cladding for Spent (U,Gd)O₂ Fuel**
Yang-Soon Park, Jong-Goo Kim, and Yeong-Keong Ha(KAERI)
- P03B23 Characterization of Polymer Emulsion for Radioactive Contamination Measurement Using Inorganic Scintillator**
Ho-Sang Hwang, Bum-Kyoung Seo, and Kune-Woo Lee(KAERI)
- P03B24 Effect of the Erythrosine Dye on the Electrical Conductivity of Internal Electrolyte for Long-Term Performance of Ag/AgCl Electrode**
You-Jin Jung, Jei-Won Yeon, Myung-Hee Yun, and Kyuseok Song(KAERI)
- P03B25 Decommissioning Facility Characterization DB System**
S.K. Park, Y.H Ji, J.H. Park, and U.S. Chung(KAERI)

제 3분과 C

방사성폐기물관리 (Radioactive Waste Management)

좌 장 신희성(Shin, Hee Sung), 양희철(Hee-Chul Yang)

발표장소 라마다볼룸1

일 정 | 10. 22(금)

- 09:00** **Influence of Cross-section on the Estimated Source Terms of the Side Structural Components in CANDU Reactor**
Rizwan Ahmed and Gyunyoung Heo(KHU)
Dong-Keun Cho, Heui-Joo Choi, and Jong-Won Choi(KAERI)
- 09:20** **Studies on U(VI)-salicylate Charge Transfer Complex Formation by Using Time-resolved Laser Fluorescence Spectroscopy**
Wansik Cha, Hye-Ryun Cho, Kyoung Kyun Park, and Euo-Chang Jung(KAERI)
- 09:40** **Design of In-situ Measurement system of Uranium Concentration in LiCl-KCl Eutectic Electrolyte**
Yong Joon Park, Sang Eun Bae, Young Hwan Cho, Jong Yun Kim, and Kyuseok Song(KAERI)
- 10:00** **LSDS Development for Isotopic Fissile Content Assay**
YoungDeok Lee, Chang-Je Park, Park Geun-il, Jung Won Lee, and Kee Chan Song(KAERI)
- 10:20** **Preliminary Analysis of Remote Handling Feasibility of the ITER Type B Radwaste Management System**
Kwonpyo Hong, Wan-Ho Oh, Dae-Seok Hong, Young-Yong Ji, Tae-Kook Kim, Sang-Bok Ahn, and Wu-Seog Ryu(KAERI)
Ki-Jung Jung, Je-Keun Cheon, and Byung-Chan Na(NFRI)
John Blight(ITERO)
- 10:40** **Coffee Break**
- 11:00** **A Feasibility Study on the Safeguardability of a Reference Pyroprocessing Facility**
Hee-Sung Shin, Bo-Young Han, Dae-Yong Song, Seong-Kyu Ahn, Ji-Sun Seo, and Ho-Dong Kim(KAERI)
- 11:20** **Observation of Interconfigurational f-d Electronic Transitions of Lanthanide and Actinide Ions in a LiCl-KCl Melt at 450°**
Young Hwan Cho, Yong Joon Park, Sang Eun Bae, and Kyuseok Song(KAERI)
- 11:40** **Trial Destruction Test of Spent Cationic Resins in a Molten Salt Oxidation Reactor System**
Hee-Chul Yang, Yong-Jun Cho, Hee-Chul Eun, Soon-Jae Hong, and Kun-Woo Lee(KAERI)
- 12:00** **Preparation of Simulated Crud Based on the Elemental Composition of Crud Obtained from Spent Nuclear Fuels Rods**
Sang-Hyuk Jung, Jei-Won Yeon, Jaesik Hwang, Euo-Chang Jung, Kyoung-Kyun Park, and Kyuseok Song(KAERI)
- 12:20** **Monitoring the Electrolytic Reduction Process of Metal Oxide in the LiCl Molten Salt at 650°C**
In-kyu Choi, Soon-Seok Hong, Myoung-soo Jung, Jin-Mok Hur, and Han-soo Lee(KAERI)

Ⅲ. 분과별 논제 및 발표자

제 4 분과 A

핵연료 및 원자력 재료(Nuclear Fuel & Materials)

- 핵연료 및 피복관(Fuel & Cladding)

좌 장 박정용(Park Jeong-Yong), 양재호(Yang Jae Ho)

발표장소 오라

일 정 | 10. 21(목)

09:00 Hydrogen Pickup and Its Effects on the Embrittlement of Fuel Cladding during Simulated Loss-of-coolant Accident Test

Dong Jun Park, Jeong Yong Park, Sang Yoon Park, Byoung Kwon Choi, and Yong Hwan Jeong(KAERI)

09:20 The Recrystallization Behavior of Zirconium by Addition of High Nb,Fe

Il-Hyun Kim, Hyun-Gil Kim, Jeong-Yong Park, Byung-kwan Choi, and Yong-Hwan Jeong(KAERI)
Suen-Jin Kim(HYU)

09:40 Crack Growth Mechanism in Defective Fuel Cladding Tubes in Reactor

Young Suk Kim(KAERI)

10:00 Behavior of Stress-relaxation Phenomena in Zr-1.1Nb-0.05Cu

Yong-Nam Seol, Yang-II Jung, Byoung-Kwon Choi, Jeong-Yong Park, and Yong-Hwan Jeong(KAERI)
Sun-Ig Hong(CNU)

10:20 The Influence of Fluorine on the Breakaway phenomenon of Zr-alloy

S.Y. Park, H.G. Kim, B.K. Choi, and Y.H. Jeong(KAERI)
K.W.Lee and S.I. Hong(CNU)

10:40 Coffee Break

11:00 Irradiation Properties of HANA Claddings tested in Halden Research Reactor

Hyun-Gil Kim, Byung-Kwan Choi, Jeong-Yong Park, and Yong-Hwan Jeong(KAERI)

11:20 Effect of Continuous Change of Sintering Atmosphere on the Grain Growth of Cr-doped UO₂ Pellets

Jae Ho Yang, Ik Hui Nam, Jong Hun Kim, Young Woo Rhee, Dong-Joo Kim, Keon Sik Kim, and Kun Woo Song(KAERI)

11:40 Development of Commercial Manufacturing Technology for Large grain UO₂ Pellets

Seung Jae Lee, Dong Hyun Jung, Jung Min Suh, Jae Ik Kim, Kyeong Lak Jeon, and Joon Ro Lee(KEPCO NF)
Keon Sik Kim and Kun Woo Song(KAERI)

12:00 Sensitivity and Uncertainty Analysis on the Fuel Rod Performance Based on Statistical Method

Joosuk Lee, Byunggil Huh, Young Seok Bang, and Swengwoong Woo(KINS)

12:20 Determination Method of Gd₂O₃ Content in Gadolinium Fuel Pellets by Measurements of Gadolinium and Uranium Elements

Chul-Joo Park, Pil-Sang Kang, Chan-Jun Park, and Hyoung-Joong Kim(KEPCO NF)

제 4 분과 B

핵연료 및 원자력 재료(Nuclear Fuel & Materials)

- 원자력 재료(Structural Materials)

좌 장 김원주(Weon-Ju Kim), 권준현(Kwon Junhyun)

발표장소 한라

일 정 | 10. 21(목)

- 09:00** **Effects of Phase Fraction on Temperature Dependency of Fracture Toughness in Transition Temperature Region in SA508 Gr. 4N Ni-Mo-Cr Low Alloy Steels**
Ki-Hyoung Lee and Dang-Moon Wee(KAIST)
Min-Chul Kim and Bong-Sang Lee(KAERI)
- 09:20** **Ab-initio Calculation of Diffusion of Atomic Oxygen in Nickel : Insertion and Substitution of Oxygen in Nickel**
Jong Jin Kim, Sang Hoon Shin, Jeong Seok Park, and Ji Hyun Kim(UNIST)
- 09:40** **Fabrication and Characterization of Micro- and Nano- Gd₂O₃ Dispersed HDPE/EPM Composites**
Young Rang Uhm, Jaewoo Kim, Jiheon Jun, Sol Lee, and Chang Kyu Rhee(KAERI)
- 10:00** **Control of an Excess Oxygen Concentration of MA Powders for ODS Steels**
Tae Kyu Kim, Xiaodong Mao, Chang Hee Han, and Jinsung Jang(KAERI)
- 10:20** **Characterization of Precipitates in 12Cr F/M ODS Steel**
Xiaodong Mao, Tae Kyu Kim, and Jinsung Jang(KAERI)
Kyu Hwan Oh(SNU)
- 10:40** **Coffee Break**
- 11:00** **A Study on the Residual Stress Improvement of PWSCC(Primary Water Stress Corrosion Cracking) in DMW(Dissimilar Metal Weld)**
Sung-Sik Kang, Seok-Hun Kim, Seung-Gun Lee, and Heung-Bae Park(KINS)
- 11:20** **PARENT Program for DMW(Dissimilar Metal Weld) Reliability Assessment**
Sung-Sik Kang, Kyung-Jo Kim, and Hae-Dong Jung(KINS)
- 11:40** **Creep Crack Growth Behavior for Heat Affected Zone of Welded Gr. 91 Steel**
Woo-Gon Kim, Sung-Ho Kim, Jong-Bum Kim, and Chan-Bock Lee(KAERI)
Jae-Young Park(PNU)
- 12:00** **Development of an Integrity Assessment Procedure for CANDU Pressure Tubes**
Hansub Chung(KEPCO RI)
- 12:20** **The Effect of Heat Treatment on the Microstructure of ECAP Processed 316L Stainless Steel**
S.H. Kang, H. Jin, and J. Jang(KAERI)
D.H. Kim and K.H. Oh(SNU)
D. Foley and X. Zhang(TA&MU)

Ⅲ. 분과별 논제 및 발표자

제 4 분과 C

핵연료 및 원자력 재료 - Poster (Nuclear Fuel & Materials)

좌 장 윤경호(Yoon Kyungho), 이영호(Lee Young-Ho)

발표장소 8층로비

일 정 | 10. 21(목) 13:00-15:00

- P04C01 Variation of Contact Conditions in 1x1 Unit Cell During Fretting of Nuclear Fuel Rod**
Young-Ho Lee and Hyung-Kyu Kim(KAERI)
- P04C02 Moving Carriage Remedy of the FAMECT for Fuel Assembly Performance Test**
K.H. Yoon, H.K. Kim, J.Y. Kim, K.H. Lee, Y.H. Lee, and H.S. Kang(KAERI)
- P04C03 Development of Clad Collapse Analysis Code-XGCOL**
J.M.Choi, Y.H.Heo, and H.T.Han(KEPCO NF)
- P04C04 Fuel Rod Flow-induced Vibration Overview**
Kang-Hee Lee, Heung-Seok Kang, and Hyung-Kyu Kim(KAERI)
- P04C05 Stress Analysis of Single Spacer Grid Support Considering Fuel Rod**
Y.G. Yoo, D.H. Jung, and J.H. Kim(CNU)
J.K. Park and K.L. Jeon(KEPCO NF)
- P04C06 Fundamental Study of Zircaloy-4 Tube Welding Using a Fiber Laser**
Soo-Sung Kim, Sang-yeol Baek, Jae-min Sohn, Chul-Yong Lee, and Kee-Nam Choo(KAERI)
- P04C07 A Prediction Study of Aluminum Alloy Oxidation of the Fuel Cladding in Jordan Research and Training Reactor**
Y.W. Tahk, J.Y. Oh, B.H. Lee, C.G. Seo, H.T. Chae, and J.S. Yim(KAERI)
- P04C08 FEM Analysis and Measurement of Residual Stress by Neutron Diffraction on the Dissimilar Overlay Weld Pipe**
Kang Soo Kim, Ho Jin Lee, Wanchuck Woo, and Baek Seok Seong(KAERI)
Jin Gwi Byeon, Kwang Soo Park, and In Chul Jung(DOOSAN)
- P04C09 Feasibility of Electromagnetic Aconstic Evaluation**
Hyun-Kyu Jung, Yoon-Sang Lee, and Yong-Moo Cheong(KAERI)
- P04C10 A Study on Abrasive Wear Behavior of Spacer Grid Materials for Nuclear-power Plant**
J.M. Park and J.H. Kim(CNU)
J.K. Park and K.L. Jeon(KEPCO NF)
- P04C11 A Hybrid System for Evaluating Remote Operability and Maintainability of Pyroprocessing Process Equipments**
Kiho Kim, Jongkwang Lee, Hyojik Lee, Sunghyun Kim, Byungsuk Park, and Hodong Kim(KAERI)

일 정 | 10. 21(목) 13:00-15:00

- P04D01 Analysis of a Dual Cooled Fuel Rod Behavior during Different Elongation of an Inner and Outer Cladding Tube**
JaeYong Kim, KyungHo Yoon, HyungKyu Kim, and Kun Woo Song(KAERI)
- P04D02 Assessment of Inner Channel Blockage on the Annular Fuel Rod**
C.H. Shin, W.K. In, D.S. Oh, and T.H. Chun(KAERI)
- P04D03 Development of Fuel Performance Models of Dual Cooled Annular Fuel :Current Status and Future Plan**
Yong Sik Yang, Chang Hwan Shin, Jae Yong Kim, and Yang Hyun Koo(KAERI)
- P04D04 Irradiation Test of Annular UO₂ Pellet in the HANARO**
Je-Geon Bang, Dae-Ho Kim, Ik-Sung Lim, Yong-Sik Yang, Yang-Hyun Koo, Kun-Woo Song, Hyung-Moon Kwon, and Hang-Suck Seo(KAERI)
- P04D05 Preliminary Analysis of LOCA for an Irradiation Test of an Annular Fuel Rod**
S.K. Park, Y.S. Yang, and S.H. Ahn(KAERI)
- P04D06 PCMI-simulating Mechanical Tests of Nuclear Fuel Cladding for RIA Application**
Sun-Ki Kim, Je-Geon Bang, Dae-Ho Kim, Ik-Sung Lim, Yong-Sik Yang, and Yang-Hyun Koo(KAERI)
- P04D07 Behavior of Fission Gas Release with Valance Effect in Irradiated UO₂**
Heemoon Kim, Sang-Ho Na, Chang-Je Park, Kweon Ho Kang, Man Soon Cho, Ung Sup song, Ki Ha Kim, and Sang Bok Ahn(KAERI)
Kwangheon Park(KHU)
- P04D08 Density Measurement of Outer Pyrolytic Carbon layer of Simulated TRISO-coated Particles with HfO₂ Kernels**
Yeon Ku Kim, Woong Ki Kim, Moon Sung Cho, Hyo Jin Cho, and Joo Hee Kim(KAERI)
- P04D09 Thickness Measurement of Coating Layers of Simulated TRISO-coated Particles by X-ray Radiography under an IAEA CRP Program**
Hyo Jin Cho, Woong Ki Kim, Young Woo Lee, Yeon Ku Kim, and Moon Sung Cho(KAERI)
- P04D10 Density Measurement of Silicon Carbide Layer and Outer Pyrolytic Carbon Layer of Simulated TRISO-coated Particles by Using a Density Gradient Column under an IAEA CRP Program**
Woong Ki Kim, Young Woo Lee, Young Min Kim, Yeon Ku Kim, Seung Chul Oh, Kyung Chai Jeong, Moon Sung Cho, and Hyo Jin Cho(KAERI)
- P04D11 Fabrication of ZrC-TRISO Layer on the ZrO₂ Particle Using the Chloride Process**
Choong Hwan Jung, Ji Yeon Park, and Moon Sung Cho(KAERI)

Ⅲ. 분과별 논제 및 발표자

제 4 분과 E

핵연료 및 원자력 재료 - Poster (Nuclear Fuel & Materials)

좌 장 이영우(Rhee Young Woo), 김준환(Kim Jun Hwan)

발표장소 8층로비

일 정 | 10. 21(목) 13:00-15:00

- P04E01 Microstructure of Multi-wire U-Mo Monolithic Fuel**
Yoon-Sang Lee, Eun-Kee Park, Woo-Hyoung Cho, and Jong-Man Park(KAERI)
- P04E02 An Analysis of the Liquidus/Solidus Temperatures of U-Zr-Ce Metallic Alloy Fuel**
Oh Seok-Jin, Kang Kweon-Ho, Lee Byung-Oon, Cho Chung-Ho, Jeong Hae-Yong, Suk Soo-Dong, Kim Sun-Ki, Kim Ki-Hwan, Lee Chong-Tak, and Lee Chan-Bock(KAERI)
- P04E03 Fabrication of Reduced Metallic Fuel Elements for SFR Fuel Irradiation in the HANARO**
Ki-H. Kim, Seok-J Oh, Chong-T. Lee, Yoon-M. Woo, Young-M. Ko, Jin-S. Cheon, and Chan-B. Lee(KAERI)
- P04E04 Thermal Expansion and Density Data of UO_2 and Simulated Fuel for Standard Reference**
Jae Hwan Yang, S.H. Na, J.W. Lee, and K.H. Kang(KAERI)
- P04E05 Dimensional Change of Annular Pellet Fabricated using U_3O_8 - UO_2 Powder Mixture**
Dong-Joo Kim, Young Woo Rhee, Jong Hun Kim, Jae Ho Yang, Ik-Hui Nam, and Keon Sik Kim(KAERI)
- P04E06 Recycling Process of Mn-Al Doped Large Grain UO_2 pellets**
Ik Hui Nam, Jae Ho Yang, Young Woo Rhee, Dong-Joo Kim, Jong hun Kim, Keon Sik Kim, and Kun Woo Song(KAERI)
- P04E07 Development of EMT Equipment for High Burn-up Cladding**
Sang Yoon Park, Byoung Kwon Choi, Jeong-Yong Park, and Yong Hwan Jeong(KAERI)
- P04E08 Adsorbate Effects on the Zr-Nb Alloy Oxidation in Air**
Yeonseung Kim and Kwangheon Park(KHU)
- P04E09 Tensile and High Cycle Fatigue Properties of Zirconium Alloy at Elevated Temperature**
D.H. Jeong and J.H. Kim(CNU)
J.K. Park and K.L. Jeon(KEPCO NF)
- P04E10 The Recovery of the Metal Insulation Cable in the Instrumentation of Nuclear Fuel Rod**
Chang-Young Joung, Sung-Ho Ahn, Bong-Sik Sim, and Chul-Yong Lee(KAERI)

제 4 분과 F

핵연료 및 원자력 재료 - Poster (Nuclear Fuel & Materials)

좌 장 이봉상(LEE, Bong-Sang), 주기남(Kee-Nam CHOO)

발표장소 8층로비

일 정 | 10. 21(목) 13:00-15:00

- P04F01 Neutron Damage Production of Various Nuclear Reactor Environments**
Junhyun Kwon, Chansun Shin, and Dong-Jin Kim(KAERI)
- P04F02 Early Stage of Deformation under Nanoindenter Tip of Ion-irradiated Single Crystals**
Chansun Shin, Hyung Ha Jin, and Junhyun Kwon(KAERI)
- P04F03 Development of a Capsule with Double Layered Thermal Media**
Man Soon Cho, Kee Nam choo, Young Hwan Kang, and In Cheol Lim(KAERI)
- P04F04 The Second Irradiation (10M-01K Capsule) of Alloy 690 Steam Generator Tube Material of the SMART in HANARO**
K.N. Choo, M.S. Cho, J.S. Park, W.J. Lee, and I.C. Lim(KAERI)
- P04F05 Compatibility Behavior of Austenitic Stainless Steel under Flowing Sodium Environment**
Jun Hwan Kim, Jong Man Kim, Sung Ho Kim, and Chan Bock Lee(KAERI)
- P04F06 Preliminary Thermal Analysis of an LBE Capsule with Multi Specimens**
Y.H. Kang, M.H. Choi, S.J. Park, M.S. Cho, and K.N. Choo(KAERI)
- P04F07 Correction Effect of Finite Pulse Duration for High Thermal Diffusivity Materials**
Daegy Park, Heemoon Kim, Seungje Baik, Byoungok Yoo, Sangbok Ahn, and Wooseok Ryu(KAERI)
- P04F08 Effects of the Microstructure on Segregation Behavior of Ni-Cr-Mo High Strength Low Alloy RPV Steel**
Sang Gyu Park and Dang Moon Wee(KAIST)
Min-Chul Kim and Bong Sang Lee(KAERI)
- P04F09 An Assessment of Through Thickness Mechanical Properties in Forged Thick Section Mod. 9Cr-1Mo Steel**
Sun Hee Lee and Sun Jin Kim(HYU)
Ki Hyoung Lee(KAIST)
Min-Chul Kim and Bong Sang Lee(KAERI)
- P04F10 Insight from a Critical Review on the Safety Analysis of Nuclear Fuel Cycle Facility for Domestic Regulatory System**
Soon Joon HONG and Young Wook CHUNG(FNC Tech.)
Seung-Young JEONG(KINS)

Ⅲ. 분과별 논제 및 발표자

제 4 분과 G

핵연료 및 원자력 재료 - Poster (Nuclear Fuel & Materials)

좌 장 윤지현(Yoon Ji Hyun), 김기환(Ki-Hwan Kim)

발표장소 8층로비

일 정 | 10. 21(목) 13:00-15:00

P04G01 Comparison between Destructive and Non-destructive Analyses of SCC of Alloy 600 SG Tubings Fabricated in Various Corrosive Environments

Sung Woo Kim, Seong-Sik Hwang, and Hong Pyo Kim(KAERI)
Yong-Seok Kang(KHNP)

P04G02 Characteristics of Material Corrosion in Boiling Sulfuric Acid Environments

Hyun-Ook Kim, Dong-Jin Kim, and Hong-Pyo Kim(KAERI)

P04G03 Study on the Transition Temperature Shift of Reactor Pressure Vessel Materials in Surveillance Tests of Korea

Gyeong-Geun LEE and Junhyun KWON(KAERI)

P04G04 Fatigue and Oxidation Property of P92 Steel according to the Microstructure

Si-Yeon Bae(KEPCO RI)

P04G05 Nonlinear Acoustic Characteristics for Micro-crack Detection in a SA508 Gr. B Reactor Pressure Vessel Material

Yong-Moo Cheong, Kyung-Jung Kim, and Hyun Kyu Jung(KAERI)

P04G06 A Study on Fracture Characteristics Comparison of Nuclear Graphite IG-11 with IG-110

Young Min Lee, Young Shin Lee, Jae Hoon Kim, and Seong Jin Lee(CNU)
Young Hwan Kang, Kee Nam Choo, and Man Soon Cho(KAERI)

P04G07 A Study on the Material Properties of Nuclear Graphite IG-110 under Neutron Irradiation.

Seong Jin Lee, Young Shin Lee, Jae Hoon Kim, and Young Min Lee(CNU)
Young Hwan Kang, Kee Nam Choo, and Man Soon Cho(KAERI)

P04G08 High Temperature Compressive Test of Nuclear Graphite IG-110

Jeong Hyun Kim, Young Shin Lee, Jae Hoon Kim, and Yong Keun Yoon(CNU)
Young Hwan Kang, Kee Nam Choo, and Man Soon Cho(KAERI)

P04G09 Effect of Metallographic Preparation Process on Raman Spectrum of Pyrolytic Graphite

Ji-Seon Song, Eung-Seon Kim, and Sung-Deok Hong(KAERI)

P04G10 A Review of Application of Electrochemical Noise Monitoring to Light Water Reactor Systems

Sang-hun Lee, Sung-Woo Kim, and Hong-Pyo Kim(KAERI)

일 정 | 10. 21(목) 13:00-15:00

- P04H01 TIG of Reduced Activation Ferrite/Martensitic Steel for the Korean ITER-TBM**
Duck Young Ku, Mu-Young Ahn, In-Keun Yu, and Seungyon Cho(NFRI)
Seungjin Oh(KHNP)
- P04H02 Serration Behaviors of Ni-based Alloys**
Jong Soo Chae, Dae Whan Kim, and Sung Deok Hong(KAERI)
- P04H03 Polymer Nanocomposite Based Multi-layer Neutron Shields**
Jaewoo Kim, Byungchul Lee, Young Rang Uhm, Jiheon Jun, and Chang Kyu Rhee(KAERI)
- P04H04 Effects of Micro- and Nano-B₂C Fillers on Mechanical Properties of Epoxy Composites**
Jiheon Jun, Jaewoo Kim, Young Rang Uhm, and Chang Kyu Rhee(KAERI)
- P04H05 Evaluation of Capacity on a High Throughput Vol-oxidizer for Operability**
Young-Hwan Kim, Geun-Il Park, Jung-Won Lee, Jae-Hoo Jung, Ki-Ho Kim, Yong-Soon Lee, Do-Youn Lee, and Su-Sung Kim(KAERI)
- P04H06 Study on the Hardness of PVC Guide Tube in the Neutron Irradiated Capsules**
S.Y. Baek, Y.H. Kang, M.S. Cho, S.J. Park, Y.T. Shin, and K.N. Choo(KAERI)
- P04H07 Development of Interface Technology between Unit Processes in E-refining Process**
S.H. Lee, H.S. Lee and J.G. Kim(KAERI)
- P04H08 Numerical Simulation of High Frequency Induction Heating for the Design of a Casting Furnace**
Hye-Jin Lee, Yoon-Sang Lee, Jae-Ho Yang, and Jong-Man Park(KAERI)
- P04H09 Salt Removal from the Uranium Deposits of Electrorefiner**
S.W. Kwon, K.M. Park, S.J. Lee, S.B. Park, C.H. Cho, S.Y. Choi, H.S. Lee, and J.G. Kim(KAERI)
- P04H10 Cyclic Voltammograms for LiCl-KCl Solution Containing CeCl₃**
Si-Hyung Kim, Tack-Jin Kim, Dal-Seong Yoon, Seungwoo Paek, Joon-Bo Shim, Kwang-Rag Kim, Jae-Hoo Jung, and Do-Hee Ahn(KAERI)
- P04H11 Cooperation on the Development of Laser-induced Breakdown Spectroscopy(LIBS) Technology for Curium Ratio Monitoring**
Jeong Hwan Jeong, Euo-Chang Jung, Hee-Sung Shin, and Ho-Dong Kim(KAERI)

Ⅲ. 분과별 논제 및 발표자

제 4 분과 I

핵연료 및 원자력 재료(Nuclear Fuel & Materials)

- 구조강도 및 건전성(Structural Strength & Integrity)

좌 장 구경희(Koo Gyeong-Hoi), 김형규(Hyung-Kyu Kim)

발표장소 오라

일 정 | 10. 22(금)

- 09:00** **Conceptual Design of the SFR Reactor Vessel**
Gyeong-Hoi Koo and Jong-Bum Kim(KAERI)
- 09:20** **Analysis of Prestressed Concrete Containment Vessel Subjected to Internal Pressure**
Sang Jin Lee and Kyung Sub Park(GNU)
- 09:40** **On the Minimum Safety Factor in Elastic Buckling of Fuel Rod**
Hyung-Kyu Kim, Jae-Yong Kim, Kyung-Ho Yoon, Young-Ho Lee, Kang-Hee Lee, Heung-Seok Kang, and Kun-Woo Song(KAERI)
- 10:00** **Uncertainty Analysis of a Support Vector Regression Model for Estimating Collapse Moment of Wall-thinned Pipes**
Dong Su Kim, Sim Won Lee, Man Gyun Na, and Jin Weon Kim(CSU)
- 10:20** **Coolant Supply through Side Flow Holes in Long Lower End Cap In the Case of Complete Blockage of Inner Channel Entrance of Dual-cooled Annular Fuel**
Chang-Hwan Shin, Tae-Hyun Chun, Wang-Kee In, and Dong-Suck Oh(KAERI)
- 10:40** **Coffee Break**
- 11:00** **Development of the Graphical User Interface for the Fuel Assembly Bow Analysis**
S.Y. Jeon, H.K. Baek, J.H. Kim, K.S. Lee, H.K. Kim, and S.T. Hwang(KEPCO NF)
- 11:20** **Evaluation of Leak and LOCA Probabilities in RCS Piping of Domestic NPPs under Fatigue and Stress Corrosion Cracking Conditions**
Young Hwan Choi and Jeong Soon Park(KINS)
Jae Hak Park(CNU)
- 11:40** **Hydraulic Load Analysis for RVI Comprehensive Vibration Assessment Program**
Yong Soo Kim, Kyu Hyung Kim, and Jong Ho Lee(KHNP)

제 4 분과 J

핵연료 및 원자력 재료(Nuclear Fuel & Materials)

- 구조재료 평가(Evaluation of Structural Materials)

좌 장 황성식(Hwang Seong Sik), 허도행(Hur Do-Haeng)

발표장소 한라

일 정 | 10. 22(금)

- 09:00 Corrosion Test of the Ferritic-martensitic Steel (Gr. 91) in Molten Pb-Li**
Yang-Il Jung, Jeong-Yong Park, Byoung-Kwon Choi, Yong-Hwan Jeong, and Dong-Won Lee(KAERI)
Seugyon Cho(NFRI)
- 09:20 Characterization of Pore Structure of Nuclear Grade Graphite Using Image Analysis Technique and Mercury Porosimetry**
Eung-Seon Kim, Ji-seon song, and Sung-Deok Hong(KAERI)
- 09:40 Measurement of PWSCC CGR vs. K in the CRDM Alloy 60**
Yun Soo Lim, Hong Pyo Kim, and Han Hee Lee(KAERI)
- 10:00 Role of Grain Boundary Carbides in PWSCC Behavior of Ni Base Alloys**
Seong Sik Hwang, Hong Pyo Kim, Yun Soo Lim, and Sung Woo Kim(KAERI)
- 10:20 The Investigation of the Effects of the Chloride Ion Concentration and the Crevice Geometry on the Denting Corrosion**
Myong-jin Kim, Dong Jin Kim, Joung Soo Kim, and Hong Pyo Kim(KAERI)
- 10:40 Coffee Break**
- 11:00 A Study on Corrosion Behaviors of SS 316L in Liquid Gallium Environments**
Sang Hun Shin, Jong Jin Kim, Jeong Seok Park, In Cheol Bang, and Ji Hyun Kim(UNIST)
- 11:20 Thermodynamic Study on the Surface of Nickel-base Alloys in Hydrogenated Water**
Hyo On Nam and Il Soon Hwang(SNU)
Kyu Hwan Lee(KIST)
- 11:40 Through-thickness Measurements of Residual Stresses in an Overlay Dissimilar Weld Pipe Using Neutron Diffraction**
Wanchuck Woo, Vyacheslav EM, Ho-Jin Lee, Kang Soo Kim, Mi-Hyun Kang, Jongdae Joo, and Baek-Seok Seong(KAERI)
Jin Gwi Byeon, Kwang Soo Park, and Baek-Seok Seong(DOOSAN)
- 12:00 Fatigue Crack Growth Rate of Type 347 Stainless Steel at the PWR Environment**
Ki-Deuk Min and Seon-Jin Kim(HYU)
Dae-Whan Kim and Bong-Sang Lee(KAERI)
- 12:20 Effects of Specimen Size on the Flexural Strength and Weibull Modulus of Nuclear Graphite**
Se-Hwan Chi, Dae-In Kim, Eung-Seon Kim, Sung-Deok Hong, and Yong-Wan Kim(KAERI)

Ⅲ. 분과별 논제 및 발표자

제5분과A

원자력열수력 및 안전(Thermal Hydraulics and Safety)

- 열수력 실험(Thermal Hydraulic Experiments)

좌 장 권태순(Tae-Soon KWON), 김한곤(KIM HAN GON)

발표장소 라마다볼룸3

일 정 | 10. 21(목)

09:00 **Extremely High Leidenfrost Temperature on Nanoparticle-deposited Surfaces and Its Influences on Quenching Phenomena**

Hyungdae Kim(KHU)

09:20 **Design of the Test Rig for Experimental Study on Flow Dynamics of Air-water Bubbly Flow in a Bundle Array**

Seok-Kyu Chang and Chul-Hwa Song(KAERI)

09:40 **Experimental Validation of Bubble Departure and Lift-off Diameter Models under the Low Heat Flux and Low Flow Velocity Conditions**

Yun-Je Cho and Goon-Cherl Park(SNU)

Heung-June Chung(KAERI)

10:00 **Pool Boiling CHF Enhancement on Modified Zirconium Alloy**

Ho Seon Ahn, Hang Jin Jo, Soon Ho Kang, and Moo Hwan Kim(POSTECH)

10:20 **Experimental Investigation on the CHF Enhancement of Pool Boiling Using Magnetic Fluid**

Jong Hyuk Lee and Yong Hoon Jeong(KAIST)

10:40 **Coffee Break**

11:00 **Effects of Magnetic Field on Flow Boiling CHF in Fe_3O_4 Ferrofluid**

Taeseung Lee, Hae Min Park, Jong Hyuk Lee, and Yong Hoon Jeong(KAIST)

11:20 **Multi-dimensional Aspects of the 50% DVI Line Break Test with the ATLAS Facility**

Ki-Yong Choi, Seok Cho, Hyun-Sik Park, Kyoung-Ho Kang, Nam-Hyun Choi, Yeon-Sik Kim, and Won-Pil Baek(KAERI)

11:40 **Counter-part Test Results of the LSTF SB-CL-18 Using the ATLAS**

Seok Cho, Ki-Yong Choi, Hyun-Sik Park, Kyoung-Ho Kang, Yeon-Sik Kim, Nam-Hyun Choi, and Won-Pil Baek(KAERI)

12:00 **Effect of Break Location during ATLAS SBLOCA Tests for APR1400**

Hyun-Sik Park, Seok Cho, Ki-Yong Choi, Nam-Hyun Choi, Yeon-Sik Kim, and Won-Pil Baek(KAERI)

12:20 **Thermal-hydraulic Integral Effect Test Result on the Steam Generator Tube Rupture Accident in the APR1400**

Kyoung-Ho Kang, Seok Cho, Hyun-Sik Park, Nam-Hyun Choi, In-Cheol Chu, Byong-Jo Yun, Kyung-Doo Kim, Yeon-Sik Kim, Ki-Yong Choi, and Won-Pil Baek(KAERI)

제 5 분과 B

원자력열수력 및 안전(Thermal Hydraulics and Safety)

- 중대사고(Severe Accidents)

좌 장 홍성완(Seong-Wan HONG), 김한철(HAN-CHUL KIM)

발표장소 라마다볼룸4

일 정 | 10. 21(목)

- 09:00 Prediction of Major Transient Scenarios for Severe Accidents of Nuclear Power Plants Using GMDH**
Young Gyu No, Sung Han Lee, Yung Hwa Shin, and Man Gyun Na(CSU)
- 09:20 Sensitivity Analysis of TMI-2 Benchmark Problem Using MAAP4 Code**
Jae S. Yoo and Kune Y. Suh(SNU)
- 09:40 Development Process of Plant-specific Severe Accident Management Guidelines for Wolsong Nuclear Power Plants**
Young Seung Lee and Hyeong Taek Kim(KHNP)
- 10:00 Status of PAR Installation in Korean NPPs and Experiences in Regulatory Activities**
Jung-Jae Lee and Key-Yong Sung(KINS)
- 10:20 Introduction to State-of-the-Art Test Results on PAR Performance of THAI Project**
Jung-Jae Lee and Han-Chul Kim(KINS)
- 10:40 Coffee Break**
- 11:00 Critical Heat Flux Experiments for In-Vessel Retention External Reactor Vessel Cooling Strategy Using 2-D Slice Test Section**
Hae Min Park, Taeil Kim, and Yong Hoon Jeong(KAIST)
Sun Heo(KHNP)
- 11:20 Corium Retention and Cooling by an Ex-vessel Core-catcher for Nuclear Power Plants**
Jong Ho Lee and Ji Hwan Kim(KHNP)
- 11:40 Simulation of Energetic Isothermal Fuel-Coolant Interactions Using the Coupled Method of Rigid Body Dynamics and Moving Particle Semi-Implicit**
Shane Park, Chong Kuk Chun, Jong Sun Lim, and Kee Yil Nahm(KEPCO)
Gyoo-Dong Jeun(HYU)
- 12:00 Analysis of In-vessel Melt Progression Scenarios for an Advanced PWR Using MELCOR 1.8.6**
Tae-Woon Kim, Rae-Joon Park, Jin-Ho Song, and Sung-Won Cho(KAERI)

Ⅲ. 분과별 논제 및 발표자

제5분과 C

원자력열수력 및 안전 - Poster (Thermal Hydraulics and Safety)

좌 장 이재영(Lee Jae Young), 최기용(Ki Yong CHOI)

발표장소 2층로비

일 정 10. 21(목) 13:00-15:00

- P05C01 Investigation of Bubble Mechanisms of Cocurrent Downward Flows through Packing**
DaeSeong Jo and Heetaek Chae(KAERI)
Shripad T. Revankar(PU)
- P05C02 Experimental Study on Critical Heat Flux Characteristics of CuO/DIW Nanofluids according to Manufacturing Methods**
Seung Won Lee, Sung Dae Park, Sarah Kang, and In Cheol Bang(UNIST)
- P05C03 Boiling Phenomena with Surfactant and Nanoparticles.**
Sung Dae Park, Sarah Kang, Seung Won Lee, and In Cheol Bang(UNIST)
- P05C04 Void-fraction, Water Distance & Velocity Measurement of a Gas-liquid Two-phase Flow in a Complete Test Channel by Ultrasonic Methods**
Kil Mo Koo, Jin-Ho Song, Chul-Hwa Song, and Won-Pil Baek(KAERI)
- P05C05 A Comparative Study of the Lattice Boltzmann and Volume of Fluid Method for the Rising Bubble Flows**
Seungyeob Ryu, Cheon Tae Park, and Suhn Choi(KAERI)
- P05C06 Development of Flow Regime Map inside a Vertical Pipe**
Gyeong-Uk Kang and Bum-Jin Chung(JNU)
- P05C07 The Thermal Hydraulic Test of SFR Irradiation Test Capsule**
Chul-Yong Lee, Sung-Jae Park, and Kee-Nam Choo(KAERI)
- P05C08 Experiments for the Scaling Analysis of AHX**
Jeong-Hwan Heo and Bum-Jin Chung(JNU)
- P05C09 Verification of Flow Blockage Test in the MATRA-S Code**
Tae Woo Kim, Seong Jin Kim, Jeong Hun Cha, Hyuk Kwon, and Dae Hyun Hwang(KAERI)
- P05C10 Design Development of SCOP Facilities for Core Flow and Pressure Distribution of SMART Reactor**
Dongjin Euh, Youngjung Youn, Hwang Bae, Incheol Chu, Yungjoo Ko, and Tae-Soon Kwon(KAERI)
- P05C11 Introduction of STELLA Program and Basic Design Features of the Test Facilities**
Tae-Ho Lee, Tae-Joon Kim, Jae-Hyuk Eoh, Ji-Woong Han, Hyeong-Yeon Lee, In-Ku Hwang, Hee-Ryung Kim, and Yong-Bum Lee(KAERI)

-
- P05C12 Performance Test of Solenoid Valves for Multi-points Pressure Measurement**
Youngjung Youn, Dongjin Euh, Incheol Chu, and Tae-Soon Kwon(KAERI)
- P05C13 Performance Evaluation of Core Simulator for SMART Reactor Core Flow and Pressure Distribution by Using STAR-CD**
Yung Joo Ko, Dong Jin Euh, and Tae Soon Kwon(KAERI)
- P05C14 Performance Evaluation of Fuel Assembly Simulator for SMART**
Young Jung Youn, Yung Joo Ko, In-Cheol Chu, Dong Jin Euh, Yong Cheol Shin, Young Il Cho, and Tae-Soon Kwon(KAERI)
- P05C15 Synchronized Observations of Bubble Growth and Microlayer Evaporation in Horizontal Pool Boiling**
In-Cheol Chu and Chul-Hwa Song(KAERI)
Hee Cheon NO(KAIST)
- P05C16 Pool Boiling CHF in Inclined Narrow Annuli**
Myeong-Gie Kang(ANU)
- P05C17 Effect of the Contact Pressure on the Friction Loss Coefficient in a Micro Gap**
Ho-Yun Nam, Jong-Man Kim, Jong-Bum Kim, and Yong-Bum Lee(KAERI)

Ⅲ. 분과별 논제 및 발표자

제 5분과 D

원자력열수력 및 안전 - Poster (Thermal Hydraulics and Safety)

좌 장 정재준(Jae Jun JEONG), 반창환(Chang-Hwan BAN)

발표장소 2층로비

일 정 10. 21(목) 13:00-15:00

- P05D01 Development of a Relap Based Nuclear Plant Analyser with 3-D Graphics Using OpenGL and Object Relap**
Young Jin Lee(KAERI)
- P05D02 Simulation of LOFA Experiment with TASS/SMR-S Code.**
Je Woo Cho, Soo Hyoung Yang, Soo Hyoung Kim, Young Jong chung, and Won Jae Lee(KAERI)
- P05D03 Review on the Safety Classification of Small Lines Connected to the Pressurizer Steam Space**
Yu Jung CHOI, Sang Won LEE, and Hyeong Taek KIM(KHNP)
- P05D04 PCTTRAN/APR1400-A PC-based Simulator for APR1400**
Li-Chi Cliff Po(MST)
Juyoul Kim(FNC Tech.)
- P05D05 Validation of FDS5 Simulation for Postulated Fire in a Day Tank Room**
JongSeuk PARK, YoonJeong PARK, and ChangJu LEE(KINS)
- P05D06 Best Estimate Thermal-hydraulic System Analysis Using the MARS Code for the Steam Generator Tube Rupture Accident in the APR1400**
Kyoung-Ho Kang, Seung-Wook Lee, Sung-Won Bae, Ki-Yong Choi, and Won-Pil Baek(KAERI)
- P05D07 Simulation of the Downward Liquid Flow DOBO Test Using CUPID**
H.K. Cho, B.J. Yun, I.K. Park, and J.J. Jeong(KAERI)
- P05D08 Interfacial Area Transport Equation for a Subcooled Boiling Flow on the CUPID Code**
Ik Kyu Park, Jungwoo Kim, Hyoung Kyu Cho, Han Young Yoon, and Jae Jun Jeong(KAERI)
- P05D09 CFD Analysis for an Axial Annular Radial Diffuser**
Y.G. Kim, J.K. Kong, Y.M. BAE, Y.I. KIM, Y.J. Jeong, C.T. Park, S.Choi(KAERI)
- P05D10 Numerical Analysis for SG Flow Distributions at RCP Abnormal Conditions of SMART**
J.K. Kong, Y.G. Kim, H. Bae, Y.I. Kim, C.T. Park, Y.J. Chung, and W.J. Lee(KAERI)
- P05D11 Development of Critical Flow Model for the SPACE Code**
Myung Taek Oh, Chan Eok Park, Gyu Cheon Lee, and Eun Kee Kim(KEPCO E&C)
- P05D12 Summary of Interfacial Heat Transfer Model and Correlations in SPACE Code**
Sung Won Bae, Seung Wook Lee, and Kyung Du Kim(KAERI)
- P05D13 Results from the First Validation Phase of CAP code**
Yeon Joon Choo, Soon Joon Hong, Su Hyun Hwang, Min Ki Kim, and Byung Chul Lee(FNC Tech.)
Sang Jun Ha and Hoon Choi(KEPCO RI)

일 정 | 10. 21(목) 13:00-15:00

- P05E01 Separate Effect Test Assessment about Interfacial Heat Transfer Model and Correlations in SPACE Code**
Sung Won Bae, Seung Wook Lee, and Kyung Du Kim(KAERI)
- P05E02 Evaluation of Inadvertent PRHRS Operation for REX-10**
Sung Won Lim, Young Jong Chung, and Won Jae Lee(KAERI)
Yeon Gun Lee(SNU)
- P05E03 Analysis of Heat Load to Moderator in Large LOCA for CANDU NPP**
Kim Yun Ho(KEPCO RI)
- P05E04 Study on Calculation of Uncertainty and Range of Ageing Elements Using Measured Data of Fuel Channel Flow Rate**
Yong Won Choi, In Young Kim, and Un Chul Lee(SNU)
Kap Kim(KINS)
- P05E05 The Regeneration of Environmental Qualification Test Envelope for 3-Loop Westinghouse Type NPP**
Dong Soo Song(KEPCO RI)
- P05E06 Radionuclide Release after End Fitting Failure Accident in CANDU-6 Plant**
Hoon Choi, Yun-ho Kim, and Kwang-ho Lee(KEPCO RI)
- P05E07 The Preliminary Study for Numerical Computation of 37 Rod Bundle in CANDU Reactor**
Yu Mi Jeon, Jun Ho Bae, and Joo Hwan Park(KAERI)
- P05E08 Analysis of pH on Water Temperature in the Recirculation Sump**
Sang Nyung Kim and Hyoung Ju Yoon(KHU)
- P05E09 Development of Fast Running DNBR Code**
Hyuk Kwon, K.W. Seo, S.J. Kim, and D.H. Hwang(KAERI)
- P05E10 Steam Generator Heat Transfer Model Validation in TASS/SMR-S Code Using MRX Experimental Results**
Kyungmin Kang, Soo Hyung Yang, Young-Jong Chung, and Won-Jae Lee(KAERI)
- P05E11 Case Study of MATRA-S for PNL 7x7 Rod Bundle Blockage- II. CFD Analysis**
Seong Jin Kim, Kyong Won Seo, Tae Woo Kim, Jeong Hun Cha, Hyuk Kwon, and Dae Hyun Hwang(KAERI)
- P05E12 Simulation of MIT Pressurizer Experiment Using SPACE Code**
Dong Hyuk Lee, Yo Han Kim, Chang Keun Yang, Seyun Kim, Bum Soo Youn, and Sang Jun Ha(KEPCO RI)

Ⅲ. 분과별 논제 및 발표자

제 5 분과 F

원자력열수력 및 안전 - Poster (Thermal Hydraulics and Safety)

좌 장 흥순준(Soon Joon HONG), 정영중(Young-Jong Chung)

발표장소 2층로비

일 정 10. 21(목) 13:00-15:00

- P05F01 A Simple in-surge Pressure Analysis Using the SPACE Code**
Bum Soo Youn, Yo Han Kim, Dong-Hyuk Lee, Chang Keun Yang, Se-Yun Kim, and Sang Jun Ha(KEPCO RI)
- P05F02 CEA Ejection Accident Analysis for APR1000**
Yo-Han Kim and Sang Jun Ha(KEPCO RI)
- P05F03 Assessment of Turbulence Models for Isothermal Vertical-upward Bubbly Flows**
V.T. Nguyen, B.J. Yun, and C.H. Song(UST)
B.U. Bae, and D.J. Euh(KAERI)
- P05F04 Simulations of Two-phase Flows in Adiabatic Pipes Using SPACE Code**
Byoung Jae Kim, Moon Kyu Hwang, Kyoung Doo Kim, and Seung Wook Lee(KAERI)
- P05F05 Component Model for Reactor Coolant Pumps in SPACE Code**
Byoung Jae Kim and Kyoung Doo Kim(KAERI)
- P05F06 Preliminary Assessment of the KAERI 6x6 Reflood Experiment for the SPACE Code Using General Wall Heat Transfer Models**
Sang-Ki Moon, Jungwoo Kim, Kyung-Doo Kim, Ki-Yong Choi, Hyun-Sik Park, and Seok Cho(KAERI)
- P05F07 Evaluating the Break Flow for the 100% DVI Line Break Accident of ATLAS Using the RELAP5/MOD3.3 Code**
Suk-Ho Lee, Sung-Chang You, and Han-Gon Kim(KHNP)
- P05F08 Case Study of MATRA-S for PNL 7x7 Rod Bundle Blockage Test - I. Subchannel Analysis**
Kyong-Won Seo and Dae-Hyun Hwang(KAERI)
- P05F09 Core Heat Transfer Model Validation of the TASS/SMR-S Code Using the Bennett's Test**
In Sub Jun, Kyu Hwan Bae, Young Jong Chung, and Won Jae Lee(KAERI)
In Sik Na(ACT Co., Ltd.)
- P05F10 SPACE Code Development and Assessment Plans**
Chang-Keun Yang, Dong-Hyuk Lee, Yo-Han Kim, and Sang-Jun Ha(KEPCO RI)
- P05F11 Verification of the Core Side Pressure Drop Calculation Sub-routine**
Jeong-hun Cha, Kyong-Won Seo, Hyuk Kwon, Teawoo Kim, and Dae-Hyun Hwang(KAERI)

제 5분과 G

원자력열수력 및 안전 - Poster (Thermal Hydraulics and Safety)

좌 장 최한림(Han Rim CHOI), 박중운(Jong Woon Park)

발표장소 2층로비

일 정 | 10. 21(목) 13:00-15:00

- P05G01 An ATWS Analysis with a Realistic Evaluation Methodology**
Min Shin Jung, Gyu Cheon Lee, and Eun Kee Kim(KEPCO E&C)
- P05G02 Gap Conductance Model Validation in the TASS/SMR-S Code Using MARS Code**
Sang-Jun Ahn, Soo Hyung Yang, Young-Jong Chung, and Won-Jae Lee(KAERI)
- P05G03 Analysis of Heat Load to Moderator in Large LOCA for CANDU NPP**
Kim Yun Ho(KEPCO RI)
- P05G04 Preparation of Input Deck Using MULTID Component to Model 3-dimensional Reactor Pressure Vessel for KORI 3&4**
Doo-Hyuk Kang, Jae-Seung Suh, Kyung-Chul Seo, Yeon-Sik Cho, and Ji-Hoon Park(SENTECH)
Seung-Hoon Ahn and yong-Jin Cho(KINS)
- P05G05 Thermalhydraulic Response of CANDU6 in the End Fitting Failure Event**
Kwangho Lee and Hoon Choi(KEPCO RI)
- P05G06 Preliminary Assessment of the Reflood Heat Transfer Models for the SPACE Code**
Jungwoo Kim, Sang-Ki Moon, Ki-Yong Choi, Hyun-Sik Park, and Kyung-Doo Kim(KAERI)
- P05G07 Detached-Eddy Simulation of a Fluidic Device for a Prediction of Pressure Loss Characteristics in a Low Flow Mode**
Sang-Gyu Lim, Suk-Ho Lee, and Han-Gon Kim(KHNP)
- P05G08 Feasibility Study on the Steady State Initialization of SPACE Code**
Chansu Jang and Kilsup Um(KEPCO NF)
- P05G09 Improvement of SPACE Momentum Equation to Mitigate Non-physical Pressure Solution**
Chan Eok Park, Jung Yoon, Sang Yong Lee, and Eun Kee Kim(KEPCO E&C)
- P05G10 Development and Assessment of SPACE Critical Flow Model**
TaeBeom Lee, ChangHwan Ban, JaeHoon Jeong, and SunTack Hwang(KEPCO NF)
- P05G11 Independent Verification of Effects of Spacer Grids during Reflood Phase for Implementation into SPACE Code**
YongMi Jung and Kyung Doo Kim(KAERI)

Ⅲ. 분과별 논제 및 발표자

제 5분과H

원자력열수력 및 안전 - Poster (Thermal Hydraulics and Safety)

좌 장 박래준(Rae-Joon PARK), 문영태(MOON YOUNG TAE)

발표장소 2층로비

일 정 10. 21(목) 13:00-15:00

- P05H01 The Assessment of SG U-tubes Integrity during a Postulated Loss of All Heat Sinks in Wolsong NPPs by the CATHENA Code**
Hyoung Tae Kim, Dong Ha Kim, and Jin Hee Park(KAERI)
- P05H02 MAAP4 Analysis for Determining Rapidly Depressurization Valve Size**
Tae-Young Shin and Baek-Soon Chung(KEPCO RI)
- P05H03 CHF Experiments under Realistic Severe Accident Condition for IVR-ERVC Strategy**
Tae Il Kim, Hae Min Park, and Soon Heung Chang(KAIST)
Sun Heo(KHNP)
- P05H04 Preliminary Analysis of Natural Circulation Flow in the Reactor Cavity under IVR-ERVC for SMART**
Rae-Joon Park, Sang-Baik Kim, and Youngho Jin(KAERI)
- P05H05 Void Fraction Measurement at Premixing Stage in the TROI**
S.W. Hong, S.H. Hong, J.H. Kim, and K.S. Ha(KAERI)
- P05H06 The Steady State Calculation for SMART with MIDAS/SMR**
Jong-Hwa Park, Dong-Ha Kim, Young-Jong Chung, and Sunhee Park(KAERI)
Song-Won Cho(KORTIC)
- P05H07 Study on the Steady State Layer Inversion of Melt Pool during Severe Accidents**
Kyoung-Ho Kang, Rae-Joon Park, Hee-Dong Kim, and Seong-Wan Hong(KAERI)
- P05H08 Development of the Phenomenological Uncertainty Analysis Methodology Using MELCOR Code for the Containment Failure Probability of Level 2 PSA**
Suwon Lee and Gunhyo Jung(FNC Tech.)
Kwngil Ahn and Sooyoung Park(KAERI)
- P05H09 Development of a Simple Scheme for Prediction of Flame Acceleration and DDT**
Han-Chul Kim, Jae-Hong Park, Jung-Jae Lee, Han-Beol Kang, Key-Young Sung, and Kwang-Won Seul(KINS)
Song-Won Cho(KORTIC)
In-Chul Ryu(KEPCO E&C)
- P05H10 Preliminary Assessment of Depressurization Performance of Reactor Building Spray Dedicated to Severe Accident**
Chang-Hwan Park and Jae-Sun Jo(FNC Tech.)
Sun-Hong Yoon(KEPCO E&C)

P05H11 A Baseline Confirmation for MELCOR DB Construction

Y.M. Song and K.I. Ahn(KAERI)

P05H12 Steady State Analysis Using the MELCOR1.8.6 Model for the SMART Severe Accident Analysis

Jaecheol Kim and Gunhyo Jung(FNC Tech.)

Hanchul Kim(KINS)

P05H13 Conservative Estimation of In-vessel Retention for High Power Reactors

Sang Ho Kim and Soon Heung Chang(KAIST)

P05H14 Effect of Application SiC Fuel Cladding for Mitigating Focusing Effect in Situation of IVR

Sub Lee Song and Soon Heung Chang(KAIST)

P05H15 Supporting Thermal Hydraulic Calculations for the SGTR Event Tree of SMART Level 1 PSA

Youngho Jin, Jong-Hwa Park, and Dong-Ha Kim(KAERI)

Seong-Won cho(KORTIC)

Ⅲ. 분과별 논제 및 발표자

제 5 분과 I

원자력열수력 및 안전 - Poster (Thermal Hydraulics and Safety)

좌 장 한상훈(Sang Hoon HAN), 이창주(Chang-Ju LEE)

발표장소 2층로비

일 정 10. 21(목) 13:00-15:00

- P05I01 A Study on Potential Risk of Nuclear System Associated with Nuclear Hydrogen Production**
Seok-Jung HAN and Joon-Eon YANG(KAERI)
- P05I02 A Detailed Investigation on Human-related Unplanned Reactor Trip Events in Korea**
Sun Yeong Choi and Man Cheol Kim(KAERI)
- P05I03 Plant Damage State Logic Diagram for the Preliminary Level 2 PSA of KALIMER-600**
Soo Yong Park, Tae Woon Kim and Hae Yong Jeong(KAERI)
- P05I04 An Uncertainty Analysis Software to Treat State-of-Knowledge Correlation in PSA**
Sang Hoon HAN and Ho-Gon LIM(KAERI)
- P05I05 Development of Safety Significance Evaluation Program for Accidents and Events in NPPs**
Huichang Yang and Seokjin Hong(ENESYS)
Nam Chul Cho, Dae Wook Chung and Chang Joo Lee(KINS)
- P05I06 A Demonstration of KINS-ASP Program for Accident Sequence Precursor Analysis**
Namchul Cho, Dae wook Chung and Chang-Ju Lee(KINS)
Huichang Yang(ENESYS)
- P05I07 Modeling Strategies for the Construction of a One Top Fire Event PSA Model**
Dae Il Kang, Kil-you Kim and Joon-Eon Yang(KAERI)
- P05I08 Development of IPRO-ZONE to determine Component Failure Modes Affected by a Fire Event**
Dae Il Kang and Sang-Hoon Han(KAERI)
- P05I09 An Estimation of Generic CCF Parameters by Using the ICDE Data**
Meejeong Hwang and Dae-Il Kang(KAERI)
- P05I10 Insights from Development of Regulatory PSA Model for SMART**
Chang-Ju Lee and Namchul Cho(KINS)
Inn Seock Kim(ISSA)
Yong Suk Lee(FNC Tech.)
- P05I11 A Preliminary Uncertainty Aanalysis of Phenomenological Inputs in TEXAS-V Code**
S.H. Park, H.D. Kim and K.I. Ahn(KAERI)
- P05I12 Characteristics of Risk Informed Applications Tool, ARMMS**
Kilyoo Kim, Sang Hoon HAN and Ho-Gon LIM(KAERI)
- P05I13 Development of the Regulation Concept for a Fusion Reactor**
Tae Il Kim, Joo-Hyung Lee, Sub Lee Song and Soon Heung Chang(KAIST)
Hyedong Jeong(KINS)
- P05I14 Study on the Safety Margin Change for Hypothetical Power Uprate of OPR1000 according to the Guidance of SMAP of NEA/CSNI**
Soon Joon HONG and Seong Su JEON(FNC Tech.)
Ju Yeop Park(KINS)

일 정 | 10. 21(목) 13:00-15:00

- P05J01 Preliminary Evaluation of Long-term Cooling Considering Chemical Precipitation and Subsequent Impact on the Recirculation Fluid**
Yu Jung CHOI, Sang Won LEE, and Hyeong Taek KIM(KHNP)
- P05J02 Construction of the Database for Tomorrow's Regulatory Activities**
Il S. Lee, Min C. Kim, Sang J. Kim, Seon O. Yu, Kyung W. Lee, Ji T. Kim, Bon H. Koo, and Durk H. Lee(KINS)
- P05J03 Draft Regulatory Rule-making for On-line Maintenance of Nuclear Power Plants**
Sang-Kyu AHN, Kyu-Myung OH, Chang-Ju Lee, and Gun-Hyun Chang(KINS)
- P05J04 Technical Considerations and Measures in the Regulatory Technology of OLM**
Kyu-Myung OH, Sang-Kyu AHN, and Chang-Ju Lee(KINS)
- P05J05 Sensitivity Study for CFD Analysis on Debris Transport to ECCS Sump for CANDU Type Plant in Korea**
Byung Il KWON, Jong Uk KIM, and Jae Seon CHO(FNC Tech.)
Tae Keun PARK(KEPCO E&C)
Sang Won LEE and Hyeong Taek KIM(KHNP)
- P05J06 Development of CANDU Void Reactivity Uncertainty Evaluation Methodology**
Kap Kim and Kwang-won Seul(KINS)
Huichang Yang(ENESYS)
Se Ki Oh(AU)
- P05J07 Preliminary Evaluation Methodology of ECCS Performance for Design Basis LOCA Redefinition**
Dong-Gu Kang, Seung-Hoon Ahn, and Kwang-Won Seul(KINS)
- P05J08 Development of Regulatory PWSCC (Primary Water Stress Corrosion Cracking) Management System**
Jeong Soon Park, Young Hwan Choi, Yeon-Ki Chung, Jin Su Kim, and Kyungcho Kim(KINS)

Ⅲ. 분과별 논제 및 발표자

제5분과K

원자력열수력 및 안전 (Thermal Hydraulics and Safety)

좌 장 정법동(Bub Dong Chung), 최철진(Choi Chul Jin)

발표장소 라마다볼룸3

일 정 | 10. 22(금)

- 09:00 A Numerical Study on Rising Characteristics of Condensing Bubble Using VOF Model**
Seong Su Jeon and Goon Cherl Park(SNU)
Seong Jin Kim(KAERI)
- 09:20 Application of S₁ Model for the Mechanistic Bubble Size Prediction in the Subcooled Boiling Flow with CFD Code**
B.J. Yun, A. Splawski, S. Lo, and C.-H. Song(KAERI)
- 09:40 Derivation of the Multi-fluid Model Using the Time-volume Averaging Method in Porous Body**
Sang Yong Lee, Chan Eok Park, and Eun Kee Kim(KEPCO E&C)
- 10:00 Dimensional Study on Pressure Matrix for THALES**
Chong Kuk Chun, Kee Yil Nahm, Jong Seon Lim, and Shane Park(KEPCO NF)
- 10:20 Simulation Result of RD-14M SBLOCA Test Using MARS-KS**
Joosung Kim, Kap Kim, and Kwangwon Seul(KINS)
- 10:40 Coffee Break**
- 11:00 Evaluation of the Fuel Burnup Effect for LBLOCA Analysis**
Byung Gil Huh, Joosuk Lee, Young Seok Bang, and Chae-Yong Yang(KINS)
- 11:20 Coupled Simulation of Component Thermal Hydraulics and Neutron Kinetics for a Nuclear Reactor Core with CUPID and MASTER**
J.R. Lee, H.K. Cho, and J.J. Jeong(KAERI)
- 11:40 A Three-dimensional Analysis of Emergency Core Cooling System for the SMART**
H.Y. Yoon, Y.D. Hwang, J.J. Jeong, and Y.J. Chung(KAERI)
- 12:00 Alternative Method for Feedwater Line Break Analysis of OPR1000**
Jong Beom Lee and Sang Yeol Kim(KHNP)
- 12:20 Application of Code Accuracy Quantification Method Based on FFT to Standard Problems**
Ki-Yong Choi, Seok Cho, Hyun-Sik Park, Kyoung-Ho Kang, Yeon-Sik Kim, and Won-Pil Baek(KAERI)

일 정 | 10. 22(금)

- 09:00 A Study on Establishment of Event Classification and Acceptance Criteria of Safety Analysis for New PWRs**
Bub Dong Chung and Chang Sup Lee(KAERI)
Kyun Tae Kim(KINS)
Suk Koo Sim(En2t)
Eun Kee Kim, Gyu Cheon Lee, and Han Rim Choi(KEPCO E&C)
Jong Ryul Park, Song Kee Sung, and Jae Don Choi(KEPCO NF)
Si Hwan Kim(UNIST)
- 09:20 Scaling Analysis of Separate Effect Test Facility for PAFS (Passive Auxiliary Feedwater System)**
Byoung-Uhn Bae, Byong-Jo Yun, Sung-Won Bae, and Chul-Hwa Song(KAERI)
- 09:40 Performance Analysis of Passive Auxiliary Feedwater System in APR+**
Sang Hee Kang, Jong Cheon, and Han Gon Kim(KHNP)
- 10:00 A Study on the Flow Capacity of PAFS Using RELAP5/MOD3.3**
Seong Su Jeon, Kyung Jin Lee, and Soon Joon Hong(FNC Tech.)
Sang Hee Kang, Jong Cheon, and Han Gon Kim(KHNP)
- 10:20 Preliminary Performance Analysis on APR+ PAFS Using RELAP5 and MARS Codes**
Kyung Jin Lee and Soon Joon Hong(FNC Tech.)
Ju Yeop Park and Kwang Won Seul(KINS)
- 10:40 Coffee Break**
- 11:00 Implementation and Validation of a Condensation Heat Transfer Model to the MARS-KS Code for Modeling Passive Residual Heat Removal System**
S.K. Sim and J.J. Kim(en2t)
T.W. Kim(PSI)
J.Y. Park, K.W. Seul, and Y.H. Ryu(KINS)
- 11:20 Validation of Ulchin Units 1, 2 CONTEMPT Model Prior to the Production of EQ Envelope Curve**
Su Hyun HWANG, Min Ki KIM, Soon Joon HONG, and Byung Chul LEE(FNC Tech.)
Jeong Kwan SUH, Jae Yong LEE, and Dong Soo SONG(KEPCO RI)
- 11:40 Application of KIMERA Methodology to APR1400 M/E Analysis**
Cheol Woo Kim, Jeung Hyo Song, and Seok Jeong Park(KEPCO E&C)
- 12:00 Sensitivity Study on Analysis of Reactor Containment Response to LOCA**
Ku Young Chung and Key Yong Sung(KINS)

Ⅲ. 분과별 논제 및 발표자

제 5 분과 M

원자력열수력 및 안전(Thermal Hydraulics and Safety)

- 확률론적안전성평가(Probabilistic Safety Assessment)

좌 장 양준언(Joon-Eon YANG), 이광남(Lee Kwang Nam)

발표장소 탐라

일 정 | 10. 22(금)

- 09:00** **Development of RBDGG Solver and Its Application to System Reliability Analysis**
Man Cheol Kim(KAERI)
- 09:20** **An Extrapolation Method for Estimating Truncation Errors in PSAs**
Jongsoo Choi(KINS)
- 09:40** **An Evaluation of Operator's Action Time for Core Cooling Recovery Operation in a Loss of Component Cooling Water**
Yeon Kyoung Bae, Hyuk-Soon Lim, and Moon-Goo Ghi(KHNP)
- 10:00** **Evaluation of Risk Metrics for KHNP Reference Plants Using the Latest Plant Specific Data**
Ho-Jun Jeon, Seok-Won Hwang, and Moon-Goo Chi(KHNP)
- 10:20** **About Multiple Failure States Criteria in Quantification of Reliability of Passive Systems for VHTR's PSA**
Seok-Jung HAN and Joon-Eon YANG(KAERI)
- 10:40** **Coffee Break**
- 11:00** **Development of Quantitative Framework for Event Significance Evaluation**
Durk Hun Lee and Min Chull Kim(KINS)
Inn Seock Kim(ISSA)
- 11:20** **Integrated Monitoring Process of System Function and Component Using Performance Criteria of Maintenance Rule**
Mi-Ro Seo(KEPCO RI)
- 11:40** **Development of Integrated Safety Performance Assessment (ISPA) Program To Determine the Safety Performance Grade of Nuclear Power Plant**
Dae-Wook Chung, Nam-Chul Cho, and Cheol Sheen(KINS)
Hui-Chang Yang(ENESYS)
Yong-Suk Lee(FNC Tech.)
- 12:00** **A Method of Fire Scenarios Identification in a Consolidated Fire Risk Analysis**
Ho-Gon Lim, Sang-Hoon Han, and Joon-Eon Yang(KAERI)
- 12:20** **Development of Tsunami PSA Method for Korean NPP Site**
Min Kyu Kim, In-Kil Choi, and Jin-Hee Park(KAERI)

제 5 분과 N

원자력열수력 및 안전(Thermal Hydraulics and Safety)

- 안전현안(Safety Issues)

좌 장 박주엽(Juyeop PARK), 김형택(Hyeong Taek KIM)

발표장소 추자

일 정 | 10. 22(금)

- 09:00 Jet Impingement Pressure Contour and Zone of Influence Calculation Methodology**
Sang Won Lee, Tae-Hyub Hong and Hyeong Taek Kim(KHNP)
- 09:20 Numerical Analysis of Containment Pool Flow and Transport of Insulation Debris**
Tae Hyub Hong, Sang Won Lee and Hyeong Taek Kim(KHNP)
- 09:40 A Scheme on Sump Boundary Condition in Shallow Water Equation Solver for OPR1000**
Young Seok Bang, Gil-Soo Lee, Byung-Gil Huh, Ju Yeop Park and Sweng-Woong Woo(KINS)
- 10:00 Study on Head Loss Evaluation for OPR1000 Plant Based on NUREG/CR-6224 Methodology**
J.Y. Park, K.W. Seoul, and Y.S. Bang(KINS)
- 10:20 Evaluation of Early Termination of Containment Spray and Safety Injection Pumps after LOCA to Address USNRC Bulletin 2003-01**
Chang Hyun KIM and Sang Yeol KIM(KHNP)
- 10:40 Coffee Break**
- 11:00 Three Dimensional Analysis of CANDU6 Fuel Channel Using CFX Code**
Hyoung Tae Kim, Wang Kee In and Joo Hwan Park(KAERI)
- 11:20 A Subchannel Analysis of CANDU Fuel Bundle in a Crept Fuel Channel**
Jun Ho Bae and Joo-Hwan Park(KAERI)
- 11:40 Verification of Compliance of Channel and Bundle Power Limits Considering Ageing**
In Young Kim, Yong Won Choi and Un Chul Lee(SNU)
Kap Kim(KINS)
- 12:00 Development of a CATHENA Fuel Channel Analysis Model for a Fuel Channel with Axial Variation of Radial Pressure Tube Creep in a Stratified Two-phase Flow Condition**
Bo Wook Rhee, You Gwon Jo and J.H. Park(KAERI)
- 12:20 MSSV Modeling for Wolsong-1 Safety Analysis**
Bok Ja Moon, Chul Ji Choi, and Seoung Rae Kim(KEPCO E&C)

Ⅲ. 분과별 논제 및 발표자

제 6분과 A

방사선 이용 및 방호 (Radiation Utilization and Protection)

좌 장 전권수(Kwon Soo Chun), 한문희(Moon Hee Han)

발표장소 우도

일 정 | 10. 21(목)

- 09:00 Source Term Evaluation System Build for Ulchin 5&6 Units**
Wan Joo Kim and Sok Chul Kim(KINS)
Deuk Yong Song and Byung Sup Han(ENESYS)
- 09:20 The Effect of Chemotherapy on Rat Brain PET: Preliminary Study**
Jin Su Kim, Il-Han Kim, A Ram Yu, Ji Ae Park, Sang Keun Woo, Jong Guk Kim, Gi Jeong Cheon, Byeong Il Kim, Chang Woon Choi, Sang Moo Lim, Hee Joung Kim, and Kyeong Min Kim(KIRAMS)
- 09:40 SPECT/CT Imaging of Radiolabeled Quantum Dots**
Jae Jun Park, Tae Sup Lee, Joo Hyun Kang, Eun Jung Kim, Ran Ji Yoo, Gwang Sun Woo, Wee Sup Chung, and Gi Jeong Cheon(KIRAMS)
- 10:00 An Image Quality Approach for Optimizing ¹²⁴I PET Imaging on Siemens Inveon PET Scanner**
A Ram Yu, Jin Su Kim, Gwang Il An, Sang Keun Woo, Jong Guk Kim, Ji Ae Park, Gi Jeong Cheon, Byeong Il Kim, Chang Woon Choi, Sang Moo Lim, and Kyeong Min Kim(KIRAMS)
Hee Jong Kim(YU)
- 10:20 Assessment of PET and MRI Polar Map Using Gaussian Mixture Model**
Wonho Lee, Sang-Keun Woo, Yong Jin Lee, Min Hwan Kim, Ji Ae Park, Joo Hyun Kang, Jin Su Kim, Jong Guk Kim, In Ok Ko, Gi Jeong Cheon, Chang Woon Choi, Sang Moo Lim, and Kyeong Min Kim(KIRAMS)
- 10:40 Coffee Break**
- 11:00 Detection of Myocardial Infarct Region Using PET and MRI Images**
Sang-Keun Woo, Yong Jin Lee, WonHo Lee, Min Hwan Kim, Ji Ae Park, In Ok Ko, Jin Su Kim, Jong Guk Kim, Young Hoon Ji, Joo Hyun Kang, Gi Jeong Cheon, Chang Woon Choi, Sang Moo Lim, and Kyeong Min Kim(KIRAMS)
- 11:20 Biodistribution Property of ¹⁷⁷Lu Labeled F(ab')₂ Fragment of Anti-CD105 for Radioimmunotherapy**
So-Young Lee, Young-Don Hong, Pil-Hoon Park, Ki-Cheol Yoon, and Sun-Ju Choi(KAERI)
- 11:40 Compton Suppression System with Position Changeable Suppression Detector**
J.H. Kim, N.S. Jung, and H.D. Choi(SNU)
- 12:00 Performance of a Nuclide Identification of HYPERGAM on the IAEA 2002 Test Spectra**
B.G. Park, N.S. Jung, J.H. Kim, and H.D. Choi(SNU)
C.S. Park(KINS)
- 12:20 Test of a Fiber Optic-based LYSO Scintillator Dosimeter in a ⁶⁰Co Irradiation Chamber**
Tae Hyoung Kim, Jae Kyung Kim, and Jae Woo Park(JNU)

제 6 분과 B

방사선 이용 및 방호(Radiation Utilization and Protection) - Poster

- 방사선계측/방호/차폐/안전연구(Radiation Dosimetry/Protection/Shielding/Safety)

좌 장 Kyo Youn Kim(김교윤), HAN Seungjae(한승재)

발표장소 2층로비

일 정 | 10. 21(목) 13:00-15:00

- P06B01 The Soil-to-Plant Transfer Factors of ¹³⁷Cs for Fresh and Aged Depositions**
Kwang Muk Lim, Yong Ho Choi, In Jun, Doo Won Park, and Dong Kwon Keum(KAERI)
- P06B02 Shielding Analysis for a Lead Slowing Down Time Spectrometer System**
K.Y. Noh, C.J. Park, Y.D. Lee, and J.W. Lee(KAERI)
- P06B03 Analysis on Dose Distribution in Heterogeneous Condition for Narrow 6 MV X-ray Beams**
Hae Sun Jeong and Joo Hwan Park(KAERI)
Youngyih Han(SKKU)
Oyeon Kum(KNU)
Chan Hyeong Kim(HYU)
- P06B04 A study of Radon-concentration Distribution in Buildings in Gyeong-ju**
C.H. Park, S.Y. Jang, O.J. Jung, and J.H. Moon(DU)
- P06B05 Assessment of Radiation Doses to the Public from a Release of Airborne Radioactive Material under Hypothetical Accident Condition in Wolsong Unit 1**
Gab-Bock Lee, Sun-Young Bang, and Yang-Hee Yang(KEPCO RI)
- P06B06 Activation of Polymethyl-Methacrylate by Proton Beam**
Se-jin Ra, Myung Hwan Jung, and Kye-Ryung Kim(KAERI)
Tae-keon Yang(KIRAMS)
- P06B07 The BiDAS-2009 : Bioassay Data Analysis Software for Evaluating a Radionuclide Intake and Dose**
Jong Il Lee, Jang Lyul Kim, and Bong Whan Kim(KAERI)
- P06B08 Calculation of the Characteristic Limits for a Surface Contamination Ratemeter**
T.Y. Lee, M.Y. Song, and B.H. Kim(KAERI)
- P06B09 Cyber Security on Nuclear Power Plant's Computer Systems**
Ickhyun Shin(KINAC)
- P06B10 The Analysis of Key Issues on the IAEA Basic Safety Standards Draft**
Yong-Min Kim(CU)
Kun-Woo Cho(KINS)
- P06B11 Standards for Evaluation of Emergency Response Facilities**
Sung Il Kim(KINS)

Ⅲ. 분과별 논제 및 발표자

제 6분과 C

방사선 이용 및 방호(Radiation Utilization and Protection) - Poster

- 방사선 및 RI활용 생명의학연구(Application of Radiation and RI for Medical/Life Science)

좌 장 홍영돈(HONG Young-Don), 엄홍덕(Hong-Duck Um)

발표장소 2층로비

일 정 | 10. 21(목) 13:00-15:00

- P06C01 Expression of Genes Related to Oxidative Stress in Yeast Treated with Ionizing Radiation and N-acetyl-L-cysteine**
Jiyoung Park and Jin Kyu Kim(KAERI)
Monhammad Nili(DRRI)
- P06C02 DNA Damage in Melania Snail (Semisulcospira Libertine) Irradiated with Gamma Radiation**
Tae Ho Ryu and Jin Kyu Kim(KAERI)
Kwang-Guk An(CNU)
Monhammad Nili(DRRI)
- P06C03 The Effects of Low Dose γ -Irradiation on MIA Induced Joint Inflammation in Rats**
Seok-Chan Ham, Ko Eun Lee, Eun-hea Kim, and Junesun Kim, Taewoong Lee and Wonho Lee(KU)
- P06C04 Suicidal Gene Therapy with Rabbit Cytochrome P450 4B1/4-ipomeanol, 2-aminoanthracene System in Glioma Cell**
Su Jin Jang, Joo Hyun Kang, Kwang Il Kim, Tae Sup Lee, Yong Jin Lee, Kwang Sun Woo, Wee Sup Chung, Gi Jeong Cheon, Chang Woon Choi, and Sang Moo Lim(KIRAMS)
- P06C05 In Vitro Evaluation of Cardiomyogenic Differentiation of Bone Marrow Derived Mesenchymal Stem Cells (MSCs)**
Min Hwan Kim, Yong Jin Lee, Joo Hyun Kang, Kwang Il Kim, Tae Sup Lee, Yoo Ran Ji, Kwang Sun Woo, Gi Jeong Cheon, Chang Woon Choi, and Sang Moo Lim(KIRAMS)
Dong Soo Lee(SNU)
Chan Wha Kim(KU)
- P06C06 Radiological Analysis of Human Lung Cancer Cells on the 20 MeV Linac and 45 MeV Cyclotron Proton Beam**
Myung-hwan Jung, Se-Jin Ra, Jae-Keun Kil, Sang-Pil Yoon, and Kye-ryung Kim(KAERI)
- P06C07 Non-invasive Monitoring of Carcinogenesis in N-nitrosodiethylamine Induced Liver Cancer**
Ju Hui Park, Joo Hyun Kang, Yong Jin Lee, Tae Sup Lee, Kwang Il Kim, Gi Jeong Cheon, Chang Woon Choi, and Sang Moo Lim(KIRAMS)
Young Seo Park(KWU)
- P06C08 Development of Input Function Measurement System for Small Animal PET Study**
JongGuk Kim, Byung-Su Kim, Jin Su Kim, Sang-Keun Woo, Ji Ae Park, A Ram Yu, Young Sub Lee, Wonho Lee, Tae Hyun Choi, Chang Woon Choi, Sang Moo Lim, Gi Jeong Cheon, and Kyeong Min Kim(KIRAMS)

P06C09 **[¹⁸F]FDG and [¹⁸F]FLT PET Imaging in Orthotopic Mouse Brain Tumor Model**

In Ho Song, Tae sup Lee, Joo Hyun Kang, Kyo Chul Lee, Eun Jung Kim, Wee Sup Jung, Gwang Sun Woo, Gi Jeong Cheon, Chang Woon Choi, and Sang Moo Lim(KIRAMS)

P06C10 **Comparative Measurement of Spill over Ratio between I-124 and F-18 on Siemens ECAT HR+ PET Scanner**

Young Sub Lee, Jin Su Kim, Gwang Il An, Jong Guk Kim, Sang Keun Woo, Ji Ae Park, Gi Jeong Cheon, Byeong Il Kim, Chang Woon Choi, Sang Moo Lim, and Kyeong Min Kim(KIRAMS)
Hee Joung Kim(YSU)

Ⅲ. 분과별 논제 및 발표자

제 6분과 D

방사선 이용 및 방호(Radiation Utilization and Protection) - Poster

- 방사선기기/시설 기반연구(Instrumentation and Facility-based Research for Radiation Application)

좌 장 조승룡(Seungryong Cho), 조성오(Sung Oh Cho)

발표장소 2층로비

일 정 | 10. 21(목) 13:00-15:00

P06D01 Preparation of the Fast Neutron Irradiation System Using a DT Neutron Generator at KAERI

S.I. Kim, I.S. Jang, T.Y. Lee, and B.H. Kim(KAERI)

P06D02 A Facility for Generation and Application of Fast Neutron

N.S. Jung, J.H. Kim, B.G. Park, and H.D. Choi(SNU)

P06D03 Comparison of Elemental Composition in Korean Irradiated Foods Using Instrumental Neutron Activation Analysis

Yong Sam Chung, Sun Ha Kim, Gwang Min Sun, Jong Myung Lim, Jong Hwa Moon, Kye Hong Lee, Young Jin Kim, Jong Il Choi, and Joo Eun Lee(KAERI)

P06D04 Application of Neutron Activation Analysis for the Homogeneity Test of a Candidate Soil Reference Material

J.H. Moon, S.H. Kim, and Y.S. Chung(KAERI)
K.H. Cho(KRISS)

P06D05 Results and Analysis of NTD Operation in HANARO

Ki-Doo Kang, Sang-Jun Park, and Myong-Seop Kim(KAERI)

P06D06 An Effort to Improve U Foil Fabrication Technology of Roll-casting for Fission Mo Target

Chang-Kyu Kim, Yun Myeong Woo, Ki-Hwan Kim, and Jong-Myeong Oh(KAERI)
Moon-Soo Sim(CNU)

P06D07 The Simulation on Limited Angle Beam Gamma Ray Tomography

Jong Bum Kim, Sung Hee Jung, and Jin ho Moon(KAERI)

P06D08 Performance Evaluation of Modified Single Parameter Hecht Equation

Kyung-O KIM and Jong Kyung KIM(HYU)
Soon Young KIM(RADCORE)
Jang-Ho HA(KAERI)

P06D09 Density and Effective Atomic Number Calculation with Source Weighting Methods Using Dual Energy 90° Compton Scattering Experiments

Ji Sung PARK, Chang-Ho Shin, and Jong Kyung KIM(HYU)

P06D10 New Method for Classification of Radiation Devices for Industrial Use

Woon-Kap CHO, Kyu-seock SEO, and Bon-Cheol KOO(KINS)

P06D11 Preliminary Radiation Hardness Test of a Fabricated Charge Sensitive Amplifier for Feasibility of High Radiation Field Application

Han Soo KIM, Jang Ho HA, Se Hwan PARK, Cheol Ho Lee, Seung Wook Lee, and Myung Kook Moon(KAERI)

P06D12 Energy Spectrum Measurement of a Fabricated Semiconductor Radiation Detector at HANARO ENF Facility

Cheol Ho Lee, Han Soo Kim, Jang Ho Ha, Se Hwan Park, Seung Wook Lee, and Myung Kook Moon(KAERI)

일 정 | 10. 22(금)

- 09:00** **Impact of Shield Material in the Design of a LAR Tokamak Reactor**
B.G. Hong(CBNU)
Y.S. Hwang(SNU)
- 09:20** **ECR Plasma Characteristics of 14.5 GHz Electron Cyclotron Resonance Ion Source at KAERI**
Byung-Hoon Oh, Sang-Ryul In, Kwang-Won Lee, Chang Seog Seo, Jung-Tae Jin, Dae-Sik Chang, Seong Ho Jeong, and Chul-Kew Hwang(KAERI)
Sunchan Jeong(KEK)
- 09:40** **Long Term Behavior of the Modulator Voltage and Klystron Perveance Measurement**
Dae-Il Kim, Hyeok-Jung Kwon, and Yong-Sub Cho(KAERI)
- 10:00** **Optical Beam Profile Diagnostics by Using the Beam Image Quantification at PEFP Proton Linac**
S.P. Yoon, H.J. Kwon, J.H. Jang, D.I. Kim, B.S. Park, J.S. Hong, and Y.S. Cho(KAERI)
- 10:20** **Time Stamp Synchronization of PEFP Distributed Control Systems**
Young-Gi Song, Eun-Mi An, Hyeok-Jung Kwon, and Yong-Sub Cho(KAERI)
- 10:40** **Coffee Break**
- 11:00** **Beam Dynamics Design in the Low Energy Beam Transport of the Heavy Ion Linac**
Ji-ho Jang, Yong-sub Cho, and Hyeok-Jung Kwon(KAERI)
- 11:20** **Beam Profile Measurement and Its Application to Calculate Beam Emittance Using Wire Scanner for the PEFP 20MeV Linac**
J.S. Hong, H.J. Kwon, D.I. Kim, S.P. Yoon, H.S. Kim, J.H. Jang, and Y.S. Cho(KAERI)
S.J. Noh(DU)

Ⅲ. 분과별 논제 및 발표자

제 7 분과 B

양자공학 및 핵융합기술 - Poster (Quantum Engineering and Nuclear Fusion)

좌 장 권혁중(Hyeok-Jung Kwon), 황용석(Yong-Seok Hwang)

발표장소 2층로비

일 정 | 10. 21(목) 13:00-15:00

- P07B01 Enhanced Adhesion of Copper Thin Film on Aluminum Oxide by Ion-Beam Mixing**
Hyung-Jin Kim and Jae-Won Park(KAERI)
- P07B02 Progress on the Fabrication Methods Development for the Korean Test Blanket Module First Wall in the ITER**
Dong Won Lee, Suk Kwon Kim, Young Dug Bae, and Jae Sung Yoon(KAERI)
Seungyon Cho(NFRI)
- P07B03 Design Feature and Result of PFCs Baking System for the KSTAR**
Eun-Nam Bang, Kyung-Min Kim, Hong-Tack Kim, Hak-Kun Kim, Kun-Su Lee, Sang-Tae Kim, Hyung-Lyeol Yang, Myeun Kwon, and the KSTAR Team(NFRI)
- P07B04 Radiation Shielding Doors Design for the Accelerator & Beam Application Building of the PEFP**
Jung Min Nam, Y.G. Han, G.P. Jeon, Yi-Sub Min, Jin Sam Cho, Kyeong-Jun Mun, J.H. Cho, and Jun Yeon Kim(KAERI)
- P07B05 A Conceptual Design and Structural Analysis for ITER Sector Mid-plane Brace Tools**
Nam Kyoung, Park Hyunki, and Kim Dongjin(NFRI)
Lee Jaehyuk and Kim Kyungkyu(SFA)
Im Kihak and Robert Shaw(ITER)
- P07B06 Manufacturing and High Heat Flux Test of Beryllium Slit Mockups for ITER First Wall Qualification**
Suk-Kwon Kim, Seung-Jae Lee, Dong-Ju Seo, Dong Won Lee, Young-Dug Bae, Jae-Sung Yoon, Hyun-Kyu Jung, Yang-Il Jung Jeong-Yong Park, and Yong-Hwan Jeong(KAERI)
Byoung Yoon Kim(NFRI)
- P07B07 Surface Modification Using Plasma Treatments and Adhesion Peptide for Durable Tissue-engineered Heart Valves**
Youngmee Jung and Soo Hyun Kim(KIST)
- P07B08 Design Study of the Magnetic Diagnostic System for Merging Scenarios in VEST**
Jeongwon Lee, Sooseok Choi, Kyoung-Jae Chung, Y.S. Hwang, and Yong-Su Na(SNU)
- P07B09 Preliminary Experimental Results for Tritium Accountancy Measurement**
Doyeon Jeong, Hongsuk Chung, Dongyou Chung, and Daeseo Koo(KAERI)
- P07B10 Design Study of an Experimental Rig for Hydrogen Isotope Storage Material Tests**
Dongyou Chung, Doyeon Jeong, Daeseo Koo, and Hongsuk Chung(KAERI)

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- P07B11 Heaters and an EM Pump Performance Tests of a Liquid Breeder Loop for ITER TBM**
Jae Sung Yoon, Dong-Won Lee, Young-Duk Bae, Suk-Kwon Kim, and Seung-Jae Lee(KAERI)
- P07B12 Predictive Numerical Simulations of ECH Assisted H-mode Scenarios at KSTAR**
Hyunseok Kim, Donghyeon Na, and Yong-Su NA(SNU)
Ki Min Kim(CARFRE)
- P07B13 The Characterization of Beam Profile by Modification of Electrode Shape**
Chan Young Lee and Jae Sang Lee(KAERI)
- P07B14 Effluent Monitoring System Design for the Proton Accelerator Research Center of PEFP**
Jun Yeon Kim, Kyeong-Jun Mun, Jang-Hyung Cho, and Jeong Hee Jo(KAERI)
- P07B15 Electrical Ground System Design of PEFP**
Kyeong-Jun Mun, Gye Po Jeon, Sung-Sik Park, Yi-Sub Min, Jung Min Nam, Jang-Hyung Cho, and Jun Yeon Kim(KAERI)

Ⅲ. 분과별 논제 및 발표자

제 7 분과 C

양자공학 및 핵융합기술 - Poster (Quantum Engineering and Nuclear Fusion)

좌 장 오병훈(Oh Byung-Hoon), 조용섭(Yong Sub Cho)

발표장소 2층로비

일 정 10. 21(목) 13:00-15:00

- P07C01 Development of Metal Ion Implanter and It's Application**
Jae Sang Lee and Chan Young Lee(KAERI)
- P07C02 The Calculation and Design of Fire Suppression System in the Proton Accelerator Research Center**
G.P. Jeon, J.Y. Kim, J.H. Cho, Y.S. Min, K.J. Mun, J.S. Cho, J.M. Nam, S.S. Park, and H.G. Joo(KAERI)
- P07C03 The Radiation Streaming Calculation of the Wave Guide Using DUCT-III**
Y.S. Min, G.P. Jeon, K.J. Mun, J. Nam, J.S. Cho, and Jun Yeon Kim(KAERI)
- P07C04 Instrumentation for Measurement of the Energy Distribution of the RF Implanter**
Tu Anh Trinh, Ji Ho Jang, Hyeok Jung Kwon, and Yong Sub Cho(KAERI)
- P07C05 Field Flatness Tuning of Five-cell SRF Elliptical Cavity**
Han-Sung Kim, Jin-Seok Hong, Hyeok-Jung Kwon, and Yong-Sub Cho(KAERI)
- P07C06 Development of Radiation Area Entranec Procedure of PEFP**
Sung Sik Park, Jun Yeon Kim, Jang-Hyung Cho, Kyeong-Jun Mun, Jin Sam Cho, Gye Po Jeon, Yi Sub Min, and Jung Min Nam(KAERI)
- P07C07 Design and Fabrication of the Wire Scanner**
Hyeok-Jung Kwon, Han-Sung Kim, Dae-Il Kim, Jin-Seok Hong, Sang-Pil Yoon, Ji-Ho Jang, and Yong-Sub Cho(KAERI)
- P07C08 Field Profile Measurement of the PEFP DTL101 Tank**
K.T. Seol, H.J. Kwon, H.S. Kim, and Y.S. Cho(KAERI)
- P07C09 Feasibility Study on Three Charge States Acceleration of Uranium Beam with 70MHz Heavy Ion RFQ**
Yong-Sub Cho and Ji-Ho Jang(KAERI)
- P07C10 Efficient Filtering and Access Control for the PEFP Control System**
Eun-Mi An, Young-Gi Song, Hyeok-Jung Kwon, and Yong-Sub Cho(KAERI)
- P07C11 Test of Beam Position Control Logic with EPICS for Compensating the Remnant Bending Magnet Field in PEFP MBT**
Ying-Min Li, Ji-Ho Jang, Kyung-Jean Min, Young-Gi Song, Hyeok-Jung Kwon, and Yong-Sub Cho(KAERI)
- P07C12 Basic Science Beamline (TR104) at PEFP**
Bum-Sik Park, Yong-Sub Cho, Hyeok-Jung Kwon, Ji-Ho Jang, Han-Sung Kim, Sang-Pil Yun, and Kye-Ryung Kim(KAERI)

P07C13 Residual Stress Changes in Al₂O₃ Induced by Nd:YAG Laser Irradiation

Sunmog Yeo and Jae-Won Park(KAERI)

P07C14 Photo-resister Ashing with a Plate to Plate Dielectric Barrier Discharge

Ji-Hun Kim, Se-Min Chun, Sang-Beom Joa, and Heon-Ju Lee(JNU)

Chan-Joo Yim(SEPLASMA)

P07C15 Etching Effect of an Atmospheric DC Arc Plasmatron

Se-Min Shun, Ji-Hun Kim, In-Je Kang, and Heon-Ju Lee(JNU)

Ⅲ. 분과별 논제 및 발표자

제 8분과 A

원자력발전소 건설 및 운영(Nuclear Power Plant Construction and Operation) - 원전 정비 기술 및 설비 신뢰도(NPP's Maintenance Technologies and Equipment Reliability)

좌 장 노백식(Noh Baek Sik), 채장범(JANG BOM CHAI)

발표장소 라마다볼룸2

일 정 | 10. 21(목)

- 09:00** **Considerations of On-line Maintenance for Essential Chilled Water System in a Westinghouse Plant**
Hee Seung Chang, Sang Young Moh, and Sung Mok Min(KHNP)
- 09:20** **Evaluation of Safety-related Motor Maintenance in Nuclear Power Plants**
Cheol-soo Goo, In-Youg Kim, Young-sik Cho, and Moon-young Kim(KINS)
- 09:40** **A Code Reconciliation on Ulchin Unit 1&2 Replacement Steam Generator**
Su-young Ha, Youn-nyen Kim, and Yeon-sang Yu(KHNP)
Kyung-sik Park(DOOSAN)
- 10:00** **Water Hammer Analysis Using RELAP5/MOD 3.3 for Yonggwang Nuclear Power Unit 1&2 Blowdown System**
Sang Il Lee and Chang Ho Jung(SDD)
Hea Zoo Kim, Jung Ho Chu, and Se Hong Ahn(Hyundai E&C)
Seong Hoon Cho and Du Cheol Lee(KHNP)
- 10:20** **The Improved Methods of Critical Component Classification for the SSCs of New NPP**
Sang Dae Lee, Dong Un Yeom, and Jin Woo Hyun(KHNP)
- 10:40** **Coffee Break**
- 11:00** **A Development of Empirical Models for Equipment Condition Monitoring System**
Song Kyu Lee and Se Jin Baik(KEPCO E&C)
Sang Ha An(KAIST)
- 11:20** **Failure Probabilities and MR Performance Criteria Versus Variation in Surveillance Interval**
Tae Young Ju, Dong Un Yeom, and Kung Su Cho(KHNP)
- 11:40** **An Optimized Refueling Outage for Pressurized Light Water Reactor Plants**
Jeong-Ki Hwang, In-Yong Kim, and Tack-Sang Choi(KEPCO E&C)
- 12:00** **Identification of SPV Using a Blended Method**
Jinkyu Han and Kwangnam Lee(KEPCO E&C)
Moongoo Chi and Eunchan Lee(KHNP)
- 12:20** **Technical Standards for Wolsong Unit 1 Nuclear Power Plant**
Sung Min Kim and Hyeong Taek Kim(KHNP)
Cheon Hwey Cho(ACT Co., Ltd.)

제 8 분과 B

원자력발전소 건설 및 운영(Nuclear Power Plant Construction and Operation)

- 원전 설계, 제작 및 건설 기술(NPP's Design, Manufacture & Construction Technology)

좌 장 김원호(Kim, Won Ho), 방상윤(Sang-young Bang)

발표장소 비양

일 정 | 10. 21(목)

- 09:00 An Attempt to Construction of Seismotectonic Province Map**
Myunghyun Noh and Taek Mo Shim(KINS)
- 09:20 Preliminary Seismic Safety Evaluation of the Uljin Nuclear Power Plant Site Regarding the Offshore Uljin Earthquake on the 29 May 2004 as an Empirical Green's Function**
Hoseon Choi and Taek-Mo Shim(KINS)
- 09:40 A Perspective into Regulatory Requirements for Intentional Aircraft Crash**
Sang Yun Kim, Jong Seuk Park, and Yun Suk Chung(KINS)
Inn Seock Kim(ISSA Technology, Inc.)
Seong-Soo Choi and Jong Hyun Kim(ACT Co., Ltd.)
- 10:00 Evaluation of Electromagnetic Characteristic for APR1400 CEDM**
Seung Hee Jang, Jin Seon Kim, Min Su Kim, Il Jung Jun, and Yong Kyu Kim(DOOSAN)
- 10:20 A Cooling Test of Improved CEDM Coil Stack Assembly**
Myoung Goo Lee, Jin Seok Park, In Yong Kim, and Taek Sang Choi(KEPCO E&C)
- 10:40 Coffee Break**
- 11:00 Comparison of the ASME Environmental Fatigue Design Curve with the Leax' Low Bound Model**
Ill-Seok Jeong and Wan-Jae Kim(KEPCO RI)
Hyun-Ik Jun(K.L.E.S)
- 11:20 Evaluation of Fatigue for Inner Barrel Assembly of APR1400 Reactor Vessel Internals**
Chung Rae Cho, Han Kwang Choi, Byeong Wook Noh, and Young Soon Choi(DOOSAN)
- 11:40 Development of LBB Piping Evaluation Diagram for APR 1000 Main Steam Line Piping**
J.S. Yang, I.L. Jeong, C.Y. Park, and S.Y. Bai(KEPCO RI)
- 12:00 Simulations for Evaluating RCP Characteristics at 50 Hz Condition**
Sang Seob Lee, Yung Kwon Jin, and Gyu Cheon Lee(KEPCO E&C)
- 12:20 CFD Analysis of Flow Characteristics in the PAFS PCCT for APR +**
Mun Soo Kim and Jong Chun(KHNP)

Ⅲ. 분과별 논제 및 발표자

제 8 분과 C

원자력발전소 건설 및 운영(Nuclear Power Plant Construction and Operation)-Poster
- 원전 설계, 제작 및 건설 기술(NPP's Design, Manufacture & Construction Technology)

좌 장 권원택(KWON WON TAEK), 이돈국(Lee Don Kug)

발표장소 2층로비

일 정 | 10. 21(목) 13:00-15:00

- P08C01 A Study on Method to Reduce the Sludge Attachment of the Secondary System for Nuclear Power Plant**
Young-Jong Kwak(KHNP)
Goung-Jin Lee(CSU)
- P08C02 Performance Evaluation of RCS Leak Detection System for Kori Units 3 and 4**
S.J. Yune, S.K. Suh, and S.J. Baik(KEPCO E&C)
- P08C03 Evaluation of Steam Generator Level Behavior for Determination of Turbine Runback Rate on COPs Trip for Yonggwang 1&2 Power Upgrading Units**
Kyung Jin Lee, Su Hyun Hwang, Tae Geun Yoo, and Soon Il Chung(FNC Tech.)
Byung Chang An and Jung Gu Park(KHNP)
- P08C04 Design Improvement for Cavitation Induced Erosion at the Flow Control Valve in the Nuclear Service Cooling Water System**
Jeung Wook Kim(KHNP)
Jin Weon Kim(CSU)
- P08C05 Comparison of IEEE383-2003 and IEC60505-2004 Standards for Harmonization of Environmental Qualification Procedure of Electric Cable**
Jong-Seog Kim, Sun-chul Jeong, Kyung-Heum Park, and Kyung-Nam Jang(KEPCO RI)
- P08C06 Development of Dissimilar Metal Weld Performance Demonstration System**
Kim, Yongsik, Yoon, Byungsik, Yang, Seunghan, and Guon Keeil(KEPCO RI)
- P08C07 Safety Depressurization System Capability for High Pressure Core Melting Accidents in APR1400**
Young-Jo Choi, Jae-Gon Lee, and Sun Heo(KHNP)
- P08C08 Preliminary Assessment for the Effects of the External Hazard Factors on the Safety of NPPs**
Sobeom Jin, Seung Gyu Hyun, Sang Yun Kim, and Sung-Kyu Lee(KINS)
Youl Hur(KHNP)
- P08C09 Comparison of Atmospheric Dispersion Models between PHWR and PWR**
Sung Min Kim and Hyeong Taek Kim(KHNP)
Kun Ho Chun(KEPCO NF)
- P08C10 Development of Data Analysis Software for Diagnostic Eddy Current Probe (D-probe) for Steam Generator Tube Inspection**
Myung Sik Choi, Do Haeng Hur, Kyung Mo Kim, Jung Ho Han, and Deok Hyun Lee(KAERI)

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- P08C11 A Conceptual Design of Light-weighted Mobile Robot for the Integrity of SG Tubes in NPP**
Yongchil Seo, Kyungmin Jeong, Hochul Shin, Sung-uk Lee, Jaewan Cho, Youngsoo Chio, and Seunggho Kim(KAERI)
Chun Sup Shin and Ki Tae Park(KPS)
- P08C12 Establishment of Database Program for In-service Test Management in Nuclear Power Plants**
Byung-Shik PARK and Young Wook CHUNG(FNC Tech.)
Gang-Il Choo(KHNP)
- P08C13 Analysis of Tracer Test at NPP Site**
Seung Gyu Hyun and Sobeom Jin(KINS)
Nam. C. Woo(YSU)
Jae soo Jeon(NEXGEO)
Kilseong Kim(IERR)
- P08C14 Improvement on Liquid Radioactive Waste Treatment System of Nuclear Power Plant by Applying Ion Exchange Method**
Jong Soon Song(CSU)
Bok Yeol Park(KHNP)
- P08C15 Analytical Parameter Study for Residual Stress Improvement on RV Nozzle Butt Welds by MeSIA®**
Hong Seok Cho, Ki Hyun Cho, Dong Min Lee, and Sang Hoon Choi(KPS)

Ⅲ. 분과별 논제 및 발표자

제 8분과 D

원자력발전소 건설 및 운영(Nuclear Power Plant Construction and Operation)-Poster - 원전 건설 및 운영기술(NPP's Construction and Operation Technology)

좌 장 정우태(Woo-Tae Jeong), 조명석(Cho Myung-sug)

발표장소 2층로비

일 정 10. 21(목) 13:00-15:00

- P08D01 Measured Prestress Loss of over 20-year-old Prestressed Concrete Containment Vessels**
Daegi Hahm, Young-Sun Choun, and In-Kil Choi(KAERI)
- P08D02 A Review of Buried Piping Management in Nuclear Power Plant**
Ho-Sang Shin, Jin-Ki Hong, and Yeon-Ki Chung(KINS)
- P08D03 Study for Improvement of Temperature and Pressure Traceability to the DBE Profile during the DBE Simulation Test**
Kyung-Nam Jang, Jong-Seog Kim, Sun-Chul Jeong, and Kyung-Heum Park(KEPCO RI)
- P08D04 Development of Fatigue Evaluation and Monitoring System for Korean NPPs**
Jongjooh Kwon and Wanjae Kim(KEPCO RI)
- P08D05 The Experience of Obsolete Item Identification and Solution in CANDU NPPs**
Kyung-Heum Park, Sun-Chul Jeong, Kyung-Nam Jang, and Jong-Seog Kim(KEPCO RI)
Sung-Phil Hwang(KHNP)
- P08D06 An Experimental Study for Microstructure Changes by Carbonation on the NPP Concrete Structures**
D.G. Kim, J.H. Lee, K.B. Kim, and H.J. Lee(KICT)
- P08D07 Construction of APR1000 Nuclear Power Information Management System Based on International standards**
Seung Hwan Choi(KEPCO RI)
Deok-Yong Song and ByungSub Han(Enesys)
Kyungik An and Jinsang Hwang(PartDB)
- P08D08 Sulfate and Chloride Resistance of High Fluidity Concrete Including Fly Ash and GGBS for NPP**
Noh, Jea-Myoung and Cho, Myung-Sug(KEPCO RI)
- P08D09 Comparison on Heat of Hydration between Current Concrete for NPP and High Fluidity Concrete Including Pozzolan Powders**
Noh, Jea-Myoung and Cho, Myung-Sug(KEPCO RI)
- P08D10 Comparisons of Fatigue Evaluation Based on ASME and RCC-M Codes for Branch Nozzle**
M.S. Song, W.H Jo, S.Y. Kang, K.S. Yoon, and T.S. Choi(KEPCO E&C)
- P08D11 Transient Analysis in the APR1400 CVCS Using the CARD1400 Code**
Hong Sik Park, Do Hyun Kim, Jong Seob Park, and Se Jin Baik(KEPCO E&C)

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- P08D12 Analysis of Air Cooling Performance in the Coil Stack Assembly for APR+ CEDMs**
Yong-Sung Lee, Young-Ho Jang, and Jae-Gon Lee(KHNP)
- P08D13 Design of Ultrasonic Waveguide Device for Approaching to Narrow Space**
Seok-Tae Kim and Woo-Tae Jeong(KEPCO RI)
Jin-Yeon Kim(GIT)
- P08D14 Cold Head Reactor Design for APR1000**
Seon Hoe Kim, Ho Cheol Jang, Byung Ryul Jung, Byung Jin Lee, and Se Jin Baik(KEPCO E&C)
- P08D15 Equivalent Young's Modulus of Perforated Shell with Triangular Penetration Pattern**
Myung Jo Jhung and Yong Ho Ryu(KINS)
- P08D16 Design of a Pyroprocess Engineering Project Management**
Hee Seong Park, Sung Ki Kim, and Ho Dong Kim(KAERI)
Keun Bae Yoo, Myung Ki Kim, and Dong Hyun Jee(KEPCO RI)
- P08D17 Design of Segmental Ultrasonic Cleaning Equipment for Removing the Sludge in a Steam Generator**
Seok-Tae Kim, Woo-Tae Jeong, and Min-Suk Byeon(KEPCO RI)
Ho-One Lee(Sae-an Eng.)
- P08D18 Development of an Incinerator System for Processing Chemical Cleaning Waste of Nuclear Steam Generator**
Woo-tae Jeong and Seok-tae Kim(KEPCO RI)
Seok-chul Kang and Young-kug Kim(Sae-an Eng.)
- P08D19 Selective Leaching of Gray Cast Iron - Electrochemical Aspect**
Kyung-Hwan Na, Eunsub Yun, and Young Sheop Park(KHNP)
- P08D20 Development of Water Chemistry Model in Crud Layer on Fuel Cladding**
Byung Gi Park, In Hyoung Rhee, Gwang Hong, and Bum Young Jung(SCHU)
W.Y. Maeng(KAERI)
- P08D21 Seismic Evaluation by Using Composite Standard Deviation**
Jung Han Kim, In-Kil Choi, and Jin-Hee Park(KAERI)
- P08D22 Optical Fiber Sensor Package Development for the SIT of Containment Structure**
Myung-Sug Cho and Jae-Myung Noh(KEPCO RI)
Hyung-Ju Kim(KHNP)
- P08D23 Laser Sensor Package Development for the SIT of Containment Structure**
Myung-Sug Cho and Jae-Myung Noh(KEPCO RI)
Hyung-Ju Kim(KHNP)
- P08D24 Assessment of Effective Prestressed Force of Nuclear Containment Building Using SI Technique**
H.P. Lee, J.B. Jang, K.M. Hwang, and Y.C. Song(KEPCO RI)
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Ⅲ. 분과별 논제 및 발표자

제 8분과 E

원자력발전소 건설 및 운영(Nuclear Power Plant Construction and Operation)
- 원전 설비 경년열화 관리(NPP's Equipment Aging Management)

좌 장 신선동(Shin Sun Dong), 김낙철(Kim nak-cheol)

발표장소 라마다볼룸2

일 정 | 10. 22(금)

- 09:00** **The Feasibility Study of Laser Peening Effects on the Nuclear Power Plants Using Shot Peening Treatment with Operating Temperature**
Jong-Cheon Kim, Tae-hyung Kim, and S.K. Cheong(SNUT)
Hong-Seok Cho(KPS)
- 09:20** **Failure Analysis on Alloy 600 Components in Korean Nuclear Power Plants**
Hong Pyo Kim, Seong Sik Hwang, Yun Soo Lim, and Dong-Jin Kim(KAERI)
- 09:40** **Repair Technology Development and Application of Alloy 600 Vent Pipe**
Kong Chang Sig, Lee Seon Ho, Park Kwang Soo, Byun Jin Gwi, and Lee Sang Cheol(DOOSAN)
- 10:00** **A Comparison of the Predicted Tube Plugging Rate for Alloy 600HTMA Steam Generator**
Myung Hwan Boo and Yong Seok Kang(KHNP)
- 10:20** **New Technologies for Management of PWSCC in Dissimilar Metal Weld in NPPs**
Joung Soo Kim and Hong pyo Kim(KAERI)
- 10:40** **Coffee Break**
- 11:00** **Development of Aging Monitor for Westinghouse 3-loop Type Reactor**
Hong Key Kim, Young Hwan Choi, Myung Ho Song, and Han Ok Ko(KINS)
- 11:20** **Short Range Ordering in 316L Stainless Steel and Its Effect on Dislocation Channeling in Irradiated Austenitic Stainless Steels**
Young Suk Kim, Sung Soo Kim, and Dae Hwan Kim(KAERI)
- 11:40** **Residual Life Assessment of Feedwater Heaters Using Weibull Distribution Function**
Se Youl Won and Young Sheop Park(KHNP)
- 12:00** **Development of Nuclear Materials and Degradation Database**
Ho-Sang Shin(KINS)
Heung Bae Park(KEPCO E&C)
- 12:20** **Priority Evaluation of Nuclear Materials Aging and Degradation Management**
Myung-Kwan Shin, Ho-Sang Shin, and Myung-Ho Song(KINS)

제 8 분과 F

원자력발전소 건설 및 운영(Nuclear Power Plant Construction and Operation)

- 원전 수화학 기술/내진 및 구조(NPP's Water Chemistry Technology/ Structural Engineering)

좌 장 연제원(Jei-Won Yeon), 최인길(In-Kil CHOI)

발표장소 비양

일 정 | 10. 22(금)

- 09:00** **Studies on the CRUD Deposition on Fuel Cladding Surface Using AOA Water Chemistry Loop**
Mun Hwan Kim, Sang hyun Kim, Jung Won Na Uh Chul Kim, Byung Seon Choi, and Wan Young Maeng(KAERI)
- 09:20** **Preparation and Characterization of Simulated Crud**
E..H. Lee, S.H. Kim, K.M. Kim, J.W. Na, B.S. Choi, and W.Y. Maeng(KAERI)
- 09:40** **Corrosion Resistibility of Chemical Inhibitors for Carbon Steels in the Closed Cooling Water System of Nuclear Power Plant**
Sanghyun Kim, Hyo-Dong Yeon, Byung-Seon Choi, Eun-Hee Lee, and Wan-Young Maeng(KAERI)
- 10:00** **Introduction to the High Temperature pH Measurement System Equipped with New Electrochemical Techniques**
Jei-Won Yeon, Myung-Hee Yun, Jaesik Hwang, Sang-Hyuk Jung, You-Jin Jung, and Kyuseok Song(KAERI)
- 10:20** **Kinetic Analysis of Hydrogen and Hydrogen Peroxide by Ammonia Radiolysis**
Byung-Seon Choi and Wan-Young Maeng(KAERI)
Ho-Yeon Yang(KHNP)
J. Clara Wern(UWO)
- 10:40** **Coffee Break**
- 11:00** **Long-term Behaviors of the OPC Concrete with Fly-ash and Type V Concrete Applied on Reactor Containment Building**
Yoon, Eui-Sik, Lee, Hee-Taik, and Paek, Yong-Lak(KINS)
Park, Young-Soo(KHNP)
- 11:20** **The Uniform Hazard Spectrum according to Attenuation Equations which were Derived from Domestic Seismology Research for the NPP Sites**
Hyun-Me Rhee, Jeong-Moon Seo, In-Kil Choi, and Min-Kyu Kim(KAERI)
- 11:40** **Seismic Analysis of an Emergency Diesel Generator with Coil Spring-viscous Damper**
Junhee Park, Young-Sun Choun, Min Kyu Kim, and In-Kil Choi(KAERI)
- 12:00** **Characteristics of Soil Structure Interaction for Reactor Building of Kashiwazaki-Kariwa Nuclear Power Plant**
Moon-Joo GIL, Rae-Young JUNG, Chang-Hun HYUN, and Moon-Soo KIM(KINS)
Nam-Hyoung LIM(CNU)
- 12:20** **Variation of Modal Characteristics of Electrical Cabinet according to the Excitation Level in Impact Hammer Test**
Sung Gook Cho and Gi Hwan So(Jace Korea Co., Ltd))
Doo Kie Kim(KSNU)

Ⅲ. 분과별 논제 및 발표자

제 9분과 A

원자력정책, 인력 및 협력 (Nuclear Policy, Human Resources and Cooperation)

좌 장 정범진(Bum-Jin Chung), 장현섭(Hyun Sop Chang)

발표장소 추자

일 정 | 10. 21(목)

- 09:00** **OECD/NEA Activities on the Safety of New Reactors**
Javier Reig(OECD)
- 09:20** **Multi-criteria Generation-expansion Planning with Carbon Dioxide Emissions and Nuclear Safety Considerations**
Hun-Gyu Lee(KINS)
Young-Chang Kim(AJOU)
- 09:40** **Development of the Manpower Demand Forecast Model of Nuclear Industry Using the System Dynamics Method - Operation Sector**
Yong Suk Lee(FNC Tech)
Nam Sung Ahn(SolBridge)
- 10:00** **Common Practices of Transparency in the Nuclear Regulatory Organizations**
Chang-Ju Lee, Yeon-Hee Hah, and Kju-Myeng Oh(KINS)
- 10:20** **Application of Safety Maturity Model and 4P-4C Model in Safety Culture Assessment**
K.S. Choi, Y.E. Lee, J.T. Ha, H.S. Chang, and S.C. Kam(KINS)
- 10:40** **Coffee Break**
- 11:00** **Advanced Educational Methodology on Nuclear Control for Establishment of International Training Center**
Jong Uk Lee, Jae Hwan Park, Hyun Chul Kim, Ick Hyun Shin, and Byung Woo Shin(KINAC)
- 11:20** **Safeguards Challenges of Fast Breeder Reactor**
Han-Suk Ko, Hyun-Sook Kim, Hyun-Jo Kim, Ho-Jun Park, and Byung-Doo Lee(KAERI)
- 11:40** **Introduction of Direction for Amending on the INFCIRC225/rev4**
Jae Kwang Kim and hosik Yoo(KINAC)
- 12:00** **Evaluation of Proliferation Resistance Using INPRO Methodology**
Hong-Lae Chang and Won-II Ko(KAERI)
- 12:20** **Verification Scope of FMCT**
Sangcheol Hyung and Junghyun Lee(KINAC)

제 9분과 B

원자력정책, 인력 및 협력 - Poster (Nuclear Policy, Human Resources and Cooperation)

좌 장 정환삼(Whan-Sam CHUNG), 문주현(Joo Hyun Moon)

발표장소 2층로비

일 정 | 10. 21(목) 13:00-15:00

- P09B01 Conceptual Framework for Physical Protection against Sabotage Considering Plant-specific Radiological Consequences**
Jounghoon Lee and Donghan Yu(KINAC)
- P09B02 The Upgrade of Nuclear Material Accounting System at KAERI**
Hyun-Jo Kim, Hyun-Sook Kim, Ho-Jun Park, Han-Suk Ko, and Byung-Doo Lee(KAERI)
- P09B03 The Status and Latest Issues on KAERI Export Control Implementation**
Hyun Sook Kim, Ho Jun Park, Hyun Jo Kim, Han Suk Ko, and Byung Doo Lee(KAERI)
- P09B04 Nuclear Rollback Case-based Qualitative Criteria on Non-proliferation Credibility of Individual Countries**
Sang Ki Kim, Sungeol Choi, Il Soon Hwang, and Un Chul Lee(SNU)
- P09B05 The Status of KAERI Nuclear Material Accountancy**
Ho Joon Park, Hyun Sook Kim, Hyun Jo Kim, Han Suk Ko, and Byung Doo Lee(KAERI)
- P09B06 RM Based Bilateral Regional Cooperation and Its Perspective in Korea**
Seung Sik Park(KINAC)
- P09B07 Securing Physical Protection System against Insider Threat**
Jeong-ho Lee, Hyung-min Seo, and Sung-woo Kwak(KINAC)
- P09B08 Amendment of APPRE for Ratification of the International Conventions**
Hosik Yoo, Sung-Woo Kwak, Sung-Soon Chang, Hyung-Min Seo, Jeong-Hoon Lee, and Jeong-Ho Lee(KINAC)
- P09B09 Preliminary Calculation of Proliferation Resistance of Pyroprocess**
Joung Sung Yeop and Soon Heung Chang(KAIST)
- P09B10 Monitoring for Xenon Radionuclides and CTBT Verification**
Byoung-Jik Kim, Dong Myung Lee, Hong Mo Park, Kil Woo Lee, and Hee Yeoul Choi(KINS)

Ⅲ. 분과별 논제 및 발표자

제9분과 C

원자력정책, 인력 및 협력 - Poster (Nuclear Policy, Human Resources and Cooperation)

좌 장 유동한(Yu, Donghan), 이태준(LEE, Tae Joon)

발표장소 2층로비

일 정 | 10. 21(목) 13:00-15:00

- P09C01 Trend Analysis of HANARO Safety Culture Attitude**
Jong Sup Wu, Sang Min Byun, and Hoan Sung Jung(KAERI)
- P09C02 Application of Resource Portfolio Concept in Nuclear Regulatory Infrastructure Support**
Y.E. Lee, J.T. Ha, H.S. Chang, S.C. Kam, and Y.H. Ryu(KINS)
- P09C03 Conceptual Framework of Economic Evaluation on SMRs**
Jinsam Cho and Jeeyoung Kim(KAERI)
Changhoon Kim(Stramo Co.,)
- P09C04 Introduction of Member State Support Program (MSSP) of Korea**
Jaehwan Park(KINAC)
- P09C05 International Regulatory Development Partnership (IRDP)**
Ai Melani and Soon Heung Chang(KAIST)
- P09C06 Current Public Relation Activities for Nuclear Nonproliferation at KINAC**
Byung Woo Shin(KINAC)
- P09C07 Review on Overseas Contracts of a Nuclear Research Institute in Korea**
Myung Ho Lee and Eui Jin Lee(KAERI)
- P09C08 The Study on the Considering Cross-cutting Issues in the Korean Regulatory Inspection Framework**
Yong Suk Lee(FNC Tech)
Dae Wook Chung and Nam Chul Cho(KINS)
- P09C09 International Education & Training Centre (Nuclear Security & Nonproliferation) and Ideas for Educational Test Facilities in the Centre**
Hyungmin Seo(KINAC)

제 10분과 A

원자력계측제어 및 자동원격 (Nuclear I&C and Automatic Remote Control)

좌 장 허균영(G. Heo), 손세도(S.D. Sohn)

발표장소 마라

일 정 | 10. 21(목)

- 09:00** **Evaluation of Load-following Strategies for a KALIMER-600**
Seong-Hwan Seong and Seong-O Kim(KAERI)
- 09:20** **Replacement and Improvement of Nuclear Instrumentation System (RPN) for Ulchin Nuclear Power Plant Units (UCN) 1&2**
Woo Goon Kim, Kil Young Jung, Byung Rae Kim, Jae Hee Yun, Cha seop Kim, and Nakgoo Kim(KEPCO E&C)
- 09:40** **A Duplication Method for a Single Fuse in the Reactor Protection System**
Yeonghwa Ji and Chanho Sung(KHNP)
- 10:00** **Cyber Security Penetration Test for Digital Safety I&C Systems**
C.K. Lee, D.H. Kim, K.C. Kwon, H.K. Joo, and J.S. Song(KAERI)
- 10:20** **Qualified Indication and Alarm System - PAMI Design**
Sedo Sohn, Ki Hoon Jeong, JungHee Jo, and JinSoo Kim(KEPCO E&C)
- 10:40** **Coffee Break**
- 11:00** **The Safety Reviews on Human Factors Engineering of Shin-Ulchin 1 and 2 Nuclear Power Plants for Construction Permits**
D.H. Lee, D.I. Kim and Y.S. Yoon(KINS)
- 11:20** **A Study on Reactor Thermal Power Calculation Methodologies Based on Feedwater Flowrate and Steam Flowrate for OPR1000 Plants**
In-Yong Choi(KHNP)
Man Gyun Na(CSU)
- 11:40** **Evaluation of Periodic Test Frequency for RPS Based on Risk-benefit**
M. Khalaquzzaman, Hyun Gook Kang, and Poong Hyun Seong(KAIST)
Man Cheol Kim(KAERI)
- 12:00** **Evaluation on Codes to Estimate the Number of Failed Rods Using Korean PWR Activity Data**
Hak-Kyu Yoon and Yong-Soo Kim(HYU)
Ki-Young Kim and Sung-Tae Yang(KHNP)

Ⅲ. 분과별 논제 및 발표자

제 10 분과 B

원자력계측제어 및 자동원격 - Poster (Nuclear I&C and Automatic Remote Control)

좌 장 이철권(C.K. Lee), 김창호(C.H. Kim)

발표장소 2층로비

일 정 | 10. 21(목) 13:00-15:00

- P10B01 A study on Feedwater Fouling and Its Countermeasure**
Chong-Hwa Park and Goung-Jin Lee(CSU)
- P10B02 Steam Turbine Control Valve Stiction Effect on Power System Stability**
B. Halimi and Kune Y. Suh(SNU)
- P10B03 Improvement of Steam Generator Level Difference in OPR1000 Simulator**
Do Hyun Hwang, Myeong Soo Lee, Jin Hyuk Hong, and Su Jin Byon(KEPCO RI)
- P10B04 Setting up Remote Support System for Nuclear Power Plant Simulators**
Do Hyun Hwang(KEPCO RI)
- P10B05 Development of an Embedded Solar Tracking System with LabVIEW Motion Control**
Seung Jin Oh, Jun Ho Hyun, Won Jong Oh, Yeong Min Kim, Yoon Joon Lee, and Wongee Chun(JNU)
- P10B06 Development of Core Simulator for Education & Training of Low Power Physics Test**
Park Dong Hwan, Lee Eun Ki, Shin Ho Cheol, and Bae Sung Man(KEPCO RI)
- P10B07 Development of the Real-time Core & Thermal-hydraulic Models for Kori-1 Simulator**
JinHyuk Hong, MyeongSoo Lee, DoHyun Hwang, and Soo-Jin Byon(KEPCO RI)
- P10B08 Communication Pattern Analysis between MCR Operators that Use Extended Speech Act Coding Scheme in Emergency Circumstance of Nuclear Power Plant**
Hanjeom Kim and Jongsoon Song(CSU)
Seunghwan Kim(KAERI)
- P10B09 The Study on the Computer Analysis of Solar Daylighting System in the Schoolroom**
W.J Oh, I. Makhmudov, Y.J. Lee, and W.G. Chun(JNU)

일 정 | 10. 21(목) 13:00-15:00

- P10C01 The Design of Automatic Seismic Trip System for the Nuclear Power Plants**
Jin Kwon Jeong, Chang Jae Lee, Jae Cheon Jung, Seung Min Baek, and Yang Gyun Oh(KEPCO E&C)
Young Kook Kim(KHNP)
- P10C02 Optimization Algorithms for Nuclear Reactor Power Control**
Yeong-Min Kim, Won-Jong Oh, Seung-Jin Oh, Won-Gee Chun, and Yoon-Joon Lee(JNU)
- P10C03 Design of Model Predictive Controller of Nuclear Steam Generator**
Y.M. Kim, W.J. Oh, S.J. Oh, Y.J. Lee, and W.G. Chun(JNU)
- P10C04 Development of Simulator Maintenance Engineer Qualification Program Draft**
Kyung Hun Chung(KEPCO RI)
- P10C05 The Interface between Redundant Processor Modules of Safety Grade PLC Using Mass Storage DPRAM**
SungJae Hwang, SeungWhan Song, YoungHun No, DongHwa Yun, GangMin Park, MinGyu Kim, KyungChul Choi, and Ui Taek Lee(POSCO ICT)
- P10C06 The Bus Extension Module of POSAFE-Q Using LVDS**
YounSang Lee, SeongHwan Song, YoungHun No, DongHwa Yun, TaeHyok Chung, MinGyu Kim, KwanWoo Yoo, JungHun Kim, and GeunYoung Yoon(POSCO ICT)
- P10C07 A Reliable Bistable Board Implementation through I/O Redundancy**
MinGyu Kim, TaeHyok Chung, YounSang Lee, TaeHee Kim, and SeungHwa Song(POSCO ICT)
- P10C08 A New Approach to ENFMS by Using Variable Moderator Equipment**
Hwan-Soo Lee, Ho-Cheol Shin, and Eun-ki Lee(KEPCO RI)
- P10C09 Review on Cyber Security Programs for NPP Application**
Oh Eung-Se(KEPCO RI)

Ⅲ. 분과별 논제 및 발표자

제 10 분과 D

원자력계측제어 및 자동원격 - Poster (Nuclear I&C and Automatic Remote Control)

좌 장 정연섭(Y.S Jung), 송승환(SONG SEUNG WHAN)

발표장소 2층로비

일 정 10. 21(목) 13:00-15:00

- P10D01 Experience in the Selection of the CASE Tool for the Safety Critical Software**
Do Young Oh, Chang Ho Kim, Ji Hyeon Kim, and Se Do Shon(KEPCO E&C)
- P10D02 Reliability Analysis for Safety Grade PLC**
KyungChul Choi, SungJae Hwang, TaeHyok Jung, TaeHee Kim, and SeungWhan Song(POSCO ICT)
- P10D03 Quantification of V&V Results for Software Faults Estimation in Bayesian Nets**
Heung-Seop Eom, Gee-Yong Park, and Hyun Gook Kang(KAERI)
- P10D04 Technical Verification Method of Several CGI Dedication Components for the Class 1E Electric Power Source**
MinGyu Kim, Taehyok Chung, Sungjae Hwang, UiTaek Lee, and SeungHwan Song(POSCO ICT)
- P10D05 Review of Operation Support Systems for Nuclear Power Plants**
Ho-Bin Yim and Poong-Hyun Seong(KAIST)
- P10D06 Low Friction Sensor Cable for SMART Steam Generator In-service Inspection**
Yun Hang Choung, DongOk Kim, Jin Seok Park, and Won Jae Lee(KAERI)
- P10D07 Simulation Based Data Reconciliation for Mornitoring Power Plant Efficiency**
Sangjun Park and Gyunyoung Heo(KHU)
- P10D08 Pattern Matching Framework to Estimate the Urgency of Off-normal Situations in NPPs**
Jinsoo Shin, Sangjun Park, and Gyunyoung Heo(KHU)
Jin Kyun Park(KAERI)
Hyojin Kim and Soonyeol Park(KHNP)
- P10D09 Theoretical Study on Operability Test of Solenoid Operated Valve Actuator in Compliance with IEEE Standards**
Byung-Ju Lim, Chang-Dae Park, So-Nam Yun, and Kyung-Yul Chung(KIMM)

제 10분과 E

원자력계측제어 및 자동원격 (Nuclear I&C and Automatic Remote Control)

좌 장 강현국(Hyun Gook Kang), 오응세(E.S. Oh)

발표장소 마라

일 정 | 10. 22(금)

- 09:00** **An Analytic Method to Estimate Task Execution Time Based on Task Complexity**
Wondea Jung and Jinkyun Park(KAERI)
- 09:20** **Areas for Improvement in Digital Technology Applied to Nuclear Power Plants**
Yeonsub Jung(KHNP)
- 09:40** **An Experimental Study on NPP MCR Operator's Performance Using Funtional Performance Measure**
In Seok Jang and Poong Hyun Seong(KAIST)
Jin Kyun Park(KAERI)
- 10:00** **Application of Communication Error Analysis Method(CEAM)**
Seung Min Lee and Poong Hyun Seong(KAIST)
Ji Tae Kim(KINS)
- 10:20** **Asset Analysis Method for Cyber Security of Man Machine Interface System**
Sung Kon Kang, Hun Hee Kim, and Yeong Cheol Shin(KHNP)
- 10:40** **Coffee Break**
- 11:00** **Computerized Procedure Using the Hierarchical State Machine and the Active Object**
Sungjin Lee and Yungoo Kim(KHNP)
Hyunnam Kim(NWC Consulting)
- 11:20** **Software Reliability Estimation by Using Covariates**
Gee-Yong Park, Heung-Seop Eom, Seung Cheol Jang, Se-Woo Cheon, and Dong Hoon Kim(KAERI)
- 11:40** **Life Cycle V&V Process for Hardware Description Language Programs of Programmable Logic Device-based Instrumentation and Control Systems**
K.H. Cha and D.Y. Lee(KAERI)
- 12:00** **The Benchmark Test Results of QNX RTOS**
Jang Yeol Kim, Young Jun Lee, Se Woo Cheon, Jang Soo Lee, and Kee Choon Kwon(KAERI)
- 12:20** **Application of Robotic System for Emergency Response in NPP**
Kyungmin Jeong, Yongchil Seo, Hochul Shin, Sung-uk Lee, Jaewan Cho, Youngsoo Choi, Changhoi Kim, and Seunggho Kim(KAERI)