

Ⅲ. 분과별 논제 및 발표자

제 1 분과 A

원자로시스템기술(Reactor System Technology)

- 개량원자로 열수력/안전(I)(Advanced Reactor TH and Safety (I))

좌 장 김용완(Yong Wan Kim), 이보욱(Bo Wook Rhee)

발표장소 컨벤션A

일 정 | 10. 27(목)

- 09:00 Multi-objective Optimization of A PCHE Channels**
Sang-Moon Lee and Kwang-Yong Kim(INHA Univ.)
- 09:20 Shape Optimization of Outlet Plenum of the PBMR**
Jae-Woo Ju, Sang-Moon Lee, and Kwang-Yong Kim(INHA Univ.)
- 09:40 Air-cooled RCCS Failure Mode and Effect Analysis for a VHTR**
Hong-Sik Lim and Nam-il Tak(KAERI)
- 10:00 Introduction of Facility for Testing of Electromagnetic Flow Rate Transducer in KAERI**
Tae-Joon Kim, In-Koo Hwang, Ji-Young Jeong, Jong-Man Kim, Yong-Bum Lee, and Yeong-il Kim(KAERI)
- 10:20 Design and Evaluation of the Helical-coil Sodium-to-Air Heat Exchanger of STELLA-1**
Jae-Hyuk EOH, Hyeong-Yeon LEE, and Yong-Bum LEE(KAERI)
Byeong-Gap KIM(CD-adapco Korea)
- 10:40 Coffee Break**
- 11:00 Calculation Model for the Thermal Insulation of Pipes and Tanks**
Dongsup So and Yong Bum Lee(KAERI)
- 11:20 Thermal-hydraulic Analysis of Reactor Hot Pool of Sodium-cooled Fast Reactor**
Tae-Ho Lee, Jae-Hyuk Eoh, Ji-Woong Han, and Seong-O Kim(KAERI)
- 11:40 Isothermal Global Flow Investigation of the KALIMER-600 Water Scaled Model**
J. E. Cha, S. H. Lim, and S. O. Kim(KAERI)
- 12:00 MARS-LMR Modeling for the Post-test Analysis of Phenix End-of-Life Natural Circulation**
Hae-Yong Jeong, Kwi-Seok Ha, Won-Pyo Chang, and Kwi-Lim Lee(KAERI)
- 12:20 Analysis of Decay Heat Removal by Natural Convection in LMR with a Combined Steam Generator**
Eui-Kwang Kim, Jae-Hyuk Eoh, Ji-Woong Han, and Tae-Ho Lee(KAERI)

Ⅲ. 분과별 논제 및 발표자

제 1 분과 B

원자로시스템기술(Reactor System Technology)-Poster - 액체금속로시스템(LMR System)

좌 장 김영일(Yeong-Il Kim), 장진욱(Jinwook Chang)

발표장소 다이아몬드

일 정 | 10. 27(목) 13:00-15:00

- P01B01 Evaluation of Helium Release for Am-bearing Metal Fuel up to 10 at.% Burnup**
Byoung Oon LEE, Jin Sik CHEON, Jun Hwan KIM, and Chan Bock LEE(KAERI)
- P01B02 Structural Analysis of a Reservoir Tank in the STELLA-1 Test Facility**
S. H. Kim, Y. B. Lee, and H. Y. Lee(KAERI)
H. Y. Park(AD-Solution Co., Ltd.)
- P01B03 Evaluation of Internal Structure Effects on Thermal-hydraulic Behavior in a Sodium-cooled Pool Type Reactor**
Ji-Woong Han, Tae-Ho Lee, and Seong-O Kim(KAERI)
- P01B04 Decision of Design Requirements and Scales for Mechanical Sodium Pump in STELLA-1**
Ji-Woong Han, Ji-Young Jeong, Jong-Hyeun Choi, and Yong-Bum Lee(KAERI)
- P01B05 Development of SFR Research and Integration Management System (S-RIMS)**
Chungho Cho, Jinwook Chang, Young-Gyun Kim, and Yeong-il Kim(KAERI)
- P01B06 Defect Growth Assessment of High Temperature Piping for a Sodium-cooled Fast Reactor**
Chang-Gyu Park, Hyeong-Yeon Lee, and Jong-Bum Kim(KAERI)
- P01B07 Investigation on Nodalization Effect for a KNS-169 Experiment**
Won-Pyo Chang, Ki-Suk Ha, Kwi-Lim Lee, and Hae-Yong Jeong(KAERI)
- P01B08 Reflection of Foreign Regulatory Requirements and Guides (RR&G) for SFRs in Domestic RR&G**
Moo-Hoon Bae, Young Gill Yune, and Kyun-Tae Kim(KINS)
- P01B09 Safety Function Evaluation for the Decay Heat Removal System of a Sodium Cooled Fast Reactor**
Kwi Lim. Lee, Kwi Seok. Ha, and Hae Young. Jeong(KAERI)
- P01B10 Key Factor Analysis of Recycling Fuel Cycle Using Scenario Planning**
Jewhan Lee and Soon Heung Chang(KAIST)
- P01B11 Reactivity Feedback Effects in DSFR**
Kwi- Seok Ha, Kwi-Lim Lee, Won-Pyo Chang, and Hae-Yong Jeong(KAERI)

제 1 분과 C

원자로시스템기술(Reactor System Technology)-Poster

- 고온가스냉각로시스템(HTGR System)

좌 장 김용완(Yong Wan Kim), 이원재(Won Jae Lee)

발표장소 다이아몬드

일 정 | 10. 27(목) 13:00-15:00

P01C01 Dynamic Simulation of Temperature Transition on the Secondary Helium Loop of a VHTR-SI Hydrogen Production System

Jiwoon Chang, Youngjoon Shin, Cheong Youn, Taehoon Lee, Kiyoung Lee, and Yongwan Kim(KAERI)

P01C02 Iodine Solubility in a HI-H₂O Binary Solvent System for a VHTR-based SI Process

Youngjune Lee, Youngjoon Shin, Taehoon Lee, Kiyoung Lee, and Yongwan Kim(KAERI)
Jonghyeon Lee(CNU)

P01C03 Heat Transfer Coefficient Analysis for Coolant Channels in a VHTR

Sung Nam Lee, Nam-il Tak, Min-Hwan Kim, and Jae Man Noh(KAERI)

P01C04 A Review on the VHTR PIRT Development Status of Both Regulatory Authority and Licensee

Su Hyun HWANG, Seong Su JEON, Soon Joon HONG, and Byung Chul LEE(FNC Tech.)
Chang Wook HUH, Chang Yong JIN, and Kyun-Tae KIM(KINS)

P01C05 Helium-water Loop Tests with PCHE for GAMMA Validations

In Hun Kim and Hee Cheon NO(KAIST)

P01C06 Implementation of the Phase Change Model between Aerosol and Gaseous Fission Products in the GAMMA+ Code

Churl Yoon and Hong Sik Lim(KAERI)

P01C07 GAMMA+ Analysis on High Temperature Helium Heater for Its Optimized Operation Procedure

C. S. Kim, H. S. Lim, and S. D. Hong(KAERI)

P01C08 Temperature Dependence of Elastic Modulus of Nuclear Graphite

Eung-Seon Kim and Sung-Deok Hong(KAERI)

P01C09 Regulatory Framework of Safety for HTGR

Changwook HUH and Namduk SUH(KINS)

P01C10 Evaluation on the High-temperature Structural Integrity of the Small-scale PHE Prototype

Keenam Song, S-D Hong, and Y-W Kim(KAERI)
H-Y Park(AD-Solution Co., Ltd.)

Ⅲ. 분과별 논제 및 발표자

제 1 분과 D

원자로시스템기술(Reactor System Technology)-Poster - 연구로시스템(Research Reactor System)

좌 장 이두정(Doo Jeong Lee), 김영기(Young Ki Kim)

발표장소 다이아몬드

일 정 | 10. 27(목) 13:00-15:00

- P01D01 Considerations for Closed-loop Heavy Water System Design in the Research Reactor**
Jungwoon Choi, Hyun-Gi Yoon, Jaekwang Seo, Young-Chul Park, and Dae Young Chi(KAERI)
- P01D02 Preliminary 10-year Periodic In-service Inspection Program in a Research Reactor**
Young-Chul Park, Hyun-Gi Yoon, Kyoung-Woo Seo, Dae-Young Chi, and Ju-Hyeon Yoon(KAERI)
- P01D03 Evaluation of the Structural Integrity of the Thermal Column Extension**
Jin Haeng Lee, Gyeong Ho Kim, Yeong-Garp Cho, and Jong In Kim(KAERI)
- P01D04 The Design, Fabrication, and Characteristic Experiment of the Electromagnet of Bottom-mounted Control Rod Drive Mechanism for Research Reactor**
Hyung Huh, Yeong Garp Cho, Myoung Hwan Choi, Ji Ho Kim, and Jong In Kim(KAERI)
- P01D05 Basic Design of the Top-mounted CRDM for a Reactor with Plate Type Fuels**
Myoung-Hwan Choi, Yeong-Garp Cho, Sang-Haun Kim, Hyung Huh, and Jong-In Kim(KAERI)
- P01D06 Conceptual Design for a Core Residual Heat Removal System of a Research Reactor**
Kyoungwoo Seo, Kwon-Yeong Lee, Dae-Young Chi, Juhyeon Yoon(KAERI)
- P01D07 Prediction for the Flow Distribution and the Pressure Drop of a Plate Type Fuel Assembly**
Jonghark Park, Deasung Jo, Heetaek Chae, and Byungchul Lee(KAERI)
- P01D08 Effect of Primary Cooling Water on the Hot Water Layer of a Reactor Pool**
Jonghark Park, Heetaek Chae, Deasung Jo, and Byungchul Lee(KAERI)
- P01D09 Analysis of a Passive Emergency Core Cooling System for Research Reactors**
Suki Park, Heonil Kim, Cheol Park, and Juhyeon Yoon(KAREI)
- P01D10 Analytical Simulation of the Pipe Rupture Accident of the Heavy Water System in the Reactor Pool**
Hyun-Gi Yoon, Jungwoon Choi, Young-Chul Park, and Dae-Young Chi(KAERI)
- P01D11 Integration of the CAR Interface Module for the RRS of Research Reactor**
Sang Hoon Bae, Dane Baang, Gee Yong Park, Young San Choi, and Young Ki Kim(KAERI)

일 정 | 10. 27(목) 13:00-15:00

- P01E01 Numerical Analysis of the RCP Performance with the Surface Roughness of the Impeller and Diffuser in the Full-scale and Down-scale Models**
Soon-Chan Hwang(KIMM)
Hyun-Gi Yoon(KAERI)
Jong-Ho Park(CNU)
- P01E02 Current Safety Goal and Design Practice in View of New Trends after Fukushima Accident**
Namduk SUH and Changwook HUH(KINS)
- P01E03 Frequency-domain Analysis of Density Wave Oscillations in SMART Core**
Dae-Hyun Hwang and Won Jae Lee(KAERI)
- P01E04 Development of Thermal Margin Method Using Double Hot Channel**
Hyuk Kwon, K. W. Seo, S.J. Kim, J. H. Cha, T. W. Kim, and D. H. Hwang(KAERI)
- P01E05 Analysis of the Multiple SGTR of SMART**
Seong Wook Lee, Hee-Kyung Kim, Kyoo Hwan Bae, and Suhn Choi(KAERI)
- P01E06 Analyses of Decrease in Reactor Coolant Flow Rate in SMART**
Hyungrae Kim, KyooHwan Bae, and Suhn Choi(KAERI)
- P01E07 Improving Battery Reactor Core Design Using Optimization Method**
Hyung M. Son and Kune Y. Suh(SNU)
- P01E08 Development of SMART CRDM Coil Design**
Jaeseon Lee, Taewan Kim, and Suhn Choi(KAERI)
Heejune Park(WOOJIN INC)

Ⅲ. 분과별 논제 및 발표자

제 1 분과 F

원자로시스템기술(Reactor System Technology)

- 개량원자로 열수력/안전 (Ⅱ)(Advanced Reactor TH and Safety (Ⅱ))

좌 장 김인구(In-Goo Kim), 김궁구(Keung-Ku Kim)

발표장소 컨벤션A

일 정 | 10. 28(금)

- 09:00** **Spectrum Effect on the Coolant Void Effect in KALIMER-600 Core**
Pham Nhu Viet HA, Jaewoon YOO, and Sang-Ji KIM(KAERI)
- 09:20** **Delayed Gamma Energy Analysis in KALIMER-600 by MCNP**
Min-Ho Baek, Won S Park, Sang-Ji Kim, and Jeawoon Yoo(KAERI)
- 09:40** **Uncertainty Evaluation of the SFR Subchannel Thermal-hydraulic Modeling Using a Hot Channel Factors Analysis**
Sun Rock Choi, Chungho Cho, and Sang-Ji Kim(KAERI)
- 10:00** **Parallel Computation for Whole Core Thermo-fluid Simulation of Prismatic Gas-cooled Reactor**
Nam-il Tak, Min-Hwan Kim, and Hong Sik Lim(KAERI)
- 10:20** **Preliminary Safety Evaluation of LWR Deep Burn Core**
Ji-Han Chun, Won-Jae Lee, and Kyoung-Min Kang(KAERI)
Francesco Venneri(US Nuclear Systems)
- 10:40** **Coffee Break**
- 11:00** **Effects of Flow Channel Blockage on DNBR of SMART Fuel Assembly**
Kyong-Won Seo and Dae-Hyun Hwang(KAERI)
- 11:20** **CFD Application and OpenFOAM on the 2-D Model for the Moderator System of Heavy-water Reactors**
Se-Myong Chang and A. Y. Park(KNU)
Hyoung Tae Kim(KAERI)
- 11:40** **Experimental Study of Siphon Breaking Phenomenon in Real Scale Reactor Design**
Soon Ho Kang, Ji Min Kim, Ho Seon Ahn, and Moon Hwan Kim(POSTECH)
Kwon-Yeong Lee, Kyoungwoo Seo, and Dae Young Chi(KAERI)
- 12:00** **Design Methodology of Supercritical CO₂ Brayton Cycle Turbomachineries**
Jeong Ik Lee(KAIST)
- 12:20** **Potential Improvement Margin of S-CO₂ Brayton Cycle Coupled to SMART**
Ahn Yoonhan, Yoon Ho Joon, and Lee Jeong Ik(KAIST)

제 1 분과 G

원자로시스템기술(Reactor System Technology)

- 개량원자로 시스템/기기(Advanced Reactor Systems and Components)

좌 장 김영일(Yeong-Il Kim), 이석호(Suk-Ho Lee)

발표장소 다이아몬드

일 정 | 10. 28(금)

- 09:00 Development of a Large Cold Trap Design Technology- II**
Jong-Hyeun Choi, Jong-Man Kim, Ji-Young Jeong, Tae-Joon Kim and Yong-Bum Lee(KAERI)
- 09:20 Development Approach of General Regulatory Requirements for SFR in Korea**
Young Gill Yune, Jaeho Song, Changwook Huh, Chang-Yong Jin, Moo-Hoon Bae, and Kyun-Tae Kim(KINS)
- 09:40 System Configuration of a SFR Demonstration Plant Developing in KAERI**
Lee, Jae-Han and Kim, Jong-Bum(KAERI)
- 10:00 Trade-off Study of Prototype SFR Core Design in Korea**
Min-Ho Baek, In-Ho Bae, Sang-Ji Kim, and Jaewoon Yoo(KAERI)
- 10:20 Effect of Loading Frequency on the Behavior of High Temperature Fatigue Crack Growth for Mod.9Cr-1 Mo Steel**
Jong-Bum Kim, Chang-Gyu Park, and Hyeong-Yeon Lee(KAERI)
Jong-Hoon Lee and Bum-Joon Kim(SKKU)
- 10:40 Coffee Break**
- 11:00 Development of the Simulation Program for the In-vessel Fuel Handling System of Double Rotating Plug Type**
S. H. Kim and J. B. Kim(KAERI)
- 11:20 C-scan Performance Test of Under-sodium Ultrasonic Waveguide Sensor in Sodium**
Young-Sang Joo, Jin-Ho Bae, and Jong-Bum Kim(KAERI)
- 11:40 Development of Core Seismic Analysis Model of VHTR**
Ji-Ho Kang, Gyeongho Kim, and Dong-Ok Kim(KAERI)
- 12:00 Liquid Metal Flow Stability of the EM Pump for the STELLA Facility**
Hee Reyoung Kim(UNIST)
Byung Hae Choi, Jong-Hyeun Choi, and Yong Bum Lee(KAERI)
- 12:20 Set-up of the Facility for a Sodium Waste Treatment Process**
Ho-Yun Nam, Jong-Man Kim, Byung-Ho Kim, and Yong-Bum Lee(KAERI)

Ⅲ. 분과별 논제 및 발표자

제 2분과 A

핵자료, 원자로 물리 및 계산과학 (Nuclear Data, Reactor Physics and Computational Science)

좌 장 김용희(Yonghee Kim), 심형진(Hyung Jin Shim)

발표장소 피사

일 정 | 10. 27(목)

- 09:00 A Neutronic Feasibility Study for Deep Burning of Transuranics in LWR Spectrum**
Ser Gi Hong, Sang Yoon Park, Kyung Hoon Lee, Jin Young Cho, and Chang Keun Jo(KAERI)
Francesco Venneri(US Nucler Systems)
- 09:20 Dynamic Analysis of Deep Burn High Temperature Reactor Scenario**
Chang Joon Jeong, Chang Keun Jo, and Jae Man Noh(KAERI)
- 09:40 A Compact Sodium-cooled Traveling Wave Reactor**
Yonghee Kim and Donny Hartanto(KAIST)
- 10:00 Assessment and Improvement of DeCART Depletion Calculation for VHTR Fuel Elements**
Hyun Chul Lee, Ser Gi Hong, Jin Young Cho, Chang Keun Jo, and Jae Man Noh(KAERI)
- 10:20 Validation of Adjoint Sensitivity and Uncertainty Analysis Capability of McCARD**
Ho Jin Park, Hyung Jin Shim, and Chang Hyo Kim(SNU)
Do Heon Kim and Choong Sup Gil(KAERI)
- 10:40 Coffee Break**
- 11:00 Comparison of Monte Carlo Critical Spectra from B, Buckling Search and Albedo Search Methods - Preliminary Results**
Yu Gwon Jo, Sung hwan Yun, and Nam Zin Cho(KAIST)
- 11:20 Core Follow Calculation of KARMA/MASTER System for Yonggwang Unit 1**
Sungjin Kim, Kyung-Hoon Lee, and Ser Gi Hong(KAERI)
Kang-Seog Kim(ORNL)

제 2분과 B

핵자료, 원자로 물리 및 계산과학 - Poster (Nuclear Data, Reactor Physics and Computational Science)

좌 장 김상지(Sang Ji Kim), 이현철(Hyun Chul Lee)

발표장소 다이아몬드

일 정 | 10. 27(목) 13:00-15:00

- P02B01 Feasibility Study on MCNPX-based Burnup Calculation for CANDU Reactor Analysis**
Hae Sun Jeong, Joo Hwan Park, and Jin Ho Song(KAERI)
- P02B02 Comparison of Code Simulation and Measurements: Radio-activation of ZrO₂ by Proton Beam Irradiation**
Se-jin Ra, Myung Hwan Jung, Sang-Pil Yoon, and Kye-Ryung Kim(KAERI)
- P02B03 Pin Weighting Factor Calculations for the Vanadium Incore Detector Using MCNP5**
Kyoon Ho CHA and Sung Man BAE(KHNP)
- P02B04 Reevaluation of the PMS Alarm Set-points in OPR1000**
Roh Kyung-Ho, Yang Sung-Tae, and Jung Sung-In(KHNP)
- P02B05 Preliminary Assessment of Open Reactor Physics Database for Cross Section Adjustment**
In Ho Bae, Jaewoon Yoo, and Sang Ji Kim(KAERI)
- P02B06 Evaluation of 3-D Power Distribution Synthesis Method for SMART Core Monitoring System**
Bon-Seung Koo, Jin-Young Cho, and Dae-Hyun Hwang(KAERI)
- P02B07 A Criticality Analysis of Fresh Fuel Storage Rack for Research Reactor**
Chang Je Park, Tae Young Han, Gyuhong Roh, and Byungchul Lee(KAERI)

Ⅲ. 분과별 논제 및 발표자

제 2분과 C

핵자료, 원자로 물리 및 계산과학 (Nuclear Data, Reactor Physics and Computational Science)

좌 장 이은기(Eun Ki Lee), 박창제(Chang Je Park)

발표장소 피사

일 정 | 10. 28(금)

- 09:00 Criticality and Its Uncertainty Analysis of Spent Fuel Storage Rack for Research Reactor**
Tae Young Han, Chang Je Park, and Byungchul Lee(KAERI)
- 09:20 Re-evaluation of the Fuel Temperature Coefficient of CANDU 6**
Yonghee Kim and Donny Hartanto(KAIST)
- 09:40 Estimation of the Excore Reactivity Correction Factor for a Liquid Zone Controller's Worth Measurement in a CANDU Reactor**
Eun Ki Lee(KHNP)
- 10:00 HSP Rule Optimization of Regional Overpower Protection System for Wolsong NPP**
Park Donghwan, Ryu Euseung, and Cha Kyooho(KHNP)
- 10:20 Optimization for the Computerized Code Calculating SAM**
Roh Kyung-Ho, Yang Sung-Tae, and Son Jin-Won(KHNP)
- 10:40 Coffee Break**
- 11:00 Ex-vessel Neutron Dosimetry Program of Ulchin Unit 4**
Mi Joung Lim, Byoung Chul Kim, Kyung Sik Kim, and Young Kyou Jeon(KRIST)
- 11:20 Evaluation of Fast Neutron Fluence for Kori Unit 2 Pressure Vessel**
Young Kyou Jeon, Mi Joung Lim, Byoung Chul Kim, and Kyung Sik Kim(KRIST)

일 정 | 10. 27(목)

- 09:00 A Mechanistic Model for UO_2 Oxidation**
Soyoung Kim and Kwangheon Park(KHU)
Kweonho Kang(KAERI)
- 09:20 Spectroscopic Analysis of Ce^{3+} and Ho^{3+} Ions in LiCl-KCl Eutectic Melt at High Temperature**
Seong Y. Oh, In-ae Bae, and K. song(KAERI)
- 09:40 Laser-induced Photoacoustic Spectroscopy for the Chemical Speciation of Pu(VI)**
H. -R. Cho, E. C. Jung, W. Cha, and K. Song(KAERI)
- 10:00 Determination of U(VI)-Thiosalicylate Complex Formation Constants via Time-resolved Laser-induced Fluorescence Spectroscopy**
Wansik Cha, Hye-Ryun Cho, and Euo Chang Jung(KAERI)
- 10:20 Introduction to Electrochemical Techniques Used in Nuclear Energy Development: Coolant Chemistry Monitoring**
Je-Won Yeon, Myung-Hee Yun, Sang-Hyuk Jung, Euo-Chang Jung, and Kyuseok Song(KAERI)
- 10:40 Coffee Break**
- 11:00 A New X-ray Scattering Technique for the Analysis of the Low-Z Materials**
Yong Suk Choi, Jong-Yun Kim, Yong Jun Park, Je-Won Yeon, and Kuseok Song(KAERI)
Young Jin Kim(CNU)
- 11:20 Studies on Hydrogen Permeation Behavior into Pd, W, Cu by Using Electrochemical Current Transient Technique**
Myung-Hee Yun, Je-Won Yeon, Hong-Joo Ahn, and Kyuseok Song(KAERI)
- 11:40 Tritium Quantification in Metallic Samples**
Hong-Joo Ahn, Myung-Hee Yun, Jong-Ho Park, Je-Won Yeon, and Kyu Seok Song(KAERI)

Ⅲ. 분과별 논제 및 발표자

제 3분과 B

방사성폐기물관리 - Poster (Radioactive Waste Management)

좌 장 박광현(Kwangheon Park), 연제원(Je-Won Yeon)

발표장소 다이아몬드

일 정 | 10. 27(목) 13:00-15:00

- P03B01 The Development of Treatment Process Technology for Radioactive Gravel**
Dong-Bin Shon, Gye-Nam Kim, Hye-Min Park, Ki-Hong Kim, Wan-Suk Kim, Kun-Woo Lee, Ki Won Lee, and Jei-Kwon Moon(KAERI)
- P03B02 Effect of Particles-size Distribution on Chemical Washing Experiment of Uranium Contaminated Concrete**
Wan-Suk Kim, Gye-Nam Kim, Dong-Bin Shon, Hye-Min Park, Ki-Hong Kim, Kun-Woo Lee, Ki Won Lee, and Jei-Kwon Moon(KAERI)
- P03B03 Effect of Organic Solvents in Preparation of Silica-based Chemical Gel Decontaminants for Decontamination of Nuclear Facilities**
Suk Bon Yoon, Chong-Hun Jung, Chang-Ki Kim, Byung-Seon Choi, Kune-Woo Lee, and Jei-Kwon Moon(KAERI)
- P03B04 The Query Optimizing for the DECOMMIS**
W. H. Cho, S. K. Park, and J. K. Moon(KAERI)
- P03B05 A Device for Uranium Series Leaching from Glass Fiber in HEPA Filter**
Gye-Nam Kim, Suk-Chol Lee, Hee-Chul Yang, In-Ho Yoon, Wang-Kyu Choi, Kune-Woo Lee, and Jei-Kwon Moon(KAERI)
- P03B06 Determination of Low Level of Plutonium and Uranium Isotopes in Safeguard Swipe Sample**
Myung Ho Lee, Jong Ho Park, Seong Yong Oh, Chang Heon Lee, Hong Ju Ahn, and Kyuseok Song(KAERI)

제 3분과 C

방사성폐기물관리 (Radioactive Waste Management)

좌 장 박진백(Jin Baek Park), 이연명(Youn-Myoung Lee)

발표장소 제이드

일 정 | 10. 28(금)

- 09:00** **Simulation Program Algorithm for the Pyroprocessing Material Flow and MUF Uncertainty**
Yos Panagaman Sitompul, Hee-Sung Shin, Bo-Young Han, and Ho-Dong Kim(KAERI)
Ji-Sun Seo(HYU)
- 09:20** **Spent Fuel Integrity Evaluation Approach Considering Statistical Treatment and Succeeding Activities**
Seong Ki Lee, Oh Hyun Kwon, Ki Sung Choi, Jae Ik, Kim, and Chang Sok Cho(KEPCO NF)
Jae Hoon Kim(CNU)
- 09:40** **Dynamic Impact Analysis and Test of Concrete Overpack Segment Models**
Sanghoon Lee, Ki-Young Kim, Je-Eon Jeon, and Ki-Seog Seo(KAERI)
- 10:00** **Evaluation for the Initial Conditions of Domestic Spent Fuel**
JU SEONG KIM, HAK KYU YOON, and YONG SOO KIM(HYU)
DONG HAK KOOK(KAERI)
- 10:20** **Feedback Experience from Decommissioning of Uranium Conversion Plant**
D. S. Hwang, K. I. Lee, Y. D. Choi, and J. K. Moon(KAERI)
- 10:40** **Coffee Break**
- 11:00** **Influence of Groundwater Flow Rate on Nuclide Releases from Pyro-processed Waste Repository**
Youn-Myoung Lee and Jongtae Jeong(KAERI)
- 11:20** **Characterization of Groundwater Colloids Sampled from KAERI Underground Research Tunnel (KURT)**
Min-Hoon Baik and Tae-Yeop Lee(KAERI)
- 11:40** **Crack Propagation Induced by Reinforcing Steel Corrosion in Concrete**
Kijung Kwon, Sungbok Lee, Kyungku Lee, and Haeryong Jung(KRMC)
Do-Gyeum Kim(KICT)
Gyun Young Kim(KAERI)

Ⅲ. 분과별 논제 및 발표자

제 4 분과 A

핵연료 및 원자력재료 (Nuclear Fuel and Materials)

좌 장 권준현(Kwon Junhyun), 장영기(Jang Young Ki)

발표장소 컨벤션B

일 정 | 10. 27(목)

- 09:00 Ab-initio Calculation of Diffusion of Atomic Oxygen in Ni and Ni-Cr**
Jong Jin Kim, Sang Hun Shin, Ju Ang Jung, and Ji Hyun Kim(UNIST)
- 09:20 High Temperature Behaviors of Silicon Carbide in Impurity-Controlled Helium Environment**
Daejong Kim, Weon-Ju Kim, Dong-Jin Kim, and Ji Yeon Park(KAERI)
Ji-Eun Jang(CNU)
- 09:40 Discussion on the Safety Analysis Approach in Fuel Cycle Facility and Nuclear Power Plant**
Soon Joon HONG and Young Wook CHUNG(FNC Tech.)
Seung-Young JEONG(KINS)
- 10:00 A Study on Corrosion Behaviors of SS 316L in Liquid Metals for Nuclear Application**
Sang Hun Shin, Jong Jin Kim, Ju Ang Jung, Kyung Joon Choi, and Ji Hyun Kim(UNIST)
- 10:20 Study on the Relationship between Transition Temperature Shift and Yield Strength Increment of Reactor Pressure Vessel Materials in Surveillance Tests of Korea**
Gyeong-Geun LEE, Yongbok LEE, and Junhyun KWON(KAERI)
- 10:40 Coffee Break**
- 11:00 TG/DTA and X ray Diffraction Studies on Ammonium Uranyl Nitrate**
Byung Ho Kim, Young Bum Lee, Ji Young Jeong, Jong Hyun Choi, Tae Joon Kim, Ho Yun Nam, and Jong Man Kim(KAERI)
- 11:20 CRUD Deposition Characteristics on the Fuel Cladding Surface in Korean PWR**
W. Y. Maeng, E. H. Lee, M. H. Kim, and H. M. Kwon(KAERI)
- 11:40 Investigation of Grid Strap Vibration Subjected to Axial Flow Condition**
Kyoung Hong Kim, Nam Gyu Park, Jung Min Suh, and Kyeong Lak Jeon(KEPCO NF)
- 12:00 An Investigation on Irradiation-induced Grid Width Growth in Advanced Fuels**
Young Ki Jang, Kyeong Lak Jeon, Yong Hwan Kim, Jae Ik Kim, and Sun Tack Hwang(KEPCO NF)
Man Su Kim, Tae Hyoung Lee, Myeong Jong Yoo, Yong Bae Yoon, and Tae Wan Kim(KHNP)
- 12:20 Analysis of CRUD Flake by Shielded EPMA**
Son Jin-won, Yang Sung-Tae, and Roh Kyung-Ho(KHNP)

제 4 분과 B

핵연료 및 원자료재료 - Poster (Nuclear Fuel and Materials)

좌 장 김건식(Kim keonsik), 김태규(Tae Kyu Kim)

발표장소 다이아몬드

일 정 | 10. 27(목) 13:00-15:00

- P04B01 An Investigation on the Bow Characteristics of the PWR Fuel Assembly**
S. Y. Jeon, N. G. Park, Y. K. Jang, J. M. Suh, and K. L. Jeon(KEPCO NF)
- P04B02 Step-wise Variation of Sintering Atmosphere during the Isothermal Sintering of Cr Doped UO₂ Pellets**
Ik Hui Nam, Jae Ho Yang, Young Woo Rhee, Dong-Joo Kim, Jong Hun Kim, Jang Soo Oh, and Keon Sik Kim(KAERI)
- P04B03 Estimation of Creep Deformation for the Dual-cooled Cladding Tubes**
Yang-Il Jung, Byoung-Kwon Choi, and Jeong-Yong Park(KAERI)
- P04B04 Nano-structural and Nano-chemical Analysis of Dissimilar Metal Weld Interfaces**
Kyoung Joon Choi, Sang Hoon Shin, Jong Jin Kim, Ju Ang Jung, and Ji Hyun Kim(UNIST)
- P04B05 Development of 2D Finite Element Module to Evaluate Cladding Mechanical Behavior during Off-normal Condition**
Hyo Chan Kim, Yong Sik Yang, Jae Yong Kim, and Yang Hyun Koo(KAERI)
Young Doo Kwon(KNU)
- P04B06 Development of a 3-D Measurement Apparatus for Measuring Cell Sizes, Spring and Dimple Pitches of Grids for PWR's Spent Fuels**
Yong-Sun CHOO, Gil-Soo KIM, Do-Sik Kim, Seung-Je BAIK, Byung-Ok YOO, Ki-Ha KIM, Sang-Youl BAEK, Eun-Pyo LEE, Sang-Bok Ahn, and Woo-Seok Ryu(KAERI)
- P04B07 Swelling Behavior of Irradiated Dual Cooled Annular Fuel Pellet**
Yong Sik Yang, Dae Ho Kim, Je Geon Bang, Hyun Moon Kwon, Do Sik Kim, and Yang Hyun Koo(KAERI)
- P04B08 Effect of Heat Flux on the Specimen Temperature of an LBE Capsule**
Y. H. Kang, S. J. Park, M.S.Cho, and K. N. Choo(KAERI)
Y. S. Lee(CNU)
- P04B09 Fracture Behaviors of Oxide Dispersion Strengthened 9Cr Steel and E911 Steel at Various Temperatures**
Ji Hyun Yoon Yongbok Lee, Suk Hoon Kang, and Sung Soo Kim(KAERI)
- P04B10 Swelling Rate and Diameter Change of Annular Pellet Irradiated in HANARO**
Je-Geon Bang, Dae-Ho Kim, Yong-Sik Yang, Yang-Hyun Koo, Hyung-Moon Kwon, and Hang-Suck Seo(KAERI)
- P04B11 Free Volume Measurements through the Positron Annihilation Techniques for Cable Materials of Nuclear Power Plants**
Hyung-Jae Park, Yong-Min Kim(CU)
Jung-Ki Shin(KAERI)

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- P04B12 Research of Instrumentation Technologies for Material Irradiation at High Temperature**
Man Soon Cho, Kee Nam Choo, Chul Yong Lee, Seong Woo Yang, Kyue Taek Shim, and Young Hwan KANG(KAERI)
- P04B13 Characteristics of Pilger Die Materials for Nuclear Zirconium Alloy Tubes**
Ki Bum Park, In Kyu Kim, Min Young Park, Jong Yeol Kahng, and Sun Doo Kim(KEPCO NF)
- P04B14 Preliminary Thermal Analysis of the Capsule for Gr and Be Irradiation Tests**
M.H. Choi, B.G. Kim, J.M. Oh, B.C. Lee, and T. K. Kim(KAERI)
- P04B15 Milling Behavior of Matrix Graphite Powders with Different Binder Materials in HTGR Fuel Element Fabrication: I. Variation in Particle Size Distribution**
Young Woo Lee and Moon Sung Cho(KAERI)
- P04B16 Milling Behavior of Matrix Graphite Powders with Different Binder Materials in HTGR Fuel Element Fabrication: II. Variation of Pour and Tap Densities**
Young Woo Lee and Moon Sung Cho(KAERI)
- P04B17 Effect of Microstructure on Radiation Induced Segregation and Depletion in Ion Irradiated SS316 Steel**
Hyung-Ha Jin, Sangchul Kwon, and Junhyun Kwon(KAERI)
- P04B18 Development of Green's Functions for Steam Generator Tube of System-integrated Modular Advanced Reactor**
Seung-Hyun Kim and Yoon-Suk Changa(KHU)
Tae-Wan Kim(KAERI)
- P04B19 Oxidation Behavior and Microstructure Evolution of Nuclear-grade C/C Composites Oxidized in Air and He**
Weon-Ju Kim, Daejong Kim, Ji-Eun Jang, Ji Yeon Park, and Sung-Deok Hong(KAERI)
- P04B20 Irradiation Tests of Alloy 690 Steam Generator Tube Material of the SMART in HANARO**
Kee Nam Choo, Man Soon Cho, Jin Seok Park, Won Jae Lee, and Hoan Sung Jung(KAERI)
- P04B21 Selection of Radiometric Monitor and Container for Long-term Irradiation Test in HANARO**
Seong Woo Yang, Seung Jae Park, Bong Goo Kim, Kee Nam Choo, and Tae Kyu Kim(KAERI)
- P04B22 Monte Carlo Simulation of the Electron and X-ray Depth Distribution for Quantitative Electron Probe Microanalysis of PWR Spent Fuels**
Hyoung-Mun Kwon, Hyong-Kwon Lee, Young-Zoon Son, and Yong-Bum Chun(KAERI)
- P04B23 The Current Status of CABRI International Program for RIA Analysis**
Hyedong Jeong, Joosuk Lee, Andong Shin, and Swengwoong Woo(KINS)
- P04B24 Development of a Web-based Thermal Fatigue Evaluation Program for the Normally Stagnant Non-isolable Reactor Coolant Branch Line Piping**
J. H. Kim, S. H. Kim, and J. B. Choi(SKKU)
H. K. Kim, M. H. Song, and S.H. Nho(KINS)
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- P04B25 Pellet-clad Mechanical Interaction Analysis with ANSYS Mechanical Module**
Ji Hoon Jeun, Won Chang Nam, and Il Soon Hwang(SNU)
- P04B26 Study of Ion Implantation Effects on 316 Stainless Steels with Positron Annihilation Spectroscopy**
Yongbok Lee, Jung-ki Shin, and Junhyun Kwon(KAERI)
- P04B27 Removal of Residual Stress of Zr Alloy Thin Sleeve Tube**
Seung Hwan Lee, In Kyu Kim, Ju Pil Yoon, Chang Mo An, Sang Jin Han, Jong Yeol Kahng, and Sun Doo Kim(KEPCO NF)
- P04B28 A Study on the Accelerated Oxidation Reaction of Uranium Dioxide in Oxygen Plasma**
Sanghwan Jeon, Kyungmin Kim, San Chae, and Yongsoo Kim(HYU)
- P04B29 Life Evaluation of High Cr Alloy Weldment according to the Oxidation Properties**
Si Yeon Bae, Baek Soon Jeong, and Jae Sil Heo(KEPCO RI)
- P04B30 Application of Square Wave Voltammetry to On-line Monitoring of Lanthanide Ions in LiCl-KCl Molten Salt at 773K**
Tack-Jin Kim, Dae-Yeob Park, Joon-Bo Shim, Si-Hyung Kim, Seungwoo Paek, Kwang-Rag Kim, Gha-Young Kim, Jae-Hoo Jung, and Do-Hee Ahn(KAERI)
- P04B31 Nitride Coating Effect on Oxidation Behavior of Centrifugally Atomized U-Mo Fuel**
Yong Jin Jeong, Woo Hyoung Cho, Jong Man Park, Yoon Sang Lee, and Jae Ho Yang(KAERI)
- P04B32 The Effect of Hydride on Air Oxidation of Zirconium-alloys**
Seonggi Jeong, Kwangheon Park, and Kyuntae Kim(KHU)
- P04B33 Study of Microstructural Defects in Stainless Steels with Positron Annihilation Technique and Hardness Test**
Jung-ki Shin, Yongbok Lee, and Junhyun Kwon(KAERI)
- P04B34 Development of High Temperature Transport System for Molten Salt**
S. H. Lee, H. S. Lee, and J. G. Kim(KAERI)
- P04B35 Development of Powder Mill Remotely Operated in Hot-cell**
Jung Won Lee, Jae Won Lee, Young Hwan Kim, and Geun Il Park(KAERI)
- P04B36 Modified H type Spring Design for Dual Cooled Fuel Rods**
JaeYong Kim, KyungHo Yoon, and HyungKyu Kim(KAERI)
SungHo Ko(CNU)
- P04B37 Development of Information System for Nuclear Fuel Cycle Facilities at Neighboring Countries**
Sei-Hyun Lee, Jin bok Choi, Gil Su Lee, Gwan-Young Kim, and Myung Jo Jung(KINS)
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- P04B38 Evaluation of Work-Hardening Behavior of HANA TREX Materials**
Hyun-Gil Kim, Il-Hyun Kim, Byung-Kwan Choi, Sang-Yoon Park, and Jeong-Yong Park(KAERI)
- P04B39 Development of a Chamber for the Pin-Hole Laser Welding**
Chul-Yong Lee, Seong-Woo Yang, Soo-Sung Kim, and Kee-Nam Choo(KAERI)
- P04B40 Development of Experimental System for Material Compatibility Test for Ultra-long Cycle Fast Reactor(UCFR)**
Sang Hun Shin, Ju Ang Jung, Kyung Joon Choi, and Ji Hyun Kim(UNIST)
- P04B41 A Study of Zircaloy Reaction with Steam/Hydrogen Mixture**
JU SEONG KIM, JI MIN LEE, and YONG SOO KIM(HYU)
- P04B42 Elastic-Creep Fracture Analysis for Thin-walled Pipes with Circumferential Through-Wall Crack**
Jeong Soon Park, Young Hwan Choi, and Tae Gwang Song(KINS)
- P04B43 The Design Study of Fuel Cladding for Ultra Long Cycle Fast Reactor**
Ju-Ang Jung, Sang Hun Shin, Jong Jin Kim, Kyun Joon Choi, and Ji Hyun Kim(UNIST)
- P04B44 Study on Microstructure Change of Uranium Nitride Coated U-7wt%Mo Powder by Heat Treatment**
Woo Hyoung Cho, Jae Soon Park, Hae In Lee, Woo Jeong Kim, Jae Ho Yang, and Jong Man Park(KAERI)

제 4 분과 C

핵연료 및 원자료재료(Nuclear Fuel and Materials)

- 핵연료 및 피복관(Fuel and Cladding)

좌 장 이주석(Lee Joo Suk), 백종혁(Baek Jong Hyuk)

발표장소 컨벤션B

일 정 | 10. 28(금)

- 09:00 Fabrication of Annular Pellet with Minimized Density Increase for Dual Cooled Fuel**
Dong-Joo Kim, young Woo Rhee, Keon Sik Kim, Yong Sik Yang, Jae Ho Yang, Jong Hun Kim, Jang Soo Oh, and Ik-Hui Nam(KAERI)
- 09:20 Creep Behavior in Cr-doped UO_2 Pellets**
Jang soo Oh, Jae Ho Yang, Ik Hui Nam, Jong Hun Kim, Dong-Joo Kim, Young Woo Rhee, and Keon Sik Kim(KAERI)
- 09:40 Fuel Rod Vibration Measurement Method using a Flap and its Verification**
Joo Young Yoo, Nam Gyu Park, Jung Min Suh, and Kyeong Lak Jeon(KEPCO NF)
- 10:00 Evaluation of Fuel Rod Performance by Statistical Approach**
Joosuk Lee, Hyedong Jeong, Andong Shin, and Swengwoong Woo(KINS)
- 10:20 Pre-Calculation of CABRI Water Loop Test CIP3-1 with FRAPTRAN Code**
Andong Shin, Hyedong Jeong, Joosuk Lee, and Swengwoong Woo(KINS)
- 10:40 Coffee Break**
- 11:00 Assessment of Process Technologies for SFR Metallic Fuel Fabrication**
Jung Won Lee, Chong Tak Lee, Ki Hwan Kim, Geun Il Park, and Chan Bock Lee(KAERI)
- 11:20 Development Status on the Barrier Technology for Preventing Fuel-Cladding Chemical Interaction (FCCI)**
Jun Hwan Kim, Ho Jin Ryu, Seong Woo Yang, Jin Sik Cheon, Byoung Oon Lee, and Chan Bock Lee(KAERI)
Kang Soo Lee, Seung Hyun Jee, and Young Soo yoon(YSU)
- 11:40 Fracture Toughness of Irradiated Ferritic/Martensitic Steel for Sodium-cooled Fast Reactor(SFR) Fuel**
Jong-Hyuk Baek, Junn-Hwan Kim, Sung-Ho Kim, and Chan-Bock Lee(KAERI)
Thak-Sang Byun(ORNL)
- 12:00 Gas Pressure Buildup in a Coated Fuel Particle of Deep Burn-High Temperature Reactors**
Young Min Kim, C. K. Jo, J. S. Jun and M. S. Cho(KAERI)
- 12:20 Low Loss Metallic Fuel Slug Casting Evaluation**
Ki-Hwan Kim, Hyung-Tae Kim, Young-Mo KO, Yoon-Myung Woo, Chong-Tak LEE, Seok-Jin Oh, Sun-Ki Kim, and Chan-Bock Lee(KAERI)

Ⅲ. 분과별 논제 및 발표자

제5분과A

원자력열수력 및 안전(Thermal Hydraulics and Safety)

- 열수력실험(I)

좌 장 권태순(Tae Soon KWON), 김한곤(Han Gon KIM)

발표장소 에메랄드

일 정 | 10.27(목)

- 09:00 Measurement of Pressure Loss in Tight Lattice Rod Bundle with Spacer Grid**
Chi Young Lee, Chang Hwan Shin, Ju Yong Park, Dong Seok Oh, and Wang Kee In(KAERI)
- 09:20 Experimental Study on Flow Regime Transition in an Inclined Pipe**
Min Seok Ko, Bo An Lee, Sung Yong Lee, Yeong Jun Jang, Yoon Jeong Hong, and Sin Kim(JNU)
- 09:40 TR-PIV Performance Test for a Flow Field Measurement in a Single Rod Test Section**
Ju Yong Park, Chang Hwan Shin, Chi Young Lee, Dong Seok Oh, and Wang Kee In(KAERI)
- 10:00 Detection of Microlayer Geometry in Nucleate Boiling Using Interferometry of Infrared Light**
Junkyu Song and Hyungdae Kim(KHU)
- 10:20 Translating Chord Length Distribution into Bubble Size Distribution Using Numerical and Analytical Backward Transforms**
Hoang Nham Hien(UST)
B. J. Yun and C. H. Song(KAERI)
- 10:40 Coffee Break**
- 11:00 Experimental Study on Pure Steam Condensation in a Vertical Tube**
Ki Hoon Yang, Dong Eok Kim, Kyung Won Hwang, Young Ho Ha, and Moo Hwan Kim (POSTECH)
- 11:20 Effects of Al₂O₃ and Carbon Nanofluids on Reflood Heat Transfer in a Long Vertical Tube**
Seung Won Lee and In Cheol Bang(UNIST)
Se-Young Chun and Chul Hwa Song(KAERI)
- 11:40 Influence of the Chimney Dimensions on the Heat Transfer of a Vertical Cylinder in a Duct**
Chul-Kyu Lim and Bum-Jin Chung(JNU)
- 12:00 Natural Convection Mass Transfer inside Vertical Cavities with Active/Inactive Lids**
Gyeong-Uk Kang and Bum-Jin Chung(JNU)
- 12:20 Natural Convection Heat Transfer of Two Vertically Staggered Cylinders**
Myeong-Seon Chae and Bum-Jin Chung(JNU)

제 5 분과 B

원자력열수력 및 안전(Thermal Hydraulics and Safety)

- 열수력해석(I)

좌 장 윤한영(Han Young YOON), 설광원(Kwang Won SEUL)

발표장소 루비

일 정 | 10. 27(목)

- 09:00** **Analysis of a Loss of Condenser Vacuum Event Using the SPACE Code**
Eun Ju Lee, Cheol Shin Lee, and Jong Joo Sohn(KEPCO E&C)
- 09:20** **Droplet Prediction for Annular Flow in SPACE Code**
Byoung Jae Kim, Eo Hwak Lee, and Kyung Doo Kim(KAERI)
- 09:40** **Evaluation of ATLAS 100% DVI Line Break Using TRACE Code**
Byung Gil Huh, Young Seok Bang, Ae-ju Cheong, and Sweng Woong Woo(KINS)
- 10:00** **Assessment of Helical Coil Heat Transfer Models of MARS-KS Code by Using Experimental Data from MASLWR Test Facility**
Ju Yeop Park(KINS)
- 10:20** **Simulation of 50% DVI Line SBLOCA in the ATLAS Integral Test Facility Using MARS-3D Code**
Hyoung Tae Kim and Ki Yong Choi(KAERI)
- 10:40** **Coffee Break**
- 11:00** **MARS-KS Assessment Results on B9802 Test in RD-14M Facility**
Joosung KIM, Kap KIM, and Kwangwon SEUL(KINS)
- 11:20** **MARS-KS Code Assessment for Condensation Heat Transfer in Horizontal Tube with the Presence of Non-condensable Gas Using Purdue Experiment**
Seong Su Jeon and Byung Chul Lee(FNC Tech.)
Ju Yeop Park and Kwang Won Seul(KINS)
- 11:40** **Analysis of APR1400 LBLOCA and Uncertainty Quantification by Montecarlo Method, Comparing with Wilk's Formula Approach**
Bub Dong Chung, Moon-kyu Hwang, and Sung Won Bae(KAERI)
- 12:00** **Development of NSSS Simulation Engine for SMART Simulator Using the Best Estimate Code, MARS3.1**
K. D. Kim, S. W. Lee, Sung-Chul Lee, and Yong-Suk Suh(KAERI)
Jae-Seung Suh(SENTECH)
- 12:20** **Reviews on the Nonlinear Stability of Single Pressure Two-fluid Model**
Sang Yong Lee, Chan Eok Park, and Jong Joo Sohn(KEPCO E&C)

Ⅲ. 분과별 논제 및 발표자

제5분과 C

원자력열수력 및 안전(Thermal Hydraulics and Safety) - 열수력해석(Ⅱ)

좌 장 김경두(Kyung Doo KIM), 반창환(Chang Hwan BAN)

발표장소 토포즈

일 정 | 10. 27(목)

- 09:00 Numerical Simulation of Boiling and Two-phase Flow in PCCT of PAFS**
Choengryul Choi(ELSOLTEC)
Kwang Chu Kim, Ho Je Seong, and Tae Young Kim(KEPCO E&C)
- 09:20 Numerical Investigation of the Heat Transfer of a Vertical Cylinder in a Chimney**
Jeong-Hwan Heo and Bum-Jin Chung(JNU)
- 09:40 Gravity Driven Injection Velocity of Hybrid SIT**
Tae-Soon Kwon, D. J. Euh, and C. K. Park(KAERI)
- 10:00 Current Status and Future Regulatory Direction on Sump Clogging Issue**
Young Seok Bang, Ae-Ju Cheong, Byung-Gil Huh, and Sweng-Woong Woo(KINS)
- 10:20 Comparison Results on the Basic Phenomena between CAP and CONTEMPT-LT**
Yeon Jun Choo, Soon Joon Hong, Su Hyun Hwang, Min Ki Kim, and Byung Chul Lee(FNC Tech.)
Sang Jun Ha and Hoon Choi(KHNP)
- 10:40 Coffee Break**
- 11:00 CFD Study of In-Core Partial Flow Blockage by Insulation Debris for a Typical Water Cooled Small Modular Reactor**
Mohammad Nazififard and Kune Y. Suh(SNU)
Mohammadreza Nematollahi(Shiraz Univ.)
- 11:20 Numerical Analysis of Boiling and Two-phase Natural Circulation Flow in IVR-ERVC System**
Tae-Hyub Hong and Hyeong-Taek Kim(KHNP)
Choengryul Choi(ELSOLTEC)
- 11:40 CFD Analysis of a Free-surface Movement in the Safety Injection Tank Using a Compressible Air Ideal Gas Model and an Incompressible Water Model**
Sang-Gyu Lim, Keuk-Jong Yu, and Han-Gon Kim(KHNP)
- 12:00 Experimental and CFD Evaluation of Debris Transport Augmentation by Turbulence during LOCA**
Jong Pil Park and Ji Hwan Jeong(PNU)
Ju Yeop Park(KINS)
- 12:20 Simulation of Two-group IATE Models with EAGLE Code**
V.T. Nguyen, B. U. Bae, and C. H. Song(KAERI)

제 5분과 D

원자력열수력 및 안전(Thermal Hydraulics and Safety) - PSA(I)

좌 장 정대욱(CHUNG Dae Wook), 박진희(Jin Hee PARK)

발표장소 금강

일 정 | 10. 27(목)

- 09:00** **Audit of ECCS Availability for CANDU Reactors with an Extended O/H Interval**
Jongsoo Choi(KINS)
- 09:20** **Estimation of the Initiating Event Frequencies from Korean Domestic Operational Data for Regulatory PSA Model**
Park, Jin-Hee and Han, Sang-Hoon(KAERI)
- 09:40** **Analysis of SBLOCA and SBO Scenarios for SMART Level-1 PSA**
Tae-Woon Kim, Youngho Jin, Joon-Eon Yang, and Soon Choi(KAERI)
- 10:00** **Applications of Hybrid Fire PSA Approaches to the SMART**
Daeil Kang and Young Ho Jin(KAERI)
- 10:20** **Achievement of Design Improvement by Use of PSA in the SMART**
Youngho Jin, Won Dea Jung, and Tae-Woon Kim(KAERI)
- 10:40** **Coffee Break**
- 11:00** **An Evaluation of Time Requirements to Restore the Off-site Power in a SBO for OPR1000**
Yeon Kyoung Bae, Moon Goo Chi, and Hyuk Soon Lim(KHNP)
- 11:20** **Comparison of Tsunami Hazards between Japan and Korea**
Min Kyu Kim, Jung Han Kim, and In-Kil Choi(KAERI)
- 11:40** **Determination of Safety Performance Grade of NPP Using Integrated Safety Performance Assessment (ISPA) Program**
Dae-Wook Chung(KINS)
- 12:00** **The Development of a Fault Tree Model for Balance of Plant System**
Mee Jeong Hwang, Jinhee Park and Hogon Lim(KAERI)
- 12:20** **PSA for New and Advanced Reactors: The Current Status and Prospect**
Seok-Jung HAN, Kwang-II AHN, and Sang-Hoon HAN(KAERI)

Ⅲ. 분과별 논제 및 발표자

제 5분과 E

원자력열수력 및 안전(Thermal Hydraulics and Safety)

- 열수력실험(Ⅱ)

좌 장 김철우(Cheol Woo KIM), 박현식(Hyun Sik PARK)

발표장소 에메랄드

일 정 | 10. 28(금)

- 09:00 Pool Boiling Experiments on Modified Heterogeneous Wetting Surfaces with Teflon Dots**
Hang Jin Jo, Seol Ha Kim, and Moo Hwan Kim(POSTECH)
- 09:20 Experimental Study of Effect of Graphene Nanosheets on the Critical Heat Flux**
Jimin Kim, Ho Seon Ahn, Gunyeop Park, Ji Wook Chang, Jae Sung Lee, and Moo Hwan Kim(POSTECH)
- 09:40 Triggering Mechanism of CHF in a Horizontal Pool Boiling of Saturated Water**
In-Cheol Chu and Chul-Hwa Song(KAERI)
Hee Cheon No(KAIST)
- 10:00 Effects of Microencapsulated Phase Change Material (MPCM) on Critical Heat Flux in Pool Boiling**
Sung Dae Park, Seong Man Kim, Sarah Kang, Seung Won Lee, Han Seo, and In Cheol Bang(UNIST)
- 10:20 Lessons Learned from the 50th OECD International Standard Problem Based on ATLAS DVI Line Break Test**
Ki-Yong Choi, Won-Pil Baek, Seok Cho, Hyun-Sik Park, Kyoung-Ho Kang, and Yeon-Sik Kim(KAERI)
- 10:40 Coffee Break**
- 11:00 Separate-effect Test for Cooling Performance of PAFS(Passive Auxiliary Feedwater System)**
Byoung-Uhn Bae, Seok Kim, Kyung Ho Kang, Byong-Jo Yun, and Bok-Duk Kim(KAERI)
- 11:20 Passive Condensation Cooling Tank (PCCT) Water Level Effect for Cooling Performance of Passive Auxiliary Feedwater System (PAFS)**
Seok Kim, Byoung-Uhn Bae, Yun Je Cho, Bok Deuk Kim, and Kyung Ho Kang(KAERI)
Byong-Jo Yun(PNU)
- 11:40 Scaling Analysis of the APR+ ECC Bypass**
Tae-Soon Kwon, D. J. Euh, and C. K. Park(KAERI)
- 12:00 Thermal-hydraulic Behaviors during the Feedwater Line Break of SG Downcomer Piping for APR1400**
Hyun-Sik Park, Seok Cho, Kyoung-Ho Kang, Nam-Hyun Choi, Yeon-Sik Kim, and Ki-Yong Choi(KAERI)
- 12:20 An Integral Effect Test of Complete Loss of RCS Flowrate for SMART with the VISTA-ITL**
Hyun-Sik Park, Byoung-Yeon Min, Yong-Chul Shin, and Sung-Jae Yi(KAERI)

제 5 분과 F

원자력열수력 및 안전(Thermal Hydraulics and Safety)

- 열수력해석(Ⅲ)

좌 장 최한림(Han Rim CHOI), 방영석(Young Seok BANG)

발표장소 루비

일 정 | 10. 28(금)

- 09:00 Performance of UO_2 -Graphene Composite Fuel and SiC Cladding during LOCA**
Seung Won Lee and In Cheol Bang(UNIST)
Hyoung Tae Kim(KAERI)
- 09:20 Numerical Study of Condensation Heat Exchanger Design in a Saturated Pool: Correlation Investigation**
Hee Joon Lee(KMU)
Tae-Ho Lee(KAERI)
- 09:40 Analysis of Total Loss of Secondary Heat Removal for SMART**
Sung Won Lim, Kyoo Hwan Bae, Young Jong Chung, and Suhn Choi(KAERI)
- 10:00 A Review of Steam Generator Tube Plugging Effects on Design Base Events**
Gyu-Cheon Lee, Jong Cheol Park, Cheol Shin Lee, and Jong Joo Sohn(KEPCO E&C)
- 10:20 Evaluation of Effect of N_2 Gas on the Cooling Capability of Passive Auxiliary Feedwater System**
Yun-Je Cho, Byoung-Uhn Bae, Kyong-Ho Kang, and Byong-Jo Yun(KAERI)
- 10:40 Coffee Break**
- 11:00 Investigation on Ledinegg Instability in Condensate Tube of Passive Auxiliary Feedwater System**
Yun-Je Cho, Kyong-Ho Kang, and Byong-Jo Yun(KAERI)
- 11:20 P/T Analysis for the Environmental Qualification of Ulchin 1,2**
Moon-Oh Kim and Hee-Do Lee(ACT Co., Ltd)

Ⅲ. 분과별 논제 및 발표자

제 5분과 G

원자력열수력 및 안전(Thermal Hydraulics and Safety)

- 중대사고(I)

좌 장 홍성완(Seong Wan HONG), 문영태(Young Tae MOON)

발표장소 토포즈

일 정 | 10. 28(금)

- 09:00** **Development of a MAAP-based Severe Accident Training Simulator Using Visual System Analyzer**
Jae-Seung Suh(SENTECH)
Soo-Yong Park, Kwang-Il Ahn, and Kyung-Doo Kim(KAERI)
- 09:20** **Parametric Study on the Organic Iodide Behavior during a Severe Accident**
Myung-Hyun Ryu, Han-Chul Kim, and Do Sam Kim(KINS)
- 09:40** **Determination of Fission Product Removal Rate in Containment Spray Using Terminal Velocity and Reynolds Number**
Seung Chan Lee and Sang Yeol Kim(KHNP)
- 10:00** **Containment Performance during SBO in APR1400**
Young H. Seo, Jae Sik Jeung, In Chul Ryu, and Young Tae Moon(KEPCO E&C)
- 10:20** **Development of Sacrificial Material for the Eu-APR1400 Core Catcher**
Jungsoo Suh, Mun Soo Kim, and Yong Soo Kim(KHNP)
- 10:40** **Coffee Break**
- 11:00** **Containment Performance during Long-term SBO of APR1400**
Tae-Woon Kim, Jinho Song, Vo Thi Huong, and Joon-Eon Yang(KAERI)
- 11:20** **IRWST Elevation Change for Passive In-vessel Retention Strategy**
Sang Ho Kim, Juno Lee, and Soon Heung Chang(KAIST)
- 11:40** **Station Blackout Initiated Event Chronology in LWR/HWR NPP**
Soo Yong Park and Kwang Il Ahn(KAERI)
- 12:00** **Preliminary Concept of Advanced Passive Decay Heat Removal System Using Liquid Gallium for Sodium-cooled Fast Reactor**
Sarah Kang, Seung Won Lee, Sung Dae Park, In Cheol Bang, and Ji Hyun Kim(UNIST)

일 정 | 10. 28(금)

- 09:00** **An Integrated Approach of Component Reliability Data on KSNPs Using Plant Reliability Data Information System (PRinS)**
Seok-Won Hwang, Ho-Jun Jeon, and Ji-Yong Oh(KHNP)
- 09:20** **A Development of Interfacing System between Level 2 and Level 3 PSA for Integrated Analysis of Full Scope PSA**
Seok-Jung HAN(KAERI)
- 09:40** **Low Power and Shutdown PSA Modeling Using AIMS-PSA and SIMA Script**
Sang Hoon HAN, Ho-Gon LIM, Jin Hee PARK, and Joon-Eon YANG(KAERI)
- 10:00** **Advanced Risk Management and Monitoring System, ARMMS**
Kilyoo Kim, Sang Hoon HAN, and Ho-Gon LIM(KAERI)
- 10:20** **Over View of Development of PRASSE: Probabilistic Risk Assessment of Systems for Seismic Events**
Jung Han Kim, In-Kil Choi, Jin-Hee Park, and Sang-Hoon Han(KAERI)
- 10:40** **Coffee Break**
- 11:00** **A Study on the Development of Improved Event Severity Evaluation Framework**
Yong Suk Lee(FNC Tech.)
Ji Tae Kim and Durk Hun Lee(KINS)
- 11:20** **HuRECA: Human Reliability Evaluator for Computer-based Control Room Actions**
Jaewhan Kim, Seung Jun Lee, and Seung Cheol Jang(KAERI)
- 11:40** **Procedural Behavior Analyzer of MCR Operators in Nuclear Power Plants**
Yochan Kim, Jinkyun Park, and Wondea Jung(KAERI)
- 12:00** **PSA Model Improvement Using Maintenance Rule Function Mapping**
Mi-Ro Seo(KHNP)
- 12:20** **Proposed Risk Thresholds during Power Operations for On-line Maintenance**
Hee Seung Chang and Jung Wun Kim(KHNP)

Ⅲ. 분과별 논제 및 발표자

제 5 분과 I

원자력열수력 및 안전(Thermal Hydraulics and Safety) - Poster - 열수력실험

좌 장 이성재(Sung Jae Yi), 이규천(Gyu Cheon LEE)

발표장소 다이아몬드

일 정 10. 27(목) 13:00-15:00

- P05101 ATLAS Test Result on the Five Tubes Rupture at Cold Side of Steam Generator**
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)
- P05102 Performance Test Results on Cross Flow Characteristics in a Three Full Scale Fuel Assemblies**
C. K. Park, J. H. Bae, D. J. Euh, Y. J. Youn, and T. S. Kwon(KAERI)
- P05103 Effects of the Outside Tube Length on Nucleate Pool Boiling Heat Transfer of Saturated Water in an Annulus with Closed Bottoms**
Myeong-Gie Kang(ANU)
- P05104 Experimental Study on Flow Boiling Heat Transfer Characteristics in a Helically Coiled Tube**
Kyung Won Hwang, Dong Eok Kim, Ki Hoon Yang, Young Ho Ha, and Moo Hwan Kim(POSTECH)
- P05105 Development of Printed Circuit Heat Exchanger and Experimental Test Loop For Liquid Sodium - Supercritical Carbon Dioxide Heat Exchange**
Eunho Kim, Jieun Kim, and Moo Hwan Kim(POSTECH)
J. E. Cha and S. O. Kim(KAERI)
- P05106 Effects of Hydrodynamic Cavitation of a Restriction Orifice on Crud-like Deposits**
Seong Man Kim, Seung Won Lee, Sung Dae Park, Sarah Kang, Han Seo, and In Cheol Bang(UNIST)
- P05107 A SBLOCA Test of Shutdown Cooling System for SMART with the VISTA-ITL**
Byeong-Yeon Min, Hyun-Sik Park, Yong-Chul Shin, and Sung-Jae Yi(KAERI)
- P05108 Computational Analysis of Controlled Power Source for Transient Fusion Reactor Power Conversion**
B. Halimi and Kune Y. Suh(SNU)
- P05109 Phenomena and Detection of Gas Accumulation in Piping Systems**
D. Y. Lee, S. S. Jeon, and S. J. Hong(FNC Tech.)
Y. J. Song(Westinghouse Electronic Co.,)
- P05110 Measurement of Pipe Slope with Laser Scanning Technique**
D. Y. Lee, S. S. Jeon, and S. J. Hong(FNC Tech.)
S. C. Park(ENGUARD)

제 5 분과 J

원자력열수력 및 안전(Thermal Hydraulics and Safety) - Poster - 열수력해석 I

좌 장 하상준(Sang Joon HA), 배성원(Sung Won BAE)

발표장소 다이아몬드

일 정 | 10. 27(목) 13:00-15:00

- P05J01 OPR1000 Steady State Analysis Using the SPACE Code**
Bum Soo, Youn, Dong-Hyuk, Lee, and Se-Yun, Kim(KHNP)
- P05J02 MARS-KS Code Assessment for UCB-Kuhn Condensation Test**
Jin-Hyuck Kim, Ju Yeop Park, and Joo-Sung Kim(KINS)
- P05J03 CFD Analysis on the Lower Core Support Plate at the Core Inlet of SMART Test Facility**
Y. M. JEON, Y. G. KIM, Y. M. BAE, Y. I. KIM, C. T. PARK, and S. CHOI(KAERI)
- P05J04 Assessment of Pressurizer Transients Using the SPACE Code**
Dong-Hyuk Lee, Bum-Soo Youn, and Se-Yun Kim(KHNP)
- P05J05 Non-LOCA Safety Analysis for the APR1000 Preliminary Design**
Yo-Han Kim, Chang Keun Yang, and Jae Hwa Koh(KHNP)
- P05J06 Benchmark Simulation of Turbulent Flow through a Tube Bundle**
G. H. Lee and S. W. Woo(KINS)
- P05J07 Off-take Model of the SPACE Code and Its Validation**
Myung Taek Oh, Chan Eok Park, and Jong Joo Sohn(KEPCO E&C)
- P05J08 CFD Analysis of Condensation and Two-phase Flow in PCHX of PAFS**
Kwang Chu Kim, Ho Je Seong, and Hee Jin Ko(KEPCO E&C)
Choengryul Choi(ELSOLTEC)
- P05J09 Radionuclide Release after LBLOCA with Loss of Class IV Power Accident in CANDU-6 Plant**
Hoon Choi(KHNP)

Ⅲ. 분과별 논제 및 발표자

제 5분과K

원자력열수력 및 안전(Thermal Hydraulics and Safety) - Poster - 열수력해석 II

좌 장 박찬억(Chan Eok PARK), 김요한(Yo Han KIM)

발표장소 다이아몬드

일 정 | 10. 27(목) 13:00-15:00

- P05K01 Safety Assessment of Void Increase in Reactor Coolant System Induced by LOP/SLB**
Kun Ho Chun, Tae Young Choi, Young Koo Kim, and Choon Ho Park(KEPCO NF)
- P05K02 Assessment of Condensation Models in SPACE in the Presence of Noncondensable Gas**
Ji-Hun Kim, Jin-Hwa Yang, and Goon-Cherl Park(SNU)
- P05K03 Assessment of MARS-KS Codes on LBLOCA for CANDU Type Reactor**
Jin-Hyuck Kim, Joo-Sung Kim, and Kwang-Won Seul(KINS)
- P05K04 Development of CANDU-6 Moderator System Safety Analysis Model Using the CATHENA Code**
Jonghyun Kim and Dongsik Jin(ACT Co., Ltd)
Dongwook Kho(KHNP)
- P05K05 Experimental Study of Head Loss Induced by LOCA-generated Fiberglass Debris at New Type of ECCS Sump Screen**
Jong Uk KIM, Byung Il KWON, and Jae Seon CHO(FNC Tech.)
Tae Hyub HONG and Sang Won LEE(KHNP)
- P05K06 Thermal Hydraulic Analysis of Flow Inversion in a Research Reactor with Downward Core Cooling**
Daeseong Jo, Jonghark Park, and Heetaek Chae(KAERI)
- P05K07 Laminar Thermal-hydraulic Analysis for a PWR Fuel Assembly**
Dong-Hyeog Yoon, Han-Chul Kim, and Kwang-Won Seul(KINS)
- P05K08 Study on Quantification Method of the Uncertainties of Ageing Elements for Evaluation of the Effects of Ageing on Safety Margins during LBLOCA for CANDU Reactors**
Yong Won Choi, In Young Kim, and Un Chul Lee(SNU)
Kab Kim(KINS)
- P05K09 Discussion on the Development of Numerical Analysis Based on Staggered Grid for Arbitrary 3-dimensional Mesh Shape**
Soon Joon HONG and Yeon Joon CHOO(FNC Tech.)
Tae Young HAN(KAERI)
- P05K10 Verification of the Natural Circulation in TASS/SMR-S Code**
See Darl Kim, Soo Hyoung Kim, Guy Hyung Lee, and Young-Jong Chung(KAERI)

일 정 | 10. 27(목) 13:00-15:00

- P05L01 Safety Evaluation of the Double-ended Letdown Line Break Outside Containment in SMART**
Sang-Jun Ahn, Soo-Hyung Yang, Kyoo-Hwan Bae, Young-Jong Chung, and Suhm Choi(KAERI)
- P05L02 Feasibility Analysis on Simulation of PLCS Malfunction Event Using SPACE Code**
Ung Soo Kim, Cheol Shin Lee, and Jong Joo Sohn(KEPCO E&C)
- P05L03 Applicability Evaluation on the Conservative Metal-water Reaction(MWR) Model Implemented into the SPACE Code**
Suk-Ho Lee, Sung-Chang You, and Han-Gon Kim(KHNP)
- P05L04 ATWS Analysis for Replacement of Steam Generator Using MARS-KS**
Won Joon Chang, Seung Hoon Ahn, Deog yeon Oh, and Kwang Won Seul(KINS)
- P05L05 MARS Code Reflood Model Improvements and Comparisons with Flecht-seaset and RBHT Tests**
Moonkyu Hwang and Bub-Dong Chung(KAERI)
- P05L06 Influence on Accuracy of Flow Rate under Position of Orifice Flowmeter Using Numerical Analysis**
Nam-Seok Kim, Sang-Kyu Lee, Byung-Soo Shin, Chan-Ki Moon, and O-Hyun Keum(KINS)
- P05L07 Performance Assessment of Passive Heat Exchanger with Horizontal Tube Using RELAP5**
Kyung Jin Lee, Soon Joon Hong, and Byung Chul Lee(FNC Tech)
- P05L08 Numerical Analysis for IFM Grid Effect on 5x5 Rods Bundle**
Seong Jin Kim, Jeong Hun Cha, Kyong Won Seo, Tae Woo Kim, Hyuk Kwon, and Dae Hyun Hwang(KAERI)
- P05L09 Application of the CUPID Code for the Simulation of Multi-dimensional Thermal Hydraulic Phenomena in Advanced Power Reactors**
Hyoung Kyu Cho, Seung-Jun Lee, and Han Young Yoon(KAERI)
Jae Jun Jeong(PNU)
- P05L10 Coherent Calculation for Air-water Flow and Boiling Flow by Using CUPID Code**
Ik Kyu Park, Han Young Yoon, and Hyung Kyu Cho(KAERI)
An Sook, Seol(KAIST)

Ⅲ. 분과별 논제 및 발표자

제 5 분과 M

원자력열수력 및 안전(Thermal Hydraulics and Safety) - Poster - 열수력해석Ⅳ

좌 장 황대현(Dae Hyun HWANG), 홍순준(Soon Joon HONG)

발표장소 다이아몬드

일 정 | 10. 27(목) 13:00-15:00

- P05M01 Best Estimate Approach for the Simulation of Void Reactivity of CANDU Type Reactor Using the MARS Code**
Kap Kim(KINS)
Byoung Sub Han(ENESYS)
- P05M02 ATLAS Steam Generator Tube Rupture Accident Simulation Using SPACE Code**
Chang-Keun Yang, Sang-Jun Ha, and Hwang-Yong Jun(KHNP)
- P05M03 Optimization of Heat Transfer Mode Determination in TASS/SMR-S Core Heat Transfer Model**
Soo Hyoung Kim, Seong Wook Lee, and Young-Jong Chung(KAERI)
- P05M04 Performance Evaluation for the Diameter and Material of Condensation Heat Exchanger Using the TASS/SMR-S Code**
In Sub Jun, Soo Hyoung Yang, Kyoo Hwan Bae, and Young Jong Chung(KAERI)
- P05M05 Computation of Pressure Drop in Cross-flow through an In-line Tube Bundle**
Youngmin Bae, Yu Mi Jeon, Yeong-Gil Kim, Seung Heon Yang, Han-Ok Kang, Young-In Kim, Cheon-Tae Park, and Suhn Choi(KAERI)
- P05M06 The Effect of Core Residual Heat on Success Criteria during the Shutdown and Low Power Operation**
Moon-Oh Kim and Hee-Do Lee(ACT Co., Ltd.)
Goon-Cherl Park(SNU)
- P05M07 Preliminary Simulation of PAFS Using the CUPID Code**
Lee, Seung-Jun, Cho, Hyoung Kyu, and Yoon, Han Young(KAERI)
- P05M08 Natural Circulation Cooldown Analysis for APR 1400 Using the SPACE Code**
Il Soon Park, Myung Taek Oh, Chan Eok Park, and Jong Joo Sohn(KEPCO E&C)
- P05M09 Study on Methodology for Establishment of the Minimum Allowable Fuel Channel Flow Rate in Steady State**
In Young Kim, Yong Won Choi, and Un Chul Lee(SNU)
Kap Kim(KINS)
- P05M10 CFD Calculation of Turbulent and Thermal Mixing in a T-Junction: Comparison with Vattenfall Experimental Data**
Dong-Gu Kang and Kwang-Won Seul(KINS)

제 5 분과 N

원자력열수력 및 안전(Thermal Hydraulics and Safety) - Poster - 열수력해석 V

좌 장 최기용(Ki Yong CHOI), 최동수(Tong Soo CHOI)

발표장소 다이아몬드

일 정 | 10. 27(목) 13:00-15:00

- P05N01 Cross Flow Characteristics of the Core Simulator in SMART Reactor Flow Distribution Test Facility**
J. Yoon, Y. I. Kim, Y. J. Chung, and W. J. Lee(KAERI)
- P05N02 Estimation of Porous Media Approach for Thermal Hydraulics of Nuclear Fuel Assembly**
Byung Soo Shin, San Kyu Lee, Yong Bum Bae, Nam Seok Kim, and Oh Hyun Keum(KINS)
- P05N03 A Study on the Secondary Thermal Power Reduction Factor of KSNP**
Cha. Hyeng Ho(KHNP)
Lee. Kyoong Jin(CSU)
- P05N04 Simulation of High Burn-up Fuel Cladding and Its Safety Assessment under LOCA Condition**
Dong Jun Park, Sung Bin Won, Byoung Kwon Choi, Jeong Yong Park, and Yang Hyun Koo(KAERI)
- P05N05 Sensitivity Study for Coolant Void Reactivity Uncertainty Evaluation**
Huichang Yang and Young Ho Lee(L4S ENG)
Kap Kim and Kwang-won Seul(KINS)
- P05N06 Assessment of MARS-KS Codes on Counter Current Flow Limiting**
Sung-Han Lee, Yeon-Seung Kim, Won-Joon Chang, and Kwang-Won Seul(KINS)
- P05N07 CFD Analysis on the Core Inlet Flow Similarity between an 1/20 Re Model and SMART**
Y. I. Kim, Y. M. Jeon, Y. G. Kim, Y. M. Bae, C. T. Park, and S. Choi(KAERI)
- P05N08 The Analysis for the Effect of Mixing Vane Shape on TDC**
Kang Hoon Moon, Ho Young Park, Kang Hoon Kim, Eung Jun Park, and Jung Min Suh(KEPCO NF)
- P05N09 Tong Axial Power Shape Factor Characteristics according to Parameters**
Euijae Kim, Ho Young Park, Kang Hoon Kim, and Eung Jun Park(KEPCO NF)

Ⅲ. 분과별 논제 및 발표자

제5분과 O

원자력열수력 및 안전(Thermal Hydraulics and Safety) - Poster - 중대사고

좌 장 박래준(Rae Joon PARK), 김한철(Han Chul KIM)

발표장소 다이아몬드

일 정 10. 27(목) 13:00-15:00

- P05001 Experimental Investigation on the Melt Pool Configuration with the COSMOS**
Kyoung-Ho Kang, Rae-Joon Park, Hee-Dong Kim, Seong-Ho Hong, and Seong-Wan Hong(KAERI)
- P05002 Pressure Behavior of CANDU Reactor Building and Estimation for Safe Depressurization during Station Blackout Accident**
Do Sam Kim, Han Chul Kim, and Key Yong Sung(KINS)
- P05003 Sensitivity Study on Hydrogen Detonability in IRWST under Station Blackout Accident**
Jung-Jae Lee, Jae-Hong Park, Han-Chul Kim, and Key-Yong Sung(KINS)
- P05004 MELCOR DB Construction for the Severe Accident Analysis DB**
Y. M. Song and K. I. Ahn(KAERI)
- P05005 Preliminary Analysis of Corium Behavior in the Lower Plenum by Using ASTEC Computer Code**
Rae-Joon Park, Kyoung-Ho Kang, Kwang-Il Ahn, and Seong-Wan Hong(KAERI)
- P05006 Ex_vessel Explosion Load Calculation by Using MC3D and TROI Experiments**
Ik Kyu Park, Jong Hwan Kim, and Seong Wan Hong(KAERI)
- P05007 Analysis of Hydrogen Risk Mitigation System for Severe Accidents of EU-APR1400 Using MAAP4 Code**
Munsoo Kim, Jungsoo Suh, and Byounghwan Bae(KHNP)
- P05008 Severe Accident Analyses for SMART Using MELCOR 1.8.6 Code**
Jae Cheol Kim, Gunhyo Jung, and Jae Seon Cho(FNC Tech.)
Han Chul Kim(KINS)
- P05009 Hydrogen Analysis Using MELCOR at CANDU Plant**
Sungchu Song, Jaehong Park, and Hanchul Kim(KINS)
- P05010 Simulation of the QUEOS Experiment Using the 2D and 3D Rigid Dynamic-moving Particle Semi-implicit Method**
Shane Park(KEPCO NF)
Hyun Sun Park(SINEWSTEK)
Gyoodong Jeun(HYU)
- P05011 Findings of Special Safety Inspection on Severe Accident Countermeasures for Operating Plants in the Light of the Fukushima Dai-Ichi Accident**
Jung-Jae Lee, Dohyung Kim, and Key-Yong Sung(KINS)

제 5 분과 P

원자력열수력 및 안전(Thermal Hydraulics and Safety) - Poster - PSA

좌 장 임호곤(Ho Gon LIM), 정백순(Baek Soon JEONG)

발표장소 다이아몬드

일 정 | 10. 27(목) 13:00-15:00

- P05P01 Flooding PSA for System Integrated Modular Advanced Reactor**
Sun Yeong Choi and Youngho Jin(KAERI)
- P05P02 A Study on the System Importance Analysis in SMART**
Kilyoo Kim, Daell Kang, TaeWoon Kim, and Youngho Jin(KAERI)
- P05P03 How to Avoid the Generation of Circular Logic in a FTA**
Ho-Gon Lim, Sang-Hoon Han, and Joon-Eon Yang(KAERI)
- P05P04 Application of K-HRA Method in International HRA Empirical Study**
Wondea Jung(KAERI)
- P05P05 Development of IPRO-ZONE to Construct One Top Fire Event PSA Model**
Daeil Kang and Sang-Hoon Han(KAERI)
- P05P06 Calculation of Failure Probabilities for Multiple Pipe Size Segments in Risk-informed In-service Inspection**
Baek Soon Jeong and Si Yeon Bae(KEPCO RI)
- P05P07 Development of Draft Technical Requirements for On-line Maintenance**
Sang-Kyu AHN, Chang-Ju Lee, and Nam-Chul Cho(KINS)
- P05P08 The m-HRA Method for Identifying and Assessing Test and Maintenance Human Errors Leading to Unplanned Reactor Trips or Transients**
Jaewhan Kim, Jinkyun Park, and Wondea Jung(KAERI)

Ⅲ. 분과별 논제 및 발표자

제 6분과 A

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

- 방사선 방호/환경/비상대응 연구(Radiation Protection/Environment/Emergency Planning)

좌 장 김주열(Ju Youl Kim), 이승숙(Seung-Sook Lee)

발표장소 다이아몬드

일 정 | 10. 27(목) 13:00-15:00

- P06A01 Establishment of Exposure Dose Assessment Laboratory in National Radiation Emergency Medical Center (NREMC)**
Jaeryong Yoo, Wi-Ho Ha, Seokwon Yoon, Eunae Han, and Seung-Sook Lee(KIRAMS)
- P06A02 Performance Test of Compton Suppression System by Measurement of Multi-nuclide Standard Source and an Analysis of Biological Reference Materials**
J. H. Moon, G. M. Sun, S. H. Kim, and Y. S. Chung(KAERI)
- P06A03 Radiological Operational Safety Verification for LILW Disposal Facility**
Juyoul Kim(FNC Tech)
Seungyoung Jeong and Byungsoo Kim(KINS)
- P06A04 Applicability of Irradiation Combined with Antioxidant Enzyme Assays to Environmental Monitoring**
Jin Kyu Kim and Minkyung Cha(KAERI)
Nad's Wilhelmoiva(IEB)
Anita Mukherjee(Cal Univ.)
- P06A05 Measurement of the Indoor Radon Concentrations in the School Auditoriums in Gyeongju**
S. Y. Jang(DU)
- P06A06 Synthesis and Characterization of Various Nano-silver Associated Complexes Using Gamma-radiolysis Technique for Bio-application**
Hwa-Jung Kim, Dong Ho Kim, and Hae-Jun Park(KAERI)
- P06A07 Fabrication Method of the Mo-99 Target with Advanced Planar Flow Casting**
M. S. Sim and J. H. Lee(CNU)
C. K. Kim and W. J. Kim(KAERI)
- P06A08 Detection of Superoxide Anion and Singlet Oxygen Using Chemical Probes in Biological Systems During Gamma Irradiation**
Eun Ju Cho, Min Hee Lee, Ji Hong Kim, Ji Eun Kim, Byung Yeoup Chung, and Jin-Hong Kim(KAERI)
Jae-Young Cho and Kang-Soo Lee(JBNU)
- P06A09 Fast Neutron Detector Using the Gas Electron Multiplier with ^4He Gas Mixtures**
Sang Mook Kang, Cheol Ho Lee, Yun Ho Kim, and Yong Kyun Kim(HU)
Jang Ho Ha and Han Soo Kim(KAERI)

제 6 분과 B

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

좌 장 김진규(Jin Kyu Kim), 지영훈(Young Hoon Ji)

발표장소 다이아몬드

일 정 | 10. 27(목) 13:00-15:00

- P06B01 DNA Repair Inhibition by Mercuric Chloride in Earthworms after Exposure to Radiation**
Tae Ho Ryu and Jin Kyu Kim(KAERI)
Mohammad Nili(DRRI)
Kwang-Guk An(CNU)
- P06B02 Decursin was Accelerated Human Lung Cancer Cell Death Caused by Proton Beam Irradiation via Blocking the p42144 MAPK Pathway**
Myung-Hwan Jung, Se-Jin Ra, and Kye-Ryung Kim(KAERI)
- P06B03 Mitochondrial DNA Deletion and Impairment of Mitochondrial Biogenesis by Ractive Oxygen Species in Ionizing Radiation-induced Premature Senescence**
Uhee Jung, Hyeon-Soo Eom, and Sung-Kee Jo(KAERI)
- P06B04 Strong Enhancement of Antioxidant Activity of Aloe Vera Extracts by Gamma Irradiation**
Eun Mi Lee, Hyoung-Woo Bai, Seung Sik Lee, and Sung Hyun Hong(KAERI)
Jae-Young Cho and Byung Yeoup Chung(JBNU)
- P06B05 Removing Undesirable Color and Boosting Biological Activity in Red Beet Extracts Using Gamma Irradiation**
Seung Sik Lee, Eun Mi Lee, Sung Hyun Hong, Hyoung-Woo Bai, and Byung Yeoup Chung(KAERI)
In Chul Lee(YDU)
- P06B06 Increased Quercetin Formation by Combination Treatment of Gamma Ray and H₂O₂ from Cyanidin-3-O-xylosylrutinoside**
Seung Sik Lee, Eun Mi Lee, Sung Hyun Hong, and Byung Yeoup Chung(KAERI)
Sang-Ho Yoo(SJU)
Jae-Yongng Cho(JBNU)
In Chul Lee(YDU)
- P06B07 The Remarkable Increase of Maysin and Maysin Derivatives Contents From Eremochloa Ophiuroides by Various Stresses**
Eun Mi Lee, Seung Sik Lee, Sung Hyun Hong, and Byung Yeoup Chung(KAERI)
Jae-Young Cho(JBNU)
In-Chul Lee(YDU)
- P06B08 Chronic Induction of Senescence Marker in Gamma-irradiation Mice**
Min-A Seol, Uhee Jung, Hyeon Soo Eom, Seol-Hwa Kim, Hae-Ran Park, and Sung-Kee Jo(KAERI)

P06B09 Estimation of Organ Motion for Gated PET Imaging in Small Animal Using Artificial Tumor

Jung Woo Yu, Sang-Keun Woo, Yong Jin Lee, Kyo Chul Lee, Min Hwan Kim, Young Hoon Ji, Joo Hyun Kang,
Byung Il Kim, Sang Moo Lim, and Kyeong Min Kim(KIRAMS)
Yong Hyun Chung(Yonsei Univ.)

P06B10 Quantitative Assessment of Small Animal Cardiac 18F-FDG PET and MRI Image

Sang-Keun Woo, Yong Jin Lee, Jung Woo Yu, Kyeong Min Kim, Shin Un Chol, Won Ho Lee, Min Hwan Kim,
Young Hoon Ji, Joo Hyun Kang, Byung Il Kim, and Sang Moo Lima(KIRAMS)

제 6분과 C

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

- 방사선 동위원소/중성자/기기 연구 (RI/Neutron Beam/Instruments)

좌 장 김용균(Yong Kyun Kim), 하장호(Jang Ho Ha)

발표장소 다이아몬드

일 정 | 10. 27(목) 13:00-15:00

- P06C01 Research Activities on the Development of Alternative ^{99m}Tc Generator**
Seung Rag Choi, Jun Sig Lee, Kang-Hyuk Choi, Ul-Jae Park, Kwang Jae Son, and Young-Don Hong(KAERI)
- P06C02 Adsorption of Iodide on Silver Rods for ¹²⁵I Seed Preparation**
J. H. Lee, U. J. Park, and K. H. Yu(DU)
K. J. Son, J. S. Lee, K. H. Choi, S. S. Nam, J. S. Seo, and S. J. Choi(KAERI)
- P06C03 The Development of a Mountable Isotope Enrichment Device for the Re-usage of Isotope Generators**
Kang-Hyuk Choi, Jun-Sig Lee, Young-Wook Park, Sung-Soo Nam, You-Hwang Lee, Ul-Jae Park, Young-Don Hong, So-Young Lee, and Sun-Ju Choi(KAERI)
- P06C04 High-resistivity CZT Crystal Growth by an LP-Bridgman Furnace at KAERI**
Han Soo Kim, Kyu hong Lee, and Jang Ho Ha(KAERI)
- P06C05 Characterization of Indium-doped CdZnTe(CZT) Crystals Grown by 6 Heating Zone Bridgman Method**
Kyhong Lee, Han Soo Kim, and Jang Ho Ha(KAERI)
- P06C06 Floater Removed Model of 6" NTD2 Irradiation Device in HANARO**
Sungtaek Hong, H. S. Jung, and S. J. Park(KAERI)
- P06C07 The Preliminary Test of PET Modality System by Using CsI(T1)-PIN Diode Detector**
Teresa W. NA, Han Soo KIM, Seung Hyun LEE, Hyo Jeong CHOI, Kyuhong LEE, and Jang Ho HA(KAERI)
Sohyun An, Yoonjin Oh, and Rena Lee(EWU)
- P06C08 MCNP Simulation of Neutron Spectrum Modification by Aqueous Gd Sample in Prompt Gamma Activation Analysis**
J. H. Kim, N. S. Jung, and H. D. Choi(SNU)
G. M. Sun(KAERI)
- P06C09 Comparison of Preamplifiers for Low-power Consumption Design**
Seung Hyun Lee, Han Soo Kim, Kyuhong LEE, Hyo Jeong choi, Teresa W. NA, and Jang Ho ha(KAERI)
- P06C10 Evaluating Angular Dependence of Stilbene Neutron Diagnostic System for KSTAR**
Kwang Ho JO, Seung Kyu LEE, Jae Bum SON, Byong Hwi KANG, and Yong Kyun KIM((HYU)
- P06C11 Effect of the Number of Detectors on Image Quality in Industrial SPECT**
Jang Guen Park and Chan Hyeong Kim(HYU)
Jong Bum Kim, Jinho Moon, and Sung-Hee Jung(KAERI)

Ⅲ. 분과별 논제 및 발표자

제 6분과 D

방사선 이용 및 방호 (Radiation Utilization and Protection)

좌 장 조규성(Gyu Seong Cho), 금동권(Dong-Kwon Keum)

발표장소 사파이어

일 정 | 10. 28(금)

- 09:00 Assessment of the Radiation Dose for thc Domestic Human and Environment Resulting from the Fukushima Nuclear Accident**
Dong-Kwon Keum, In Jun, Kwang-Muk Lim, and Yong-Ho Choi(KAERI)
- 09:20 In Vivo Cell Tracking Imaging of Hexadecyl-4-[^{123,124}I] Iodobenzoate labeled Adipose Derived Stem Cells (ADSCs) in Rat Heart**
Min Hwan Kim, Yong Jin Lee, Kyo Chul Lee, Sang-Keun Woo, Kwang Il Kim, Tae Sup Lee, Ran Ji Yoo, and Joo Hyun Kang(KIRAMS)
Darpan Pandya and Jeongsoo Yoo(KNU)
Chan Wha Kim(KU)
- 09:40 Evaluation of Localized Bacterial Infection Using Radioisotope-labeled Nucleosides Imaging Modality**
Su Jin Jang, Joo Hyun Kang, Yong Jin Lee, Tae Sup Lee, Kwang Il Kim, Kyo Chul Lee, Gwang Il An, Gi Jeong Cheon, and Sang Moo Lim(KIRAMS)
Sangyong Lim(KAERI)
- 10:00 Design of CONAS Station for MCNPX Simulation**
Hoang Sy Minh Tuan and Gwang Min Sun(KAERI)
- 10:20 Test of a Fiber Optic-Based Dosimeter with LYSO Scintillator Tip in Low Dose Range**
Won Jik Kim, Kyung Ho park, Tae Hyoung Kim, and Jae Woo Park(JNU)
- 10:40 Coffee Break**
- 11:00 Feasibility Study on the Radionuclide Generator Based Radiotracer for the Industrial Process Diagnosis Technology**
Jinho Moon, Sung-Hee Jung, Jongbum Kim, and Jang Guen Park(KAERI)
- 11:20 Fundamental Study for Analysis of CN-NDP Spectrum**
B. C. Park and H. D. Choi(SNU)
G. M. Sun(KAERI)
- 11:40 Spiking Effect in Steam Generator Tube Rupture Analysis at Uljin Units 3,4**
Seung Chan Lee and Sang Yeol Kim(KHNP)

일 정 | 10. 27(목) 13:00-15:00

- P07A01 Integration of the HVCM PLC into the PEFP Control System**
Young-Gi Song, Ji-Ho Jang, Hyeok-Jung Kwon, and Yong-Sub Cho(KAERI)
- P07A02 Photocatalytic Activity Enhancement by Electron Irradiation of Fullerene Derivative-TiO₂ Nanoparticles Under Visible Light Illumination**
Sung Oh Cho, Seung Hwa Yoo, and Dong Hoon Lee(KAIST)
- P07A03 Fabrication of Multi Layer Insulation DC Break for Microwave Ion Source**
Yong-Sub Cho, Han-Sung Kim, Hyeok-Jung Kwon, and Kyeong-Tae Seol(KAERI)
- P07A04 Corrosion Test in the Experimental Loop for an ITER TBM Liquid Breeder**
Jae Sung Yoon, Suk-Kwon Kim, Eo Hwak Lee, Seung Jae Lee, and Dong Won Lee(KAERI)
- P07A05 Development of Sector Sub-assembly Tool and Mock-up Test**
Nam Kyounggo, Park Hyunki, and Kim Dongjin(NFRI)
Kim Byungseok and Kim Kyungkyu(SFA ENG)
Im Kihak and Robert Shaw(ITER)
- P07A06 Geometric Beta Optimization of the Superconducting Linac for PEFP**
Ji-ho Jang, Hyeok-jung Kwon, Han-sung Kim, and Yong-sub Cho(KAERI)
- P07A07 The Implementation and Open-loop Test of Analog VCO-PLL Control System in PEFP 13MHz RF Implanter**
Ying-Min Li and Thi Tu-Anh Trinh(UST)
Ji-Ho Jang, Hyeok-Jung Kwon, Han-Sung Kim, Kyung-Tae Seol, and Yong-Sub Cho(KAERI)
- P07A08 Fabrication and Inspection of Small-scale Mockups for ITER Blanket First Wall Semi-prototype Qualification**
Suk-Kwon Kim, Eo Hwak Lee, Jae-Sung Yoon, and Dong Won Lee(KAERI)
Byoung-Yoon Kim(NFRI)
- P07A09 Operation of Vacuum System for PEFP 100MeV DTL**
Jin-Yeong Ryu, Hyeok-Jung Kwon, Han-Sung Kim, Dae-Il Kim, and Yong-Sub Cho(KAERI)
- P07A10 Slit-Collector System for the Transverse Emittance Measurement for the PEFP 20 MeV Linac**
Jin-Seok Hong, Hyeok-Jung Kwon, Dae-Il Kim, Sang-Pil Yoon, Han-Sung Kim, Ji-Ho Jang, and Yong-Sub Cho(KAERI)
Seung-Jung Noh(DKU)
- P07A11 Modification of Modulating Anode Voltage Supply of Klystron for PEFP 20 MeV Linac**
Dae-Il Kim, Hyeok-Jung Kwon, Han-Sung Kim, and Yong-Sub Cho(KAERI)

Ⅲ. 분과별 논제 및 발표자

제 7 분과 B

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

좌 장 장지호(Ji Ho Jang), 조용섭(Yong-Sub Cho)

발표장소 다이아몬드

일 정 10. 27(목) 13:00-15:00

- P07B01 Initial Beam Test of the Prototype Strip Line BPM**
Hyeok-Jung Kwon, Han-Sung Kim, Kyung-Tae Seol, Jin-Yeong Ryu, Ji-Ho Jang, and Yong-Sub Cho(KAERI)
- P07B02 Single Step Fabrication Method of Fullerene/TiO₂ Composite Photocatalyst for Hydrogen Production**
Sung Oh Cho and Jong Min Kum(KAIST)
- P07B03 13.56MHz RF Implanter Vacuum System**
Sung-Su Cha, Hyeok-Jung Kwon, Ji-Ho Jang, Han-Sung Kim, and Yong-Sub Cho(KAERI)
- P07B04 Exploratory Study on Safety Objectives of the Fusion DEMO Plant**
Juhjung Lee, Sang Ha An, Tae Il Kim, and Soon Heung Chang(KAIST)
- P07B05 Design Study of a Beam Loss Monitor for the PEFP 100-MeV Proton Linac**
Kyungjean Min, Sang-Pil Yun, and Yong-Sub Cho(KAERI)
- P07B06 New Isotope Analysis Method: Atom Trap Mass Spectrometry**
Kwang-Hoon Ko, Hyunmin Park, Jaemin Han, Taek-Soo Kim, Yong-Ho Cha, Gwon Lim, and Do-Young Jeong(KAERI)
- P07B07 Chromatographic Separation of Hydrogen Isotopes in Helium Gas Using Combination of GC & QMS**
Yun Hee Oh, Sei-Hun Yun, Min Ho Chang, Chang Suk Kim, Hyun Koo Kang, Min Gyu Lee, Seoungyon Cho, and Ki Jung Jung(NFRI)
Hongsuk Chung(KAERI)
Kyu-Min Song(KHNP)
Seok-Rae Yoon and Won-Young Park(ELK Co.)
- P07B08 Plasma Uniformity of a Multi-hole Ar RF Ion Source**
I. S. Hong, H. S. Kim, H. J. Kwon, and Y. S. Cho(KAERI)
- P07B09 Analysis of Radiation Damages of First Wall Materials for Fusion Reactor Using Monte Carlo Method**
San Chae, Sanghwan Jeon, and Yongsoo Kim(HYU)
- P07B10 Characteristics of Surface Roughness and Light Fastness by Dual Ion Beam Irradiation**
Hyuk-Jun Choi, Jae-Sang Lee, and Chan Young Lee(KAERI)
- P07B11 Coupling of a System Analysis with a Neutronics Analysis for Conceptual Study of Fusion-Driven Transmutation Reactor**
B. G. Hong(JBNU)

일 정 | 10. 28(금)

- 09:00 Sub-critical Nuclear Reactor Based on FFAg-Accelerator**
Hee Seok Lee, Hung-Sik Kang, Tae-Yeon Lee(POSTECH)
- 09:20 The Study of Wettability by Nitrogen Ion Beam Treatment into Aluminum Surface**
Chan Young Lee, Jae Sang Lee, Hyuk Jun Choi, and Ji Yun Song(KAERI)
- 09:40 Fabrication of the Waveguide Penetration Sections for the PEFP 100MeV Linac**
Kyung-Tae Seol, Hyeok-Jung Kwon, Han-Sung Kim, and Yong-Sub Cho(KAERI)
- 10:00 Design and Analysis of the Korean Small Semi-prototype Mock-up for the 2nd Qualification of the ITER Blanket First Wall**
Dong Won Lee, Suk Kwon Kim, Jae Sung Yoon, Eo Hwak Lee, Seung Jae Lee, Bo Guen Choi, Jeong Yong Park, Yang Il Jung, and Byung Kwon Choi(KAERI)
Byoung Yoon Kim(NFRI)
- 10:20 RF Conditioning Effect of PEFP SRF Prototype Cavity**
Han-Sung Kim, Hyeok-Jung Kwon, Kyung-Tae Seol, and Yong-Sub Cho(KAERI)
- 10:40 Coffee Break**
- 11:00 Radiation Shielding Design To Attenuate Bremsstrahlung X-rays Induced by Field Emission Electrons at the Vertical SRF Cavity Test**
Sang-pil Yoon, Han-sung Kim, Hyeok-jung Kwon, and Yong-sub Cho(KAERI)
- 11:20 Fiducilization of Quadrupole Magnet for PEFP**
Bum-Sik Park, Dae-Il Kim, and Hyeok-Jung Kwon(KAERI)
- 11:40 High Confinement Mode in the KSTAR Device and Control of Accompanying Edge Localized Mode**
Jayhyun Kim, Young-Mu Jeon, Weiwen Xiao, Siwoo Yoon, Young-soon Bae, Wonha Ko, Sang-gon Lee(NFRI)
Joon-Wook Ahn(ORNL)
Gunsu Yun(POSTECH)

Ⅲ. 분과별 논제 및 발표자

제 8분과 A

원전 건설 및 운영 기술(Nuclear Power Plant Construction and Operation Technology)

- 원전 건설, 설계, 제작, 내진/구조(NPP's Construction, Design Manufacture and Structural Engineering)

좌 장 이정수(Lee, Jeong Soo), 방상윤(Bang, Sang Youn)

발표장소 컨벤션C

일 정 | 10. 27(목)

- 09:00** **Review on the Strength Development Required for the Concrete Structure of Nuclear Power Plant under Cold Weather Conditions**
Kyung-Teak Koh, Chun-Jin Park, Gum-Sung Ryu, Do-Gyeum Kim, and Jang-Hwa Lee(KICT)
- 09:20** **Preliminary Study on Effect of Aviation Fuel in the Safety Evaluation of Nuclear Power Plant Crashed by Aircraft**
Byeong Moo Jin, Se Jin Jeon, Yunseok Lee, and Young Jin Kim(Daewoo E&C Co. Ltd.)
- 09:40** **Sensitivity of Variables with Time for Degraded RC Shear Wall with Low Steel Ratio under Seismic Load**
Jnnhee Park, Young-Sun Choun, and In-Kil Choi(KAERI)
- 10:00** **A Study on the Site Response Spectrum for Ulchin Region**
Hyun-Me Rhee(Chonnam Univ.)
Jeong-Moon Seo, In-Kil choi, and Daegi Hahm(KAERI)
- 10:20** **Ultimate Pressure Capacity of Prestressed Concrete Containment Vessels with Steel Fibers**
Daegi Hahm, Young-Sun Choun, and In-Kil Choi(KAERI)
- 10:40** **Coffee Break**
- 11:00** **Regulatory Analysis on the Safety Assessment of NPPs against Aircraft Crash**
Sang Yun Kim, Jong Seuk Park, Yun Suk Chung, and Raeyoung Jung(KINS)
- 11:20** **Load Estimation Methods on Welded Joints Using Finite Element Analysis**
Tae Kyo Kang, Sung Jun Kim, Hyun Min Kim, and Taek Sang Choi(KEPCO E&C)
- 11:40** **Development of the APR+ Reactor Containment Building General Arrangement(GA)**
Hyung-Keun Moon, Dae-Hun Kim, and Young-Sheop Park(KHNP)
- 12:00** **Probability Analysis of the Construction Cost of an APRI000 Single Unit**
Gak-Hyeon Ha, Yong-Pyo Suh, and Yong-Chul Kang(KHNP)
- 12:20** **Lessons Learned Pre-Operational Inspection of Shin-Kori 1 and 2 NPPs**
Paek Yong-Lak, Kim Sang-Yun, and Oh Sung-Hun(KINS)

제 8 분과 B

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

좌 장 송명호(Song, Myung Ho), 정대율(Chung, Dae-Yul)

발표장소 다이아몬드

일 정 | 10. 27(목) 13:00-15:00

- P08B01 Application of Seismic Isolator to a Pool Cover in Research Reactor**
Shinyoung Kwag, Jong-Min Lee, Jinho Oh, Jeong-Soo Ryu, and Young-Ki Kim(KAERI)
- P08B02 Structural Integrity Evaluation of a Service Pool Working Platform in Research Reactor**
Shinyoung Kwag, Jong-Min Lee, Jinho Oh, Jeong-Soo Ryu, and Young-Ki Kim(KAERI)
- P08B03 Characteristics of Oxide Layer of Nickel Alloy in Primary Water Chemistry Environment**
Eunsub Yun(KHNP)
Hun Jang and TaeHyeong Kim(KAIST)
- P08B04 Integrated Reliability Estimation of a Nuclear Maintenance Robot Including a Software**
Heung-seop Eom, Jae-Hee Kim, and Kyungmin Jeong(KAERI)
- P08B05 Dynamic Behavior of a Submerged Structure Affected by Neighboring Structures**
Gyeongho Kim and Yeong-Garp Cho(KAERI)
- P08B06 Result of the Third Visual Inspection of In-pool Components in HANARO**
Jin-Won Shin, Jung-Hee Lee, and Hyung-Kyoo Kim(KAERI)
Kyung-Su park and Chang-Ho Kim(KIT CO., LTD.)
- P08B07 Diagnosis Method for Thermal Efficiency Degradation in Turbine Cycle**
Changhyun Jee and Gyunyoung Heo(KHU)
Seokwon Jang and Incheol Lee(KEPCO RI)
- P08B08 Selective Leaching of Brass - Electrochemical Aspects**
Kyung-Hwan Na and Myung-Hwan Boo(KHNP)
Jeong-Hyeon Kim(KAIST)
- P08B09 Assessment of NPSH Algorithm for Feedwater Booster Pump of Shin-Kori Unit 1**
Kyung Won Lee, Min Chull Kim, Seon Oh Yu, and Durk Hun Lee(KINS)
- P08B10 The Development of a Eddy Current Testing Tool(KHNP)**
Hyun Ju Yoo, Hee Jong Lee, Min Woo Nam, and Chan-Hee Cho(KHNP)
- P08B11 The Seismic Fragility Analysis of a Condensate Storage Tank with Age-Related Degradation Considering Realistic Correlations**
Young-Sun Choun, Min Kyu Kim, and In-Kil Choi (KAERI)
Jinsuo Nie, Joseph I. Braverman, and Charles H. Hofmayer(BNL)
- P08B12 Finite Element Analysis of Circular Plate Using SolidWorks**
Yeo jin Kang and Myung Jo Jhung(KINS)

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- P08B13** **Modal Characteristics of Flow Skirt Using Equivalent Young's Modulus**
Myung Jo Jhung and Yong Beum Kim(KINS)
- P08B14** **Fatigue Analysis of a Steam Generator Module Feedwater Header in the SMART**
Jong Sung Kim(SCNU)
K.H. Oh and K.W. Lee(PRISM, Ltd., Co.)
M.J. Jhung and Y.H. Ryu(KINS)
- P08B15** **Aircraft Impact Assessment of APR1400 Reactor Containment Building**
Ilhwan Moon, Do Yeon Kim, and Jae Hee Kim(KEPCO E&C)
Sang Yun Kim(KINS)
- P08B16** **Statistic Analysis of Incidents and Failures in the Commissioning Stage of KSNP**
Il S. Lee, Sang J. Kim, Dong W. Choi, Koo H. Bae, and Durk H. Lee(KINS)
- P08B17** **Performance Evaluation of 2-channel Embedded Infrared Fiber-optic Temperature Sensor**
W. J. Yoo, K. W. Jang, J. Moon, K.-T. Han, and B. Lee(KU)
B. G. Park(SCHU)
- P08B18** **Review of the Applicability of Safety Factors to IAEA PSR NS-G-2.10**
C. Park, B. Y. Yun, and S. J. Lee(KHNP)
- P08B19** **The Effect of Correlation on Seismic Capacity of Degraded RC Shear Wall**
Junhee Park, Young-Sun Choun, and In-Kil Choi(KAERI)
- P08B20** **Development of Expected-life Assessment Methodology for the Large Transformer and Its Application**
H. W. Kim, M. S. Yoo, J. S. Park, and S. G. Jung(KEPCO E&C)

제 8 분과 C

원전 건설 및 운영 기술(Nuclear Power Plant Construction and Operation Technology)

원전 운전/정비기술, 설비 경년열화 관리(NPP's Operating & Maintenance Technology and Equipment Aging Management)

좌 장 신선동(Shin, Sun Dong), 조명석(Cho, Myung Sug)

발표장소 컨벤션C

일 정 | 10. 28(금)

- 09:00 Measurement Uncertainty and Flow Pattern Transition in Two-phase Bubbly Flow through Venturi Tube**
Dong-Wook Oh, Seo Hyun Kim, Seok Ho Yoon, Kyu Hyung Do, and Jungho Lee(KIMM)
Heung June Chung(KAERI)
- 09:20 The Study for Application of Residual Stress Improvement on 6inch pipe Butt Weld By MeSIA [®]1**
Ki Hyun Cho, Hong Seok Cho, and Min Hwan Mo(KPS)
- 09:40 Failure Rate Prediction of Active Component Using PM Basis Database**
J.S. Kim, H.W. Kim, J.S. Park, and S.G. Jung(KEPCO-E&C)
- 10:00 A New Concept of Ocean Nuclear Power Plant (ONPP)**
Kang-Heon Lee, Ki-Hwan Lee, Phill-Seung Lee, and Yong Hoon Jeong(KAIST)
Jin Kook Kim(KRIST)
- 10:20 Initial Global Development and Licensing of the CANDU-6 ISTS**
Sung Min Kim(KHNP)
Seong Soo Choi(ACT Co., Ltd.)
- 10:40 Coffee Break**
- 11:00 Analysis of Normal Operation Function Effect on Qualitative Risk Importance in CANDU**
Tae Young Ju, Dong Un Yeom, and Seung Ku Hong(KHNP)
- 11:20 Consideration of the Safety-related Motor Design Verification for Nuclear Power Plants**
Cheol-Soo Goo and In-Young Kim(KINS)
Seok-Myeong Jang(CNU)
- 11:40 On-line Monitoring of Moisture Carryover in Steam Generator Using Dual-pulse Laser-induced Plasma**
D.-H.Lee, T.-H. Kim, Y.-S. Kim, H. C. NO, and J.I. Yun(KAIST)
- 12:00 A Strategy for Estimation of Aging Effect of Lead Rubber Bearings in a Base-isolated Nuclear Power Plant**
Sung Gook Cho(JACE KOREA Co.)
Thuy Dung Vu and Dookie Kim(KNU)
- 12:20 Review of ILRT Experience during Atmosphere Stabilization Period**
Dohyoung Kim, Jongsoo Choi, and Keyyong Sung(KINS)

Ⅲ. 분과별 논제 및 발표자

제 9분과 A

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

좌 장 문주현(Joo Hyun Moon), 최광식(Kwang-Sik Choi)

발표장소 사파이어

일 정 | 10. 27(목)

- 09:00** **Recommendable Practices for Effective Nuclear Crisis Communication**
Chang-Ju Lee and Yeon-Hee Hah(KINS)
- 09:20** **Analysis on the Electric Power Supply - Demand Measures of Japan in 2011 Summer after Earthquake and Tsunami**
Y.E.Lee and H.S.Chang(KINS)
- 09:40** **System Dynamics Modeling of Interactive Cost Factors for Small Modular Reactors**
Namsung Ahn(WSU)
Keundae Lee(KEEI)
Sukho Yoon(Nemopartners)
- 10:00** **Development of Computer-Aided Learning Programs on Nuclear Nonproliferation and Control**
Hyun-Chul Kim(KINAC)
- 10:20** **A Study on the Countermeasures to the Revision of Nuclear Controlled Items**
Sun-do Choi and Dong-hyuk Lim(KINAC)
- 10:40** **Coffee Break**
- 11:00** **Safeguards Inspection Regime for Reference Pyroprocessing Facility in the ROK**
Jong Kyu Jeon(KINAC)
- 11:20** **Voluntary Code of Conduct for Nuclear Export Control by Private Sector**
Seong Youn, Jo and Dong Hoon, Shin(KINAC)
- 11:40** **Neutron Pulse Discrimination of BF₃ Detector through Pulse Shape Analysis**
N.S.Jung, J.H.Kim, S.H.Byun and H.D.Choi(SNU)

제 9분과 B

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

좌 장 정환삼(Whan-Sam CHUNG), 강정민(Kang Jungmin)

발표장소 다이아몬드

일 정 | 10. 27(목) 13:00-15:00

- P09B01 Preliminary Study on the Revision of Nuclear Safety Policy Statement**
Y.E.Lee, S.H.Lee, H.S.Chang, K.S.Choi, and S.J.Jung(KINS)
- P09B02 Reviews on the efficient nuclear material accountability at KAERI**
Hyun Sook Kim, Han Suk Ko, Seung Ho Lee, Ho Joon Park, and Byung Doo Lee(KAERI)
- P09B03 A Study on Introduction of Nuclear Power Plants in India and the Nuclear Nonproliferation Conditions**
Seung-hyo Yang and Dong-hyuk Lim(KINAC)
- P09B04 A Study on the Conceptual Design for the Development of Integrated γ Detector to Verify the LWR Spent Fuel Assemblies**
Ki Hyun Kim(KINAC)
- P09B05 Performance Test of CCTV in a Test Field**
Hyungmin Seo(KINAC)
- P09B06 A Study on Improvement of Export Control law's Understanding for Nuclear Control Items' exporters in Rep. of Korea**
Dong-hyuk Lim, Sun-do Choi, and Seung-hyo Yang(KINAC)
- P09B07 Study on the System Requirements and Structures of Mailbox Declaration System for Reference Pyroprocessing Facility in the ROK**
Jong Kyu Jeon(KINAC)
- P09B08 Data Collecting Techniques and Required Structures of Surveillance Cameras on the Unattended Monitoring System Applied at the Reference Pyroprocessing Facility in the ROK**
Jong Kyu Jeon(KINAC)

Ⅲ. 분과별 논제 및 발표자

제9분과 C

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

좌 장 유동한(Yu, Donghan), 정범진(Bum-Jin Chung)

발표장소 다이아몬드

일 정 | 10. 27(목) 13:00-15:00

- P09C01** **Analysis Study on the News Media Report of Nuclear Events**
Jae Beom Park and Soon Heung Chang(KAIST)
- P09C02** **Development of Commercial Reactor Information System for Neighboring Countries**
Gwan-Young Kim, Gil Su Lee, Sei-hyun Lee, Jin Bok Choi, and Myung Jo Jhung(KINS)
- P09C03** **Quantification of Overestimated Risk on Nuclear Power by Using Probabilistic Weighted Function**
Sub Lee Song and Soon Heung Chang(KAIST)
- P09C04** **Development of Research Reactor Information System for Neighboring Countries**
Gil Su Lee, Gwan-Young Kim, Jin bok Choi, Sei-hyun Lee, and Myung Jo Jhung(KINS)
- P09C05** **A Brief Assessment of North Korea's Capacities for Building an Experimental LWR**
Jung-Hyun Lee and Jin-soo An(KINAC)
- P09C06** **Proliferation Resistance of the Metallic Fuel Fabrication Process**
H.L. Chang, W.I.Ko, and E.H. Kim(KAERI)
- P09C07** **An Analysis on Incidents Related with Nuclear Facilities or Radioactive Materials from 1961 to 2005**
Jeong Ho Lee(KINAC)
- P09C08** **Applications of the INFCIRC225/rev5 to the National Physical Protection Regime**
Jae Gwang Kim(KINAC)

제 10분과 A

원자력계측제어 및 자동원격 (Nuclear I&C and Remote Operation)

좌 장 서용석(Suh, Yong-Suk), 이동훈(Lee, Dhong Hoon)

발표장소 메이플

일 정 | 10. 27(목)

- 09:00 Comparing the Subjective Task Difficulty of Human Operators With Task Description Levels**
Jinkyun Park, Wondea Jung, and Joon-Eon Yang(KAERI)
- 09:20 Can We Measure Operating Team's Situation Awareness with Verbal Protocols?**
Seung Woo Lee, Ar Ryum Kim, Hyun Gook Kang, and Poong Hyun Seong(KAIST)
Jin Kyun Park(KAERI)
- 09:40 Introduction of Human Factors Engineering Program Plan of a Research Reactor**
Tong-II Jang and Hyun-Chul Lee(KAERI)
- 10:00 Analysis for Human-related Events during the Overhaul**
Ji Tae Kim, Min Chull Kim, Dong Won Choi, and Durk Hun Lee(KINS)
- 10:20 Analysis of Team Communication Characteristics Using SNA Technique**
Ar Ryum Kim, Seung Woo Lee, Hyun Gook Kang, and Poong Hyun Seong(KAIST)
Jin Kyun park(KAERI)
- 10:40 Coffee Break**
- 11:00 Development of an Evaluation Method for the Design Complexity of Computer-Based Displays**
Hyoung Ju Kim, Seung Woo Lee, Hyun Gook Kang, and Poong Hyun Seong(KAIST)
Jin Kyun park(KAERI)
- 11:20 Development of Unavailability Estimation Method Considering Various Operating States of Dynamic Systems**
Seung Ki Shin, Hyun Gook Kang, and Poong Hyun Seong(KAIST)
- 11:40 A Computerized Procedure Linked to Virtual Equipment**
Yeonsub Jung and Taeyoung Song(KHNP)
- 12:00 Analysis of One PHTS Pump Trip Event of KALIMER-600**
Seung-Hwan SEONG and Seong-O KIM(KAERI)

Ⅲ. 분과별 논제 및 발표자

제 10 분과 B

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

좌 장 정경민(Jeong, KyungMin), 하균영(Heo, GyunYoung)

발표장소 다이아몬드

일 정 | 10. 27(목) 13:00-15:00

- P10B01 Conceptual Design of Nuclear Integrated Safety System**
Kwang Seop, Son and Dong Hoon, Kim(KAERI)
- P10B02 Test Results of a Network Switch Device for SMART MMIS**
Kwang-II Jeong, Yong-Suk Suh Jong-Yong Keum, Joon-ku Lee, Kwang-Woong Kim, Gi-Ho Cho, and Sang-Seok Lee(KAERI)
- P10B03 Operating Experience Review(OER) and Development of Issues Tracking System(ITS) for Jordan Research & Training Reactor(JRTR)**
Kim Yong-Jun and Lee Hyun-Chul(KAERI)
- P10B04 Image Processing Algorithm for Robot Tracking in Reactor Vessel**
TaeWon Kim, YoungSoo Choi, SungUk Lee, and KyungMin Jeong(KAERI)
NamKyun Kim(KPS)
- P10B05 Development of ROV System for FOSAR in Reactor Vessel**
YoungSoo Choi, TaeWon Kim, SungUk Lee, and KyungMin Jeong(KAERI)
NamKyun Kim(KPS)
- P10B06 Test Results of a Platform for Safety I&C Systems of SMART MMIS**
Yong Suk Suh, Jong yong Keum, Kwang II Jeong, Joon Ku Lee, Gi Ho Cho, Sang Seok Lee, and Kwan Woong Kim(KAERI)
- P10B07 Performance Test Results of Safety I&C Systems of SMART MMIS**
Yong Suk Suh, Jong Yngg Keum, Kwang II Jeong, Joon Ku Lee, Gi Ho Cho, Sang Seok Lee, and Kwan Woong Kim(KAERI)
- P10B08 Application of a Virtual Ovation System to the ShinKori-3 Simulator**
JinHyuk Hong, MyeongSoo Lee, and Kyung-Hun Chung(KHNP)
- P10B09 Remote-Controlled Robots Used for the Management of Severe Accident of the Fukushima Nuclear Power Plant**
Jai Wan Cho and Kyung Min Jeong(KAERI)
- P10B10 Exit Light and Emergency Light Which Have Function to Indicate Residual Charge of Battery**
Youngsik Kwon, Sangmin Bae, Kiha Kim, Kyungkil Kwark, and Wooseog Ryu(KAERI)

일 정 | 10. 28(금)

- 09:00 Selection of Instruments for Measuring Process Parameters of a Sodium Test Loop**
Inkoo-Hwang, Jae-chang Park, Tae-joon Kim, Tae-ho Lee, and Yong-Bum Lee(KAERI)
Yang-mo Kim(CNU)
- 09:20 Quantification of Unavailability of Digital Plant Protection System with Various Fault Tolerant Techniques in Nuclear Power Plants**
Bo Gyung Kim, Hyun Cook Kang, and Poong Hyun Seong(KAIST)
Seung Jun Lee(KAERI)
- 09:40 A Preliminary Study on the Measures to Assess the Organizational Safety: The Cultural Impact on Human Error Potential**
Yong-Hee Lee and Yonghee Lee(KAERI)
- 10:00 A Human Error Analysis with Physiological Signals during Utilizing Digital Devices**
Yong Hee Lee, Yeon Ju Oh, and Kwang Hyeon Shin(KAERI)
- 10:20 An Ergonomic Evaluation of the Illumination Level and the Management Plan to Improve the Working Environment of Nuclear Power Plants**
Shin Kwang Hyeon and Lee Yong Hee(KAERI)
- 10:40 Coffee Break**
- 11:00 Uncertainty Analysis of NPP LOCA Size Prediction Using SVR**
Jae Hwan Kim, Sim Won Lee, Dae Seop Kim, and Man Gyun Na(CSU)
Kwang-Il Ahn and Soo Yong park(KAERI)
- 11:20 Detection of Wall-Thinned Defects Using IR Thermography**
Ju Hyun Kim, Young Gyu No, Soon Ho Park, Man Gyun Na, Jin Weon Kim, Hyun Chul lung, and Kyeong Suk Kim(CSU)
- 11:40 A Study on Evaluation of Activation Energy of EPR through Volume Electrical Resistivity**
In Yong Kim and Cheol Soo Goo(KINS)
Jung Hoon Lee and Yong Deok Shin(WKU)
- 12:00 A Cyber Security Risk Assessment Procedure for Digital I&C Systems in NPPs**
J. G. Song, J. W. Lee, C. K. Lee, K. C. Kwon, and D. Y. Lee(KAERI)