

KOREAN NUCLEAR SOCIETY

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|일 시| 2013. 5. 29 - 5. 31(수~금)

|장 소| 광주 김대중컨벤션센터

2013 춘계학술발표회



사단법인 한국원자력학회
KOREAN NUCLEAR SOCIETY

2013 춘계학술발표회

• 일정 : 2013. 5. 29~5. 31(수~ 금) • 장소 : 광주 김대중컨벤션센터

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❖ 전체 행사일정표

▶ 등록 및 접수 : 4층 로비

• 5.29(수) 12:30~17:30

• 5.30(목) 08:30~17:30

• 5.31(금) 08:30~12:00

회의장명		5.29(수)		5.30(목)		5.31(금)	
201	2층	(A)중수로 안전성 증진기술 현황 및 전략	13:00~18:00	•(4A)핵연료 및 원자력재료 구두발표 •방사선이용 및 방호 연구부회 모임	09:00~12:40 13:30~14:30	•(4C)핵연료 및 원자력재료 구두발표	09:00~12:20
202+203	2층	(B)우리나라의 핵자료, 원자로물리 및 계산과학 연구 현황	13:30~17:10	•(4B)핵연료 및 원자력재료 구두발표 •핵연료 및 원자력재료 연구부회 모임	09:00~12:40 13:30~14:30	•(4D)핵연료 및 원자력재료 구두발표	09:00~12:40
204	2층	• 원자력학회 원로초청 워크숍 (후쿠시마사고이후 지역주민의 원자력안전 수용성)	17:00~18:30	•(8A)원전 건설 및 운영 기술 구두발표 •원전 건설 및 운영 기술 연구부회 모임	09:00~12:40 13:30~14:30	•(8C)원전 건설 및 운영 기술 구두발표	09:00~12:20
206	2층	• 초중고 과학교사 초청 원자력교육 토론회	16:00~18:00	•(5A)원자력열수력 및 안전 구두발표 •원자력열수력 및 안전 연구부회 모임	09:00~12:20 13:30~14:30	•(5F)원자력열수력 및 안전 구두발표	09:00~12:00
207	2층			• 학생/청년 Competition Session • 원자력계측제어 및 자동원격 연구부회 모임	09:00~11:40 13:30~14:30	•(5G)원자력열수력 및 안전 구두발표	09:00~12:20
C308	3층	(C)방사성폐기물관리기술 최근 동향	13:30~18:00	•(1A)원자로시스템기술 구두발표 •원자로시스템기술 연구부회 모임	09:00~12:20 13:30~14:30	•(1B)원자로시스템기술 구두발표	09:00~13:00
C309	3층	(D)사고저항성 핵연료의 필요성 및 국내외 개발현황	13:00~18:00	•(3A)방사성폐기물관리 구두발표 •방사성폐기물관리 연구부회 모임	09:00~12:20 13:30~14:30	•(3B)방사성폐기물관리 구두발표	09:00~12:20
C310	3층	(F)핵융합실증로 실현을 위한 핵심 기반기술 확보 방안	13:30~18:00	•(2A)원자로물리 및 계산과학 구두발표 •원자로물리 및 계산과학 연구부회 모임	09:00~12:20 13:30~14:30	•(2B)원자로물리 및 계산과학 구두발표	09:00~12:20
C311	3층	(I)가동원전 I&C의 디지털 업그레이드 국내외 현황 및 국내 가동원전에서의 적용 방안	13:00~18:00	•(7A)양자공학 및 핵융합기술 구두발표 •양자공학 및 핵융합기술 연구부회 모임	09:00~12:20 13:30~14:30	•(2C)원자로물리 및 계산과학 구두발표	09:00~12:20
C312	3층	(H)핵비확산·핵안보 현안과 미래 전망	14:00~18:00	•(9A)원자력정책, 인력 및 협력 구두발표 •원자력정책, 인력 및 협력 연구부회 모임	09:00~12:20 13:30~14:30	•(5H)원자력열수력 및 안전 구두발표	09:00~12:20
컨벤션홀1	4층	(E)중대사고시 노심용융물 관리기술 및 국내 중대사고 정책·제도 추진 방향	09:00~18:00	•(5B)원자력열수력 및 안전 구두발표 •개회식 및 특별강연 (컨벤션1+2+3)	09:00~12:00 15:30~18:00	•(5E)원자력열수력 및 안전 구두발표	09:00~12:20
컨벤션홀2	4층	(G)원자력 커뮤니케이션 무엇이 어려운가?	14:00~18:00	•(10A)원자력계측제어 및 자동원격 구두발표 •개회식 및 특별강연 (컨벤션1+2+3)	09:00~13:00 15:30~18:00	•(10C)원자력계측제어 및 자동원격 구두발표	09:00~12:40
컨벤션홀3	4층	(J)해양원자력 시스템의 개발 방향	13:00~18:00	•(5C)원자력열수력 및 안전 구두발표 •(5D)원자력열수력 및 안전 구두발표 •개회식 및 특별강연 (컨벤션1+2+3)	09:00~11:00 11:20~12:20 15:30~18:00	•(6A)방사선이용 및 방호 구두발표	09:00~12:20
4층 로비	4층	-	-	• 포스터 발표 (1분과~10분과)	13:00~15:00	-	-
다목적홀	1층	-	-	• 참가자 중식 장소 • 참가자 만찬 장소	12:00~13:30 18:00~19:30	• 참가자 중식 장소	12:00~13:30

I. 행사일정 안내

❖ 워크숍 및 토론회 [5월 29일(수)]

- | | |
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| <p>A. 중수로 안전성 증진기술 현황 및 전략</p> <p>B. 우리나라의 핵자료, 원자로물리 및 계산과학 연구 현황</p> <p>C. 방사성폐기물관리기술 최근 동향</p> <p>D. 사고저항성 핵연료의 필요성 및 국내외 개발현황</p> <p>E. 중대사고시 노심용융물 관리기술 및 국내 중대사고 정책·제도 추진 방향</p> <p>F. 핵융합실증로 실현을 위한 핵심 기반기술 확보 방안</p> | <p>G. 원자력커뮤니케이션 무엇이 어려운가?</p> <p>H. 핵비확산·핵안보 현안과 미래 전망</p> <p>I. 가동원전 I&C의 디지털 업그레이드 국내외 현황 및 국내 가동원전에서의 적용 방안</p> <p>J. 해양원자력 시스템의 개발 방향</p> <ul style="list-style-type: none"> • 원자력학회 원로 초청 워크숍 (후쿠시마사고이후 지역주민의 원자력안전 수용성) • 초중고 과학교사 초청 원자력교육토론회 |
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❖ 개회식 및 학술발표회

5월 30일(목)	5월 31일(금)
08:30 등록 및 접수	09:00 분과별 학술발표
09:00 분과별 학술발표	10:40 Coffee Break
10:40 Coffee Break	11:00 분과별 학술발표
11:00 분과별 학술발표	12:00 중식
12:00 중 식	
13:00 분과별 포스터발표	
13:30 연구부회 모임	
15:30 학술발표회 개회식	
• 국민의례	
• 개회사 : 정연호 학회장	
• 축 사 : 문해주(미래부 우주원자력정책관)	
• 우수논문상 시상	
• 장학증서 수여	
16:00 특별강연(Ⅰ)	
16:40 특별강연(Ⅱ)	
17:10 특별강연(Ⅲ)	
18:00 만찬	

[등록비 : □학생 ₩20,000 □정/평생회원 ₩80,000 □비회원 ₩120,000 □원로회원 면제]

❖ 특별강연

- [Ⅰ] The Need for Nuclear Energy Michael Corradini(President of ANS)
- [Ⅱ] 사용 후 원전 연료 관리 -현안과 선택- 김창효(서울대학교 명예교수)
- [Ⅲ] 고고학에서 본 2,000년 전의 타임캡슐 조현중(국립광주박물관장)

II. 워크숍 안내

A 중수로 안전성 증진기술 현황 및 전략

- 일 시 : 2013년 5월 29일(수) 13:00~18:00
- 장 소 : 광주 김대중컨벤션센터, 2층 201
- 주 최 : 한국원자력학회 원자로 시스템기술 연구부회

• 일 정

일 정	내 용
13:00~13:15	등 록
13:15~13:20	개회사, 이보욱(원자로 시스템기술 연구부회장)
13:20~13:30	중수로 안전연구회 (CANSAS) 현황, 류용호(CANSAS 회장)
13:30~14:10	월성원전 안전성 증진 활동, 김성민(한수원 중앙연구원)
14:10~14:50	중수로 안전계통 설계 개선 활동, 이정양(한국전력기술)
14:50~15:30	중수로 개량연료 제조성 분석, 박춘호(한전원자력연료)
15:30~16:00	휴 식
16:00~16:50	중수로 중대사고 대비 안전성 강화 방안, Sunil Nijhawan(Prolet (Canada))
16:50~17:20	중수로 안전성 증진 연구, 송용만(한국원자력연구원)
17:20~18:00	중수로 안전 규제기술 R&D 현황 및 전략, 양채용(한국원자력안전기술원)
18:00~	만 찬

• 기타사항

등록비 : 등록비 없음, 저녁식사 제공 (김대중컨벤션센터 2층, 델리하우스)

문의처 : 정종업 / 한국원자력연구원 / 042-868-8962 / agahee@kaeri.re.kr

B 우리나라의 핵자료, 원자로물리 및 계산과학 연구 현황

- 일 시 : 2013년 5월 29일(수) 13:30~17:10
- 장 소 : 광주 김대중컨벤션센터, 2층 202+203
- 주 최 : 한국원자력학회 원자로물리 및 계산과학 연구부회

• 일 정

일 정	내 용
13:00~13:30	등 록
13:30~14:10	몬테카를로 법에 의한 집합체 균정수 생산 및 불확실도 평가, 박호진(KAERI)
14:10~14:50	노내계측기 기반 노심보호계통 개발, 신호철(KHNP CRI)
14:50~15:30	CAD 구조입력 비정형사면체격자 사용 각분할수송해석코드 MUST 개발 및 응용사례, 김종운(KAERI)
15:30~15:50	휴 식
15:50~16:30	핵연료 장전모형 최적화 코드 McFLOP의 설계 적용성 평가 및 개선, 이해찬(KNF)
16:30~17:10	혁신 SFR 시스템 연구개발 방향 및 현황, 김용희(KAIST)

• 기타사항

등록비 : 무료

문의처 : 노재만 / 한국원자력연구원 / 042-868-2654 / jmnoh@kaeri.re.kr

II. 워크숍 안내

㉔ 방사성폐기물관리기술 최근 동향

- 일 시 : 2013년 5월 29일(수) 13:30~18:00
- 장 소 : 광주 김대중컨벤션센터, 3층 C308
- 주 최 : 한국원자력학회 방사성폐기물관리 연구부회, 한국방사성폐기물관리공단

• 일 정

일 정	내 용	발표자	비 고
사회: 이상진(방폐공단)			
13:30~14:00	등록		
14:00~14:05	개회사	김창락	
14:05~14:10	격려사	김종경	
14:10~14:35	사용후핵연료 저장 관련 안전규제 체재개선 방향과 내용의 개략	박동극	KINS
14:35~15:00	사용후핵연료 수송·저장용기 해외 최신기술개발 현황	박경우	방폐공단
15:00~15:25	수송용기(KN-18) 개발현황	정성환	KHNP
15:25~15:40	휴식		
15:40~16:05	수송용기용 SA350 LF5 소재 제조 및 적용 사례	김국철	두산중공업
16:05~16:30	사용후핵연료 건전성평가	국동학	KAERI
16:30~16:55	중·저준위처분장 안전성평가 기술	박진백	방폐공단
16:55~17:10	휴식		
17:10~18:00	종합 패널 토론 (박동극, 이상진, 정성환, 김국철, 국동학, 박진백)		사회 : 김창락
18:00~20:00	폐회 및 저녁만찬		

• 기타사항

등록비 : 5만원 (주제 발표집 및 만찬포함)

문의처 : 한국방사성폐기물관리공단 기술개발센터 연구개발실

박진백 / 042-601-5322 / jbpark@krmc.or.kr

정강일 / 042-601-5326 / kangile@krmc.or.kr

D 사고저항성 핵연료의 필요성 및 국내외 개발현황

- 일 시 : 2013년 5월 29일(수) 13:00~18:00
- 장 소 : 광주 김대중컨벤션센터, 3층 C309
- 주 최 : 한국원자력학회 핵연료 및 원자력재료 연구부회

• 일 정

일 정	내 용
13:00~13:10	개회사, 송근우(한국원자력학회 핵연료 및 원자력재료부회장)
13:10~13:40	사고저항성 핵연료의 필요성 및 요구조건, 구양현(한국원자력연구원)
13:40~14:10	사고저항성 핵연료용 SiC 기반 펠릿 개발 현황, 이승재(한전원자력연료)
14:10~14:40	Accident Tolerance Fuel – Status, Challenges and Strategic Choices, 김용덕(한국수력원자력 중앙연구원)
14:40~15:00	Break
15:00~15:30	사고시 핵연료 안전성 해석의 신동향, 신안동(원자력안전기술원)
15:30~16:00	Accident tolerant micro-cell fuel pellets, 양재호(한국원자력연구원)
16:00~16:30	Development of advanced claddings for accident tolerant fuels, 박정용(한국원자력연구원)
16:30~17:00	다중층 SiC 복합재료 피복관 국내외 연구개발 현황, 김원주(한국원자력연구원)
17:00~18:00	Wrap up
18:00	석 식

• 기타사항

등록비 : 3만원 (석식 제공)

문의처 : 양용식 / 한국원자력연구원 / 042-868-8689 / yys@kaeri.re.kr

김효찬 / 한국원자력연구원 / 042-868-2438 / hyochankim@kaeri.re.kr

II. 워크숍 안내

ⓔ "중대사고시 노심용융물 관리기술 및 국내 중대사고 정책·제도 추진 방향" 워크숍

- 일 시 : 2013년 5월 29일(수) 09:00~18:00
- 장 소 : 광주 김대중컨벤션센터, 4층 컨벤션홀1
- 주 최 : 한국원자력학회 원자력 열수력 및 안전 연구부회

• 일 정

일 정	내 용	발 표 자	
기술 현안 분야 (사회:홍성완)	09:00~10:00	오전 세션 등록	
	10:00~10:10	개회사/환영사	
	10:10~10:30	원전 노심 용융물 관리 핵심 현안	정용훈 교수 (KAIST)
	10:30~11:00	APR1400 IVR-ERVC	오승종 교수 (KINGS)
	11:00~11:30	EU-APR Core Catcher	김한곤 박사 (KHNP-CRI)
	11:30~12:00	IVR-ERVC, Core Catcher 현안 관련 연구	송진호 박사 (KAERI)
	12:00~12:30	점심 (도시락)	
	12:30~14:00	패널토론, 사회: 백원필 부회장, 패널: 발표자+방광현(해양대)	
정책 제도 현안 분야 (사회:김인구)	13:30~14:30	오후 세션 등록	
	14:30~14:40	인사말	
	14:40~15:10	중대사고 분야의 당면과제	류용호 박사 (KINS)
	15:10~15:30	중대사고 정책 / 제도현안 관련 한수원 계획	김형택 그룹장 (KHNP)
	15:30~15:50	리스크평가와 중대사고 분야의 연계 강화방안	양준언 박사 (KAERI)
	15:50~16:10	중대사고 규제요건화 이행 방안	황태석 박사 (KINS)
	16:10~16:30	휴 식	
	16:30~18:00	패널토론, 사회: 백원필 부회장, 패널: 발표자+제무성(한양대)	

• 기타사항

등록비 : 3만원 (점심 도시락 및 저녁 제공)

문의처 : · 기술현안분야 : 홍성완 / 한국원자력연구원 / 042-868-8997 / swhong@kaeri.re.kr

· 정책·제도현안 분야 : 김인구 / 한국원자력안전기술원 / 042-868-0151 / igkim@kings.re.kr

F 핵융합실증로 실현을 위한 핵심 기반기술 확보 방안

- 일 시 : 2013년 5월 29일(수) 13:30~18:00
- 장 소 : 광주 김대중컨벤션센터, 3층 C310
- 주 최 : 한국원자력학회 양자공학 및 핵융합기술 연구부회

• 일 정

일 정	내 용
13:30~14:00	등 록
14:00~14:10	인사말, 박군철 총장(한전 국제원자력대학원대학교)
14:10~14:30	"핵융합 에너지 개발 추진 전략", 이경수 박사(국가핵융합연구소)
14:30~14:50	"실증로 핵심 기반기술 개발 추진 기획(안)", 황용석 교수(서울대)
14:50~15:10	"핵융합 실증로 개념과 노심 기술 개발", 박현거 교수(POSTECH)
15:10~15:30	"핵융합로 초전도 자석기술 개발", 이형철 교수(경북대)
15:30~15:50	"핵융합로 재료 기술 개발", 한흥남 교수(서울대)
15:50~16:10	"핵융합로 동력계통 공학 기술", 김형찬 박사(국가핵융합연구소)
16:10~16:25	휴식 및 Panel discussion 준비
16:25~18:00	Panel Discussion 패널 위원: 주제발표자 외

• 기타사항

등록비 : 3만원, 식사제공

문의처 : 황용석 / 서울대 핵융합로공학선형연구센터 / 02-880-7213 / yhwang@snu.ac.kr

II. 워크숍 안내

G 원자력커뮤니케이션 무엇이 어려운가?

- 일 시 : 2013년 5월 29일(수) 14:00~18:00
- 장 소 : 광주 김대중컨벤션센터, 4층 컨벤션홀2
- 주 최 : (사)한국여성원자력전문인협회, 한국원자력협력재단
- 후 원 : 한국원자력학회 원자력정책, 인력 및 협력 연구부회

• 일 정

시 간	내 용
13:30~14:00	등 록
14:00~14:20	개회식 - 개회사 : 박세문, (사)한국여성원자력전문인협회 회장 - 환영사 : 윤세준, 한국원자력협력재단 사무총장
주 제 발 표	
14:20~14:50	소비자를 위한 원자력정보전달 필요성과 리스크 커뮤니케이션의 중요성 (김애경, (사)소비자시민모임)
14:50~15:20	우리나라 원자력기관 원자력커뮤니케이션 활동 현황 (최선영, 한국원자력연구원)
15:20~15:30	Coffee Break
15:30~16:00	원자력 위험 커뮤니케이션: 미국과 스웨덴의 사례 (김효민, 울산과학기술대학교)
16:00~16:30	원자력 커뮤니케이션: 오해와 진실 (목진휴, 국민대학교)
16:30~16:50	Coffee Break
패 널 토 의	
16:50~18:00	Moderator : 이영일 (한국원자력안전기술원) - 주제발표자 4인 - 심기보 (한국원자력문화재단)
18:00~	만 찬

• 기타사항

등록비 : 3만원 (식사 제공)

문의처 : 송나윤 / (사)한국여성원자력전문인협회 / 042-866-4201, 010-4720-6137 / wink@winkorea.or.kr

H 핵비확산·핵안보 현안과 미래 전망

- 일 시 : 2013년 5월 29일(수) 14:00~18:00
- 장 소 : 광주 김대중컨벤션센터, 3층 C312
- 주 최 : 한국원자력학회 원자력정책, 인력 및 협력 연구부회

• 일 정

시 간	내 용
14:00~14:20	개회사
14:20~15:50	Session I : 핵안보 체제 강화를 위한 국내외 현안 (좌장 : 서울대학교 교수 황일순)
발표 20분, 토론 10분 /주제	발표 : 신창훈, 아산핵정책기술센터장 〈핵안보 글로벌 거버넌스 의미와 전망〉 유호식, 한국원자력통제기술원 책임연구원 〈국제 핵안보동향 및 전망〉 김재광, 한국원자력통제기술원 핵안보·물리적방호실장 〈국내 핵안보 체제 강화를 위한 미래과제 고찰〉 토론 : 김석우, 평화협력원 원장 이상현, 세종연구소 수석연구위원
15:50~16:10	Coffee Break
16:10~17:40	Session II : 국제 핵비확산 체제와 국가 핵투명성 제고 노력 (좌장 : 국립외교원 교수 전봉근)
발표 20분, 토론 10분 /주제	발표 : 임만성, KAIST 교수 〈원자력에너지 및 핵비확산의 미래?〉 김종숙, 한국원자력통제기술원 수출입통제실장 〈수출통제 체제의 현안과 도전〉 조성연, 한국원자력통제기술원 안전조치실장 〈국가검사 안전조치 이행〉 토론 : 최아진, 연세대학교 교수 이광석, 원자력연구원 국제전략연구부장
18:00~	만찬

• 기타사항

등록비 : 무료

문의처 : 형상철 / 한국원자력통제기술원 / 042-860-9737 / wakendragon@kinac.re.kr

II. 워크숍 안내

1 가동원전 I&C의 디지털 업그레이드 국내외 현황 및 국내 가동원전에서의 적용 방안

- 일 시 : 2013년 5월 29일(수) 13:00~18:00
- 장 소 : 광주 김대중컨벤션센터, 3층 C311
- 주 최 : 한국원자력학회 원자력계측제어 및 자동원격 연구부회
- 일 정

일 정	내 용
13:00~13:30	등 록
	사회1 (권기춘 박사, 한국원자력연구원)
13:30~13:40	연구부회장 인사 (김국헌 전무, 두산중공업)
13:40~14:05	TRIGA 연구로 I&C 업그레이드 사례 (서상문 책임, 한국원자력연구원)
14:05~14:30	An Evaluation Method of the Automation Rate Reflecting the Effects on Human Operators in Nuclear Power Plants (성풍현 교수, KAIST)
14:30~14:55	유럽 가동원전 I&C 디지털 업그레이드 사례분석 (남채호 차장, 두산중공업)
14:55~15:15	Coffee Break
	사회2 (김흥준 부장, 두산중공업)
15:15~15:40	디지털 Upgrade에 따른 Licensing Guideline (윤재희 부장, 한국전력기술)
15:40~16:05	일반규격품 디지털 설비의 가동원전 안전계통 I&C 사용을 위한 방법 (유영진 선임, 한국원자력안전기술원)
16:05~16:30	디지털 개선 신뢰도 제고 및 핵심제어설비 개선방안 (이재기 부장, 한국수력원자력)
16:35~18:00	패널토론 (패널리스트 : 강현국, 김찬중, 박현신, 백승민, 신영철[가나다 순] / 사회 : 김국헌)
18:00~20:00	저녁식사

• 기타사항

등록비 : 3만원 (저녁식사제공)

문의처 : 이성진 / 두산중공업 / 010-2618-3420 / sungjin.lee@doosan.com

J 해양원자력 시스템의 개발방향

- 일 시 : 2013년 5월 29일(수) 13:00~18:00
- 장 소 : 광주 김대중컨벤션센터, 4층 컨벤션홀3
- 주 최 : 한국원자력학회 해양원전 특별위원회

• 일 정

일 정	내 용
13:00~13:20	등 록
13:20~13:30	축사, 장순흥 (KAIST)
13:30~13:45	해양원자력 시스템 개발의 필요성, 이정익 (KAIST)
13:45~14:00	국내외 해양원자력 시스템 개발현황, 이필승 (KAIST)
14:00~14:20	착저식 해양원자력 시스템의 가능성, 우일국 (DSME)
14:20~14:40	부유식 해양원자력 시스템의 개발방향, 심우승 (HHI)
14:40~15:00	원자력 추진선박의 경제성, 구금재 (STX-OS)
15:00~15:10	휴 식
15:10~15:30	해양원자력 시스템에 적용할 원자로 설계요건, 이광원 (KEPCO E&C)
15:30~15:50	해양플랜트 운영조건을 고려한 해양원자력 시스템 설계요건, 서용석 (SHI)
15:50~16:10	해양원자력 시스템 원자로 인허가 추진방안, 김균태 (KINS)
16:10~16:30	해양원자력 시스템과 국제 해양법, 신창훈 (ASAN)
16:30~16:50	해양원자력 시스템 개발 마일스톤 및 로드맵, 최순 (KAERI)
16:50~17:00	휴 식
17:00~18:00	패널토론
18:00~19:00	저녁식사

• 기타사항

등록비 : 5만원 (저녁 식사 제공)

문의처 : 이정익 / KAIST / 042-350-3829(CP 010-9287-4130) / jeongiklee@kaist.ac.kr

Ⅲ. 분과별 논제 및 발표자

제 1 분과 A

원자로시스템기술(Reactor System Technology)

- 경중수로 및 연구로 기술-I (Water Cooled & Research Reactor Technology-I)

좌 장 정종엽(Jong Yeob JUNG), 채희택(Hee Taek CHAE)

발표장소 C308

일 정 | 5. 30(목)

- 09:00 Study on Pole Arrangement of the CEDM Coils**
Jin Seok Park, Myoung Goo Lee, Hyun Min Kim, Yeon Ho Cho, and Taek Sang Choi(KEPCO E&C)
- 09:20 Performance Evaluation of SMART Passive Safety System for Small Break LOCA Using MARS Code**
Ji Han Chun, Guy Hyung Lee, Kyoo Hwan Bae, Young Jong Chung, and Keung Koo Kim(KAERI)
- 09:40 Unsteady Two-dimensional Multiphysical Simulation on the Sudden Contact of Pressure Tube and Calandria Tube in the Moderator Model for PHWR**
Se-Myong Chang(KNU)
Hyoung Tae Kim(KAERI)
- 10:00 Guidelines for Safety Evaluation of a Potential for PWR Steam Generator Tube Failure due to Fluidelastic Instability**
Jong Chull Jo, Kyu Sik Do, and Cheol Sheen(KINS)
- 10:20 Analysis of Core Expansion and Energy Behavior During Severe Accident of Sodium Cooled Fast Reactor**
S. H. Kang and K. S. Ha(KAERI)
- 10:40 Coffee Break**
- 11:00 Preliminary Neutronics Design for Fast Neutron Irradiation Facility in the KIJANG Research Reactor**
Hong-Chul KIM, Chul Gyo Seo, Hee Taek Chae, and Myong-Seop Kim(KAERI)
- 11:20 LMTD Design Methodology Assessment of Spiral Tube Heat Exchanger under the S-CO₂ Cycle Operating Condition**
Hwa Young Jung, Jeong Ik Lee, and Yoonhan Ahn(KAIST)
- 11:40 A Novel Plate Fuel Concept Based on Coated Particle for Research Reactor**
Rully Hidayatullah and Yonghee Kim(KAIST)
- 12:00 Preliminary Study of CANDU-6 Moderator Temperature Prediction by Using the CUPID Code**
Sang Gi Park and Jae Jun Jeong(PNU)
Jae Ryong Lee, Han Young Yoon, and Hyoung Tae Kim(KAERI)

제 1 분과 B

원자로시스템기술(Reactor System Technology)

- 고온가스로 및 소듐 냉각 고속로 기술-I (VHTR & SFR Technology-I)

좌 장 김민환(Min Hwan KIM), 이제환(Jewhan LEE)

발표장소 C308

일 정 | 5. 31(금)

- 09:00 A Preliminary Evaluation of Cold Trap Capacity in a Prototype Sodium-cooled Fast Reactor**
Moon Oh Kim and Hee Do Lee(ACT Co., Ltd)
Seong O Kim, Ji Young Jeong, and Tae Ho Lee(KAERI)
- 09:20 CFD Analysis of a Centrifugal Pump with Supercritical Carbon Dioxide as a Working Fluid**
Seong Gu Kim, Jeong Ik Lee, Yoonhan Ahn, and Jekyoung Lee(KAIST)
Jae Eun Cha(KAERI)
Yacine Addad(KUSTAR)
- 09:40 Preliminary Assessment of PHTS Pump Piping Break Accident of DSFR-600**
Andong SHIN, Moohoon BAE, Yong-won CHOI, and Namduk SUH(KINS)
- 10:00 Verification and Validation of Heat Transfer Model of AGREE Code**
N. I. Tak(KAERI)
V. Seker, T. J. Drzewiecki, and, T. J. Downar(Univ. Michigan)
J. M. Kelly(US NRC)
- 10:20 Validation of GAMMA+ Model for Evaluating Heat Transfer of VHTR Core in Accident Conditions by CFD Analysis**
Dong-Ho Shin, Su-Jong Yoon, Goon-Cherl Park, and Hyoung-Kyu Cho(SNU)
- 10:40 Coffee Break**
- 11:00 Comparison Between Helium Cycle and Supercritical CO₂ Cycle for MMR & AMR**
Seong Jun Bae, Jeong Ik Lee, Yoonhan Ahn, and Jekyoung Lee(KAIST)
- 11:20 Conceptual Design of S-CO₂ Cooled Micro Modular Reactor**
Min-Gil Kim, Jeong Ik Lee, Donny Hartanto, and Yong Hee Kim(KAIST)
- 11:40 Effect of Gas Pressurization on Oxidation Behavior of Nuclear Graphite**
Eung-Seon Kim, Ji-Yong Sung, Min-Hwan Kim, and Yong-Wan Kim(KAERI)
- 12:00 Economic and Environmental Value of Advanced Fuel Cycle**
Jewhan LEE and Ji-Young JEONG(KAERI)
- 12:20 Effect of Uncertainties in CO₂ Property Databases on the S-CO₂ Compressor Performance**
Jekyoung Lee, Jeong Ik Lee, Yoonhan Ahn, and Seong Gu Kim(KAIST)
Je Eun Cha(KAERI)
- 12:40 Comparison of Various Brayton Cycles for Sodium Cooled Fast Reactor**
Ahn, Yoonhan, Lee, Jekyoung, Kim Seong Gu, and Lee, Jeong Ik(KAIST)
Cha Jae Eun(KAERI)

Ⅲ. 분과별 논제 및 발표자

제 1 분과 C

원자로시스템기술(Reactor System Technology) - Poster - 고온가스로 및 소듐 냉각 고속로 기술- II (VHTR & SFR Technology- II)

좌 장 탁남일(Nam-il TAK), 신안동(An Dong SHIN)

발표장소 4층 로비

일 정 | 5. 30(목) 13:00-15:00

- P01C01 Concept of Organic Rankine Cycle in Nuclear Power Plant as an Alternative Generator**
Yong Hwan Yoo, Kyung Jun Kang, Sang Ik Wu, and Jun Yeon Kim(KAERI)
- P01C02 Preliminary Seismic Response and Fragility Analysis for DACS Cabinet**
Jinho Oh, Shinyoung Kwag, Jong-Min Lee, and Young-Ki Kim(KAERI)
- P01C03 Comparison of Design Criteria under Development for Sodium-cooled Fast Reactor**
Namduk SUH, Andong SHIN, Yongwon CHOI, Moohoon BAE, and Changwook HUH(KINS)
- P01C04 Off-design Performance Analysis of the Supercritical Carbon Dioxide Brayton Cycle for a Sodium-cooled Fast Reactor**
Sun Rock Choi, Seong-O Kim, and Tae-Ho Lee(KAERI)
- P01C05 Evaluation of the Structure Design Concept of a Combined Heat Exchanger for Decay Heat Removal System in a Sodium-cooled Fast Reactor**
Jae-Hyuk EOH, Hyeong-Yeon LEE, Dehee KIM, and Chang-Gyu PARK(KAERI)
- P01C06 Design of Heat Tracing Capacity for a Sodium Experimental Installation**
Dongsup So, Tae-Joon Kim, and J. Y. Jeong(KAERI)
- P01C07 Hydraulic Performance Requirements in the PHTS Pump of Sodium-cooled Fast Reactor**
Jung Yoon, Ji-Woong Han, and Tae-Ho Lee(KAERI)
- P01C08 Preliminary Stress Analysis for Reactor Head of Prototype Sodium-cooled fast Reactor**
In-su Han, Gyeong-Hoi Koo, and Jae-Hun Cho(KAERI)

제 1 분과 D

원자로시스템기술(Reactor System Technology) - Poster - 고온가스로 및 소듐 냉각 고속로 기술-III (VHTR & SFR Technology-III)

좌 장 김응선(Eung Seon KIM), 이귀림(Kwi Lim LEE)

발표장소 4층 로비

일 정 | 5. 30(목) 13:00-15:00

- P01D01 Preliminary Development of Regulatory PSA Models for SFR**
Yong Won Choi, Andong SHIN, Moo-Hoon BAE, and Namduk SUH(KINS)
Yong Suk Lee(FNC Tech.)
- P01D02 Development of Objective Provision Trees for Sodium-cooled Fast Reactor Defense-in-Depth Evaluation**
Huichang Yang(TUV Rheinland Korea)
Namduk Suh(KINS)
- P01D03 Analysis of Loss of Flow Transients in the Conceptual Design of a PGSFR with MARS-LMR**
Kwi Lim, Lee and Kwi Suk, Ha(KAERI)
- P01D04 A Study on Excimer Laser Treatment of Coolants with Suspended Multiwalled Carbon Nanotubes**
Jonggan Hong and Ji-Young Jeong(KAERI)
- P01D05 A Numerical Study for Core Subchannel Flow Test of a Sodium-cooled Fast Reactor**
Jonggan Hong, Sun Rock Choi, Seok-Kyu Chang, Dong-Jin Euh, and Hyeong-Yeon Lee(KAERI)
Jae Wan Ahn(CD-adapco)
- P01D06 To Mars and Beyond with Nuclear Power - Design Concept of Korea Advanced Nuclear Thermal Engine Rocket**
Seung Hyun Nam and Soon Heung Chang(KAIST)
- P01D07 Effect of Temperature and Pressure on the Overall Heat Transfer Coefficient in VHTR-based SI Process Heat Exchangers**
Mintaek Cho, Taehoon Lee, Youngjoon Shin, Kiyoung Lee, and Yongwan Kim(KAERI)
Jiwoon Chang and Youngjune Lee(CNU)
- P01D08 MELCOR Model Development of High Temperature Gas-cooled Reactor**
Chang-Yong Jin and Changwook Huh(KINS)
- P01D09 Improvement of Multidimensional Thermal-hydraulic Analysis Code: COMMIX-1ARP**
Seok-Ki Choi, Dehee Kim, Seong-O Kim, and Tae-Ho Lee(KAERI)
- P01D10 Computational Fluid Dynamics Simulation of an Intermediate Heat Exchanger in a Prototype Sodium-cooled Fast Reactor**
Dehee Kim, Jae-Hyuk Eoh, Ji-Woong Han, and Tae-Ho Lee(KAERI)

P01D11 Thermo-hydraulic Analysis of a Water-cooled Printed Circuit Heat Exchanger in a Small-scale Nitrogen Loop

Chan Soo Kim, Sung-Deok Hong, and Min Hwan Kim(KAERI)
Jae-Sool Shim and Gyung Dong Lee(YU)

P01D12 The Role of the Thermal Radiation for the Very High Temperature Gas-cooled Reactor

Sung-Deok Hong, C. Yoon, C. S. Kim, M. H. Kim, and Y. W. Kim(KAERI)

제 1 분과 E

원자로시스템기술(Reactor System Technology) - Poster - 연구로 기술(Research Reactor Technology)

좌 장 박수기(Suki PARK), 박재윤(Je Yun PARK)

발표장소 4층 로비

일 정 | 5. 30(목) 13:00-15:00

- P01E01 Bottom-mounted Reactor Shutdown Mechanism**
Sanghaun Kim, Jin Haeng Lee, Yeong-Garp Cho, Yeon-Sik Yoo, Dongmin Kim, and Jong-In Kim(KAERI)
- P01E02 Motion Simulation of Hydraulic Driven Safety Rod Using FSI Method**
Jaeho Jung, Sanghaun Kim, Yeon-Sik Yoo, Yeong-Garp Cho, and Jong In Kim(KAERI)
- P01E03 Introduction to Safety Classification for Nuclear Facilities in Germany**
KyungJun Kang, YongHwan Yoo, Yongse Kwon, SaugIk Wu, JunYeon Kim, and Minjin Kim(KAERI)
- P01E04 Preliminary Seismic Performance Evaluation of RPS Cabinet in a Research Reactor**
Shinyoung Kwag, Jinho Oh, Jong-Min Lee, and Young-Ki Kim(KAERI)
- P01E05 Analysis on Effective Delayed Neutron Fraction (β_{eff}) Using ENDF/B-VI.5 and VII.0**
Kyung-O KIM, Ho Jin PARK, Chang Je PARK, Gyuhong ROH, Haksung KIM, and Byungchul LEE(KAERI)
- P01E06 Experimental Investigation of the Entrance Effect on the Convective Heat Transfer in Narrow-vertical Rectangular Channel for Upward and Downward Flow**
Omar S. AL-Yahia(UST)
Daeseong Jo, Jonghark Park, and Heetaek Chae(KAERI)
- P01E07 Cooling Capability of Pool Water for a 5-MW Pool-type Research Reactor**
Suki Park, Byeonghee Lee, Heonil Kim, Cheol Park, and Y. J. Chung(KAERI)
- P01E08 Conceptual Design of Bottom-mounted Control Rod Drive Mechanism**
Jin Haeng Lee, Sanghaun Kim, Yeon-Sik Yoo, Yeong-Garp Cho, Dongmin Kim, and Jong In Kim(KAERI)

Ⅲ. 분과별 논제 및 발표자

제 1 분과 F

원자로시스템기술(Reactor System Technology) - Poster - 소듐 냉각 고속로 기술(SFR Technology)

좌 장 최선락(Sun Rock CHOI), 차재은(Jae Eun CHA)

발표장소 4층 로비

일 정 | 5. 30(목) 13:00-15:00

- P01F01 Development of the MMS Model for a Plant Dynamics Analysis of a Prototype SFR**
Eui Kwang Kim, Hyung-Kook Joo, Do-Hee Hahn, and Tae-Ho Lee(KAERI)
- P01F02 LOHS Analysis for a Proto-type Generation IV SFR (PGSFR)**
Won-Pyo Chang, Kwi-Lim Lee, and Kwi-Seok Ha(KAERI)
- P01F03 Analysis of Energy Released from Core Disruptive Accident of Sodium Cooled Fast Reactor Using CDA-ER and VENUS-II Codes**
S. H. Kang and K. S. Ha(KAERI)
- P01F04 Beam Pattern Analysis of the Plate-type Waveguide Sensor for Under-sodium Viewing**
Hoe-Woong Kim, Young-Sang Joo, Chang-Gyu Park, and Jong-Bum Kim(KAERI)
- P01F05 Life Prediction of Low Cycle Fatigue in Mod.9Cr-1Mo Steel at 600 °C**
Woo-Joong Kim, Chang-Gyu Park, and Jong-Bum Kim(KAERI)
- P01F06 Preliminary Thermal Stress Analysis for Intermediate Heat Exchanger of Prototype SFR**
Sung-Kyun Kim, Seok-Hoon Kim, Jae-Han Lee, and Gyeong-Hoi Koo(KAERI)
- P01F07 The Effect of Temperature and Loading Frequency on the Fatigue Crack Growth of G91 Steel for Load Ratio of 0.3**
Jong-Bum Kim and Chang-Gyu Park(KAERI)
Jong-Hoon Lee and Bum-Joon Kim(SKKU)
- P01F08 Review on Core Designs for Prevention of Severe Accidents in SFRs**
Moo-Hoon BAE, Yong Won CHOI, Andong SHIN, and Namduk SUH(KINS)
- P01F09 Conceptual Design Study on Electromagnets of Control Rod Drive Mechanism of a SFR**
Lee, Jae-Han and Koo, Gyeong-Hoi(KAERI)

제 1 분과 G

원자로시스템기술(Reactor System Technology) - Poster - 경중수로(Water Cooled & Research Reactor Technology- II)

좌 장 이병철(Byungchul LEE), 류정수(Jeong Soo RYU)

발표장소 4층 로비

일 정 | 5. 30(목) 13:00-15:00

- P01G01 A Design of Alarm System in a Research Reactor Facility**
Jaekwan Park, Gwisook Jang, SangMun Seo, and Yongsuk Suh(KAERI)
- P01G02 Clad Thickness Effect on the Fuel Behaviors for a CANDU Feeder Stagnation Break**
Jong Yeob Jung, Jun Ho Bae, Joo Hwan Park, and Yong Man Song(KAERI)
- P01G03 Feasibility Study on Nuclear Propulsion Ship According to Economic Evaluation**
Youngmi Gil, Seong-Jin Yoo, June Oh, Yoon-Chul Byun, and Il-Guk Woo(DSME)
Ji-ho Kim and Suh Choi(KAERI)
- P01G04 Fuel Temperature Estimation of MATRA Code for SPERT-1D Plate Fuel During RIA**
Hyuk Kwon, S. J. Kim, K. W. Seo, and D. H. Hwang(KAERI)
- P01G05 Adaptive Under Relaxation Factor of MATRA Code for the Efficient Whole Core Analysis**
Hyuk Kwon, S. J. Kim, K. W. Seo, and D. H. Hwang(KAERI)
- P01G06 Failure Status Design of the Air Operated Valves and Solenoid Valves of Hot Water Layer System in the Open Pool Type Research Reactor**
Hyun-Gi Yoon, Young-seok Choi, Dae-Young Chi, and Juhyeon Yoon(KAERI)
- P01G07 An Evaluation for Reactivity Loss of B₄C Control Absorber in a Small Research Reactor**
Chang Je Park and Byungchul Lee(KAERI)
- P01G08 Dose Rate Evaluation for 5 MW JRTR**
Sari F. Alkhatib, Chang Je Park, Gyuhong Roh, and Byungchul Lee(KAERI)
- P01G09 A Shielding Analysis of Hot Cell for a 10 MW Research Reactor**
Alaaddin Alnajjar, Chang Je Park, Gyuhong Roh, and Byunchul Lee(KAERI)
- P01G10 Analysis of Beryllium Reflected MTR Core Using Nodal Methods**
Mustafa K. Jaradat, Chang Je Park, and Byungchul Lee(KAERI)
- P01G11 Burnup Estimation for Plate Type Fuel Assembly Using SCALE6 Code**
Luay M. Alawneh, Chang Je Park, and Byungchul Lee(KAERI)

Ⅲ. 분과별 논제 및 발표자

제 2분과 A

핵자료, 원자로물리 및 계산과학 - 방법론 및 검증 (Nuclear Data, Reactor Physics and Computational Science - Methods and Benchmarks)

좌 장 박창제(Chang Je Park), 이덕중(Deokjung Lee)

발표장소 C310

일 정 | 5. 30(목)

- 09:00 Monte Carlo Perturbation Method for Geometrical Uncertainty Analysis**
Ho Jin Park, Chang Je Park, and Byung Chul Lee(KAERI)
Hyung Jin Shim(SNU)
- 09:20 Self Shielded Cross-section Evaluation through Sub Group Method with Improved Resonance Interference Treatment**
Muhammad Sohail and Myung-Hyun Kim(KHU)
- 09:40 Verification of a Subgroup Generation Method for Thorium Fuel Assemblies**
Oh-Sung Sim and Myung-Hyun Kim(KHU)
- 10:00 Verification of a Multi-group Cross Section Library for Burnup Calculation**
Aung Tharn Daing and Myung-Hyun Kim(KHU)
Han-Gyu Joo(SNU)
- 10:20 Overlapping Local/Global Iteration Method for 2-D Hexagonal Whole-core Transport Calculation**
Han Jong Yoo, Muhammad Imron, and Nam Zin Cho(KAIST)
- 10:40 Coffee Break**
- 11:00 On the Two Formulations of Continuous-energy Monte Carlo Local Problem Embedded in OLG Iteration Methodology**
YuGwon Jo and Nam Zin Cho(KAIST)
- 11:20 A Comparison of Dose Distributions Computed with Three Schemes for Uncollided Flux Calculation on the First Collision Source Method**
Jong Woon Kim and Young-Ouk Lee(KAERI)
- 11:40 Stiffness Confinement Method with Pseudo Absorption for Spatial Kinetics**
Beom Woo Park and Han Gyu Joo(SNU)
Yung-An Chao(Retired in China)
- 12:00 Performance Evaluation of Power Spectral Density Method for Subcriticality Monitoring of Model Reactor Problem**
Chidong Kong and Deokjung Lee(UNIST)
Eunki Lee(KHNP CRI)

제 2 분과 B

핵자료, 원자로물리 및 계산과학 - 산업 응용 (Nuclear Data, Reactor Physics and Computational Science) - Industrial Applications

좌 장 심형진(Hyung Jin SHIM), 박문규(Moon Ghu PARK)

발표장소 C310

일 정 | 5. 31(금)

- 09:00** **The Comparison of the Performance by CISAM and CSASAM**
Roh Kyung-ho and Son Jin-won(KHNP CRI)
- 09:20** **The COLSS Reactor Coolant Flow Transient Caused by the RCP Differential Pressure (DP)**
Son Jin-Won, Roh Kyung-ho, and Cha Kyoan-ho(KHNP CRI)
- 09:40** **A Criticality Evaluation of Corium Arranged in the Reactor Cavity of OPR1000**
Hyo Jin Lee, Song Hyun Kim, Chang Ho Shin, and Jong Kyung Kim(HYU)
- 10:00** **The Effects of Bi-directional Refueling Scheme through CANDUCS-DEFENS Code System in a CANDU Reactor**
Eun Hyun Ryu, Yong Mann Song, and Joo Hwan Park(KAERI)
- 10:20** **Adaption of the PARCS Code for Core Design Audit Analyses**
Hyong Chol Kim, Young Jin Lee, Jae Beop Uhm, and Hyun-Jik Kim(NSE)
Hun Young Jeong, Seung-Hoon Ahn, and Sweng-Woong Woo(KINS)
- 10:40** **Coffee Break**
- 11:00** **Impacts of Xe-135m on Xenon Reactivity in Thermal Reactors**
Jaeha Kim and Yonghee Kim(KAIST)
- 11:20** **Application of the 3-D Nodal Equivalence Theory to the CANDU Reactor**
Woosong Kim and Yonghee Kim(KAIST)
- 11:40** **Innovative Design Concepts for the KIJANG Research Reactor**
Chul Gyo Seo, Hong Chul Kim, Ho Jin Park, and Hee Taek Chae(KAERI)
- 12:00** **Depletion and Decay Analyses of a KJRR Fission Moly Target**
Kyung-Hoon Lee, Jae-Seung Song, and Hee-Taek Chae(KAERI)

Ⅲ. 분과별 논제 및 발표자

제 2 분과 C

핵자료, 원자로물리 및 계산과학 - 신형로 및 미래 시스템 (Nuclear Data, Reactor Physics and Computational Science) - Advanced Reactors and Future Systems

좌 장 홍서기(Ser Gi HONG), 김용희(Yonghee KIM)

발표장소 C311

일 정 | 5. 31(금)

- 09:00** **Verification of Sensitivity and Uncertainty Analysis Code with the GODIVA and VHTR Fuel**
Tae Young Han, Ho Jin Park, Hyun Chul Lee, Chang Keun Jo, and Jae Man Noh(KAERI)
- 09:20** **Generation of Damage Cross Section for Silicon Carbide**
Jonghwa Chang and Won-Jae Lee(KAERI)
- 09:40** **Feasibility of Low Enriched Uranium Fuel for Space Nuclear Propulsion**
Paolo Venneri and Yonghee Kim(KAIST)
- 10:00** **Lead-based Radial Reflectors for Sodium-cooled Fast Reactor**
Donny Hartanto and Yonghee Kim(KAIST)
- 10:20** **Validation of Sensitivity Analysis Code APSTRACT for Fast Reactor Design**
Jakub Lüley, Branislav Vrban, Sunghwang Yun, and Sang Ji Kim(KAERI)
- 10:40** **Coffee Break**
- 11:00** **Performance Analysis of Hyb-WT with Homogenous and Heterogeneous Core Design**
M. Tariq Siddique and Myung-Hyun Kim(KHU)
- 11:20** **Reflector Material Effect in the Shielding Analysis for Small-size SFR**
Sunghwan Yun, Pham Nhu Viet Ha, and Sang Ji Kim(KAERI)
- 11:40** **Neutronic Analysis and Transmutation Performance of Th-based Molten Salt Fuels**
Sang-In BAK, Jong-Seo CHAI, Seung-Woo HONG, Yacine KADI, and Claudio TENREIRO(SKU)
Jesus Perez CURBELO(InSTEC)
- 12:00** **A Comparative Depletion Analysis Using the DeCART and McCARD Codes for LWR Fuel Assembly Having UO_2 - ThO_2 and FCM Pins**
Ser Gi Hong, Do-Yeon Kim, Hae Lee Hyun, and Gonghoon Bae(KHU)
Ho Jin Park(KAERI)

제 2분과 D

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

좌 장 정창준(Chang Joon JEONG), 구분승(Bon-Seung Koo)

발표장소 4층 로비

일 정 | 5. 30(목) 13:00-15:00

- P02D01 Real-time Model Development of Core Protection and Monitoring System for SMART Simulator Application**
Bon-Seung Koo and Dae-Hyun Hwang(KAERI)
- P02D02 Sensitivity Analysis of Power Distribution Synthesis Method for Failed Incore Detector**
Bon-Seung Koo, Jin-Young Cho, and Kyo-Youn Kim(KAERI)
- P02D03 Preliminary Formulation of Finite Element Solution for the 1-D, 1-G Time Dependent Neutron Diffusion Equation without Consideration about Delay Neutron**
Eun Hyun Ryu, Yong Mann Song, and Joo Hwan Park(KAERI)
- P02D04 Measurement of Neutron Total Cross-sections for ^{nat}Dy at Pohang Neutron Facility**
S. G. Shin, Y. U. Kye, Valery Shvetsov, and M. H. Cho(POSTECH)
W. Namkung(PAL)
G. N. Kim(KNU)
M. W. Lee(DI RAMS)
- P02D05 Development of a Wrapper Object for MARS TH Systems Code and Its Applications in Object Oriented Programs**
Sun Byung Park, Young Jin Lee, Hyong Chol Kim, Sam Hee Han, and Hyun Jik Kim(NSE)
- P02D06 Analysis on the Multiplication Factor with the Change of Corium Mass and Void Fraction**
Hae Sun Jeong, Chang Je Park, Jin Ho Song, and Kwang Soon Ha(KAERI)
- P02D07 Effect of Annular Fuel Rod Designs on the Sodium Void Worth in the KALIMER-600 TRU Burner**
Pham Nhu Viet HA, Jae-Yong LIM, and Sang-Jik KIM(KAERI)
- P02D08 CRA Control Logic Realization for MARS 1-D/MASTER Coupled Code System**
Soon-Kyoo Han, Sung-Su Jeong, and Su-Yong Lee(KHNP)
- P02D09 Analysis of HTRR Startup Core Physics Test by Monte Carlo Method**
Chang Joon Jeong, Hyun Chul Lee, Chang Keun Jo, and Jae Man Noh(KAERI)
- P02D10 Calculation of Neutron Flux and Spectrum in the Irradiation Test Capsule at HANARO**
Seong Woo Yang, Man Soon Cho, Kee Nam Choo, and Sang Jun Park(KAERI)
- P02D11 Automated Determination of Optimum Subspace Dimension in Krylov Depletion Method**
Gwan Young Kim(KINS)
Han Gyu Joo(SNU)

P02D12 Preliminary Assessment of Double Heterogeneity Capability of SCALE System

Gwan Young Kim and Changwook Huh(KINS)

P02D13 Evaluation of Effective Delayed Neutron Fraction of RTP Using MCNP

M. H. Rabir and C. J. Hah(KINGS)

일 정 | 5. 30(목)

- 09:00 Remediation of Uranium-contaminated Concrete Using Various Extractants**
W. S. Kim, S. S. Kim, G. N. Kim, H. M. Park, and J. K. Moon(KAERI)
- 09:20 Simulation for Volume Reduction of Site Remediation at UCP**
Sang Bum Hong, Bum Kyoung Seo, and Jei Kwon Moon(KAERI)
- 09:40 Corrosion Compatibility Studies on Inconel-600 in NP Decontamination Solution**
Sang Yoon Park, Jun Young Jung, Hui-Jun Won, Wang-Kyu Choi, and Jei-Kwon Moon(KAERI)
- 10:00 Synthesis of Various Silica Nanoparticles for Foam Stability**
Suk Bon Yoon, In-Ho Yoon, Chong-Hun Jung, Chorong Kim, Wang-Kyu Choi, and Jei-Kwon Moon(KAERI)
- 10:20 Characterization of a High-level Waste Cold Cap in a Laboratory-scale Melter**
Derek R Dixon(PNNL)
Michael J Schweiger and Pavel Hrna(POSTECH)
- 10:40 Coffee Break**
- 11:00 Removal of Uranium from Radioactive Liquid Waste by Surface-modified Biosorbents**
Keun-Young Lee, Ye-Ji Baek, Kwang-Wook Kim, Eil-Hee Lee, Dong-Yong Chung, and Jei-Kwon Moon(KAERI)
- 11:20 Fate of Gases Generated from Nuclear Wastes**
M. Srinivasulu and A. J. Francis(POSTECH)
- 11:40 Synthesis of Magnetic Nanoparticles as a Draw Solute in Forward Osmosis Membrane Process for the Treatment of Radioactive Liquid Waste**
Hee-Man Yang, Kune Woo Lee, and Jei Kwon Moon(KAERI)
- 12:00 Bench-scale Design of a Low-temperature Pyrolysis and Steam Reforming System for the Treatment of Uranium-bearing Spent TBP**
Hee-Chul Yang, Min-Woo Lee, Dong-Yong Chung, and Jei-Kwon Moon(KAERI)

Ⅲ. 분과별 논제 및 발표자

제 3분과 B

방사성폐기물관리(Radioactive Waste Management)

좌 장 최병선(Byung-Seon CHOI), 윤정현(Jeong-Hyoun YOON)

발표장소 C309

일 정 | 5. 31(금)

- 09:00** **Dissolution of Magnetite by the Hydrazine Base Solution**
Hui-Jun Won, Woo-Seung Lee, Sang-Yoon Park, Chong-Hun Jung, Wang -Kyu Choi, and Jei-Kwon Moon(KAERI)
- 09:20** **Selection Criteria on Factors Affecting Dismantling Process for Reactor Vessel of NPPs**
Byungseon Choi, Dongjun Hyun, Kwanseong Jeong, Geonho Kim, Jonghwan Lee, and Jeikwon Moon(KAERI)
- 09:40** **Development of Cost Estimation Methodology of D&D(Decontamination and Decommission) for CANDU Reactor**
Y. J. Yoo, Y. K. Lim, S. I. Lee, H. S. Chang, and G. H. Song(HEC)
- 10:00** **Management and Treatment for Decommissioned Combustible and Metallic Waste of Nuclear Research Facilities**
Byung-Youn Min, Gyoung-Su Yun, and Ki- Won Lee(KAERI)
- 10:20** **Study of Validity Criteria for Radionuclide-analysis of Low- and Intermediate-level Radioactive Waste**
Ji Uk Kim, Hyun Suk Baek, and Sung Yeop Jeong(Sungwoo E&T)
Seung Kyu Shin(KRMC)
- 10:40** **Coffee Break**
- 11:00** **Effect of Ti(IV) Coating on the Adsorption of Eu(III) and U(VI) onto Silica in Aqueous Solutions**
Hee-Jung Im, Kyoung Kyun Park, and Euo Chang Jung(KAERI)
- 11:20** **Studies of Aqueous U(IV) Complexation under Thiol-rich Conditions**
Wansik Cha, Hye-Ryun Cho, and Euo Chang Jung(KAERI)
- 11:40** **Searching for Methods on Evaluation Alternatives and Studying Decision Making System Regarding the Public and Stakeholder Engagement of Nuclear Spent Fuel**
Seongkyung Cho(Myongji Univ.)
Seungho Choi, Hyerim Kim, and Jiyeon Song(DOMO Communication Consulting)
Yoonsup Lee and Seohyun Sohn(Fleishman-Hillard Korea)
- 12:00** **Selective and Total Dissolution Method for the Chemical Analysis of Actinides and Lanthanides in the Samples from Pyroprocessing of Spent Nuclear Fuel**
Young-Hwan Cho, Sang-Eun Bae, Tae-Hong Park, Jong-Yun Kim, and Jei-Won Yeon(KAERI)

일 정 | 5. 30(목) 13:00-15:00

- P03C01 Direction of Improvement for Licensing Advanced Fuel Cycle Facilities**
Sung Il Kim, Dae Sik Yook, Seung Yeong Jeong, and Chan Woo Jeong(KINS)
- P03C02 Improvement of Electrowinning Simulation Code (EcWinSim)**
Hyo Jik Lee, Won Il Ko, Sung Yeol Choi, and Kwang Rag Kim(KAERI)
Yang Jeong Park(KAIST)
- P03C03 Preliminary Hazard and Operability Analysis on ITER Type B Radwaste Cutting Station**
Dae-Seok Hong, Kwon-Pyo Hong, Wan-Ho Oh, Yong-Sun Choo, Won-Hyuk Jang, and Ki-Baek Shin(KAERI)
Byung-Chan Na(ITER)
Byoung-Sub Han(ENESYS)
- P03C04 Characterization of Leaching for Fixation of Contaminated Soil**
Yong Suk Choi, Sang Woon Kwon, Hee-Man Yang, Kune Woo Lee, Bum-Kyoung Seo, Jei Kwon Moon(KAERI)
- P03C05 A Study of the Reduction of Radioactive Waste by Reusing CVCS Demineralizer Twice**
Won-Chul Jung and Soong-Pyung Kim(CSU)
- P03C06 Chemical Decontamination for Self-disposal of Metal Wastes**
Wang -Kyu Choi, In-Ho Yoon, Hye-Min Choi, Kune-Woo Lee, and Jei-Kwon Moon(KAERI)
- P03C07 Analysis of Radioactive Waste and Status of its Management in Kenya**
James Keter Chumba and Chang-Lak Kim(KINGS)
- P03C08 Key Observations on the Deep Borehole Disposal of Spent Fuel**
SooHyun Yun and Chang-Lak Kim(KINGS)
- P03C09 Liquidus Temperature (T_L) and Crystal Identification of Glass Containing Rare-earth Oxide**
Syazwani Mohd Fadzil and Pavel Hрма(POSTECH)
Jarrod Crum(PNNL)
- P03C10 CFD Investigation on Free Surface of Immiscible Molten LiCl-KCl/Cd System**
Kwangrag Kim, Si-Hyung Kim, Jun-Bo Shim, Seungwoo Paek, and In-Tae Kim(KAERI)
- P03C11 Radiolysis of Boric Acid Solutions under Mixed Thermal and Fast Neutrons**
Hee-Jung Im, Ke Chon Choi, Jei-Won Yeon, Kyuseok Song and Hoan-Sung Jung(KAERI)
- P03C12 Consideration of ISDC for Decommissioning Cost Estimation**
W. H. Cho, S. K. Park, Y. D. Choi, I. S. Kim, and J. K. Moon(KAERI)

P03C13 Remediation of Uranium-contaminated Concrete Coated with Epoxy

S. S. Kim, W. S. Kim, G. N. Kim, and J. K. Moon(KAERI)

P03C14 A Study on the Removal of Cesium in Soil Contaminated with Radiation Using a Soil Washing Process

Uk-Ryang Park, Gye-Nam Kim, Seung-Soo Kim, Hye-Min Park, Wan-Suk Kim, and Jai-Kwon Moon(KAERI)

P03C15 Making a Pellet-type LiCl-KCl-UCl₃ Salt for Electrorefining

M. S. WOO, H. J. JIN, I. T. KIM, and J. G. KIM(KAERI)

P03C16 Estimation of the Decommissioning Waste Arising for a PWR

Jeong-keun Kwak and Chang-lak Kim(KINGS)

제 4 분과 A

핵연료 및 원자력재료(Nuclear Fuel and Materials)

- Metal fuel & cladding

좌 장 류호진(Ho Jin Ryu), 박정용(Jeong-Yong Park)

발표장소 201

일 정 | 5. 30(목)

- 09:00 Study on Coating Layer of Ceramic Materials for SFR Fuel Slugs**
Hoon Song, Jong-Hwan Kim, Ki-Hwan Kim, Young-Mo Ko, Yoon-Myung Woo, and Chan-Bock Lee(KAERI)
- 09:20 Irradiation-induced Interdiffusion between U-Mo vs. Al-Si**
Ho Jin Ryu, Kyu Hong Lee, Yong Jin Jeong, Byung Ok Yoo, Yang Hong Jung, and Jong Man Park(KAERI)
- 09:40 Post Irradiation Examination of the Irradiated U-Mo Dispersion Fuels: KOMO-5**
K. H. Lee, H. J. Ryu, J. M. Park, B. O. Yoo, Y. H. Jung, Y. J. Jeong, J. M. Nam, and Y. S. Lee(KAERI)
- 10:00 Development of Preliminary HT9 Cladding Tube for Sodium-cooled Fast Reactor (SFR)**
Jun Hwan Kim, Jong Hyuk Baek, Hyeong Min Heo, Sang Gyu Park, Sung Ho Kim, and Chan Bock Lee(KAERI)
- 10:20 The Effect of Temperature and Stress on Hydride Reorientations of High Burnup Claddings under Interim Dry Conditions**
Su-Jeong Min, Myeong-Su Kim, Chu-Chin Won, and Kyu-Tea Kim(DU)
- 10:40 Coffee Break**
- 11:00 The International Nuclear Fuel Failure Trends**
YongHwan Kim, HeonJeong Ha, and JungCheol Shin(KEPCO NF)
- 11:20 Surface Coating Technology on Zirconium-based Alloy to Decrease High-temperature Oxidation Rate**
Hyun-Gil Kim, Il-Hyun Kim, Yang-Il Jung, Dong-Jun Park, Jeong-Yong Park, and Yang-Hyun Koo(KAERI)
- 11:40 Environmental Coating Layer for the Metal-ceramic Hybrid Fuel Cladding Tubes**
Yang-Il Jung, Sun-Han Kim, Dong-Jun Park, Hyun-Gil Kim, and Jeong-Yong Park(KAERI)
- 12:00 Fe-based Alloy for LWR Fuel Cladding and its Mechanical Properties under LOCA Condition**
Dong Jun Park, Do Wan Lim, Byoung Kwon Choi, Yang Il Jung, Hyun Gil Kim, and Jeong Yong Park(KAERI)
- 12:20 Fabrication of Multi-layered SiC Composite Tube for LWR Applications**
Daejong Kim, Choong Hwan Jung, Weon-Ju Kim, and Ji Yeon Park(KAERI)
Jongmin Lee(CNU)

Ⅲ. 분과별 논제 및 발표자

제 4 분과 B

핵연료 및 원자력재료(Nuclear Fuel and Materials)

- Nuclear Materials I

좌 장 권준현(Junhyun KWON), 장진성(Jinsung JANG)

발표장소 202+203

일 정 | 5. 30(목)

- 09:00 An Improved Methodology for Obtaining the Initial Loading Strain in Creep of Alloy 617**
Woo-Gon Kim, Min-Hwan Kim, and Yong-Wan Kim(KAERI)
- 09:20 Kinetic Monte Carlo Perturbation Analysis for Adsorption Dynamics**
Hyung Jin Shim(SNU)
- 09:40 Observation and Modeling of Radiation-induced Solute Segregation Behavior of Grain Boundaries in Stainless Steel 316**
Gyeong-Geun Lee, Hyung-Ha Jin, Yong-Bok Lee, and Junhyun Kwon(KAERI)
- 10:00 Anisotropic Radiation Damage of Nuclear Grade Beryllium for Research Reactor Application**
Suk Hoon Kang, Jinsung Jang, Young-Bum Chun, Sanghoon Noh, Yong Hwan Jeong, and Tae Kyu Kim(KAERI)
- 10:20 Cation Release Mitigation on the Primary Surface of Alloy 690 Steam Generator Tubes via Electrochemical Surface Modification**
Hee-Sang Shim, Kyung Mo Kim, Myung Ji Seo, Jung Ho Han, and Do Haeng Hur(KAERI)
- 10:40 Coffee Break**
- 11:00 Effect of Cooling Rate on Microstructures and Mechanical Properties in SA508 Gr4N High Strength Low Alloy Steel**
Min-Chul Kim, Sang-Gyu Park, Kwon-Jae Choi, and Bong-Sang Lee(KAERI)
- 11:20 Effect of Ferrite Morphology on Sensitization of 316L Austenitic Stainless Steels**
Hun Jang, Jun Ho Lee, and Changheui Jang(KAIST)
- 11:40 Observation of Radiation Induced Defect in Austenitic Stainless Steel after Ion Irradiation**
Hyung-Ha Jin and Junhyun Kwon(KAERI)
- 12:00 Detection of Wall Thinning of Carbon Steel Pipe Covered with Insulation Using Pulsed Eddy Current technique**
Duck-Gun Park, M. B. Kishore, and D. H. Lee(KAERI)
- 12:20 Origin of Serration during Deformation at High Temperature in Alloy 600**
SungSoo Kim, Dae Whan Kim, and Young Suk Kim(KAERI)

제 4 분과 C

핵연료 및 원자력재료(Nuclear Fuel and Materials)

- Ceramic fuel processing & fuel analysis

좌 장 이영우(Young Woo RHEE), 이주석(Joosuk LEE)

발표장소 201

일 정 | 5. 31(금)

- 09:00 Deposition of Stoichiometric ZrC of TRISO Coated Particle by Optimizing Input Gas Ratio and Using Impeller ZrCl₄ Vaporizer**
Daejong Kim, Weon-Ju Kim, Ji Yeon Park, and Moon Seong Cho(KAERI)
Myoungjin Ko(CNU)
- 09:20 Densification Behavior of BN-added UO₂**
Young Woo Rhee, Keon-Sik Kim, Dong Joo Kim, Jong Hun Kim, Jang Soo Oh, and Jae Ho Yang(KAERI)
- 09:40 Estimation of Stress Concentration Factor in Guide Tube of PWR Fuel Assembly**
Young-ik Yoo, Kyoung-Ju Kim, Nam-Gyu Park, and Jung-Min Suh(KEPCO NF)
- 10:00 PCI Analysis for Startup Ramp Rate of Shinkori Unit 1**
Kim Ki-Young, Kim Yong-Bae, and Kim Yong-Deok(KHNP CRI)
- 10:20 Preparation of Uranium Powder having Reactive Shape Using Uranium Hydridation**
Dong-Joo Kim, Jae Ho Yang, Young Woo Rhee, Jong Hun Kim, Keon Sik Kim, Jang Soo Oh, and Yang Hyun Koo(KAERI)
- 10:40 Coffee Break**
- 11:00 PUMA Development through a Multiphysics Approach**
Jin-Sik Cheon, June-Hyung Kim, Byoung-Oon Lee, and Chan-Bock Lee(KAERI)
- 11:20 Status of ECCS Acceptance Criteria Revision in U.S. NRC and Perspective**
Joosuk Lee and Swengwoong Woo(KINS)
- 11:40 Inner Ring Modification of a Standard 37-element Fuel Bundle**
J. H. Park and Y. M. Song(KAERI)
- 12:00 Effect of BET Surface Area of Recycled U₃O₈ Powder on Mn-Al doped UO₂ Pellets Property**
Jang Soo Oh, Jae Ho Yang, Dong-Joo Kim, Jong Hun Kim, Young Woo Rhee, Keon Sik Kim, and Yang Hyun Koo(KAERI)

Ⅲ. 분과별 논제 및 발표자

제 4 분과 D

핵연료 및 원자력재료(Nuclear Fuel and Materials)

- Nuclear Materials II

좌 장 허도행(Do Haeng HUR), 황성식(Seong Sik HWANG)

발표장소 202+203

일 정 | 5. 31(금)

- 09:00 Serrated Grain Boundary Formation in Ni-based Alloy 690**
Yun Soo Lim, Seong Sik Hwang, and Dong Jin Kim(KAERI)
- 09:20 Effects of Heat Treatment Conditions on the Mechanical Properties of RAFM Steel**
Y. B. Chun, S. H. Kang, S. H. Noh, C. H. Han, B. K. Choi, K. B. Kim, D. W. Lee, T. K. Kim, and Y. H. Jeong(KAERI)
S. Cho(NFRI)
- 09:40 Long-term Aging Effects on Microstructure and Tensile Properties of Ni-base Superalloys**
Ho Jung Lee, Donghoon Kim, Hyunmyung Kim, and Changheui Jang(KAIST)
- 10:00 New Technology for Corrosion Mitigation of Steam Generator Tubesheet in Secondary Side Environments**
Do Haeng Hur, Myung Sik Choi, Deok Hyun Lee, and Jung Ho Han(KAERI)
- 10:20 Effects of Thermo-mechanical Treatment on Characteristics of 9Cr-Nanostructured Ferritic Alloy**
Ji-Hyun Yoon and Suk-Hoon Kang(KAERI)
Thak S. Byun and David T. Hoelzer(ORNL)
- 10:40 Coffee Break**
- 11:00 Mechanical Property Characteristics of Butt-Fusion Joint of High Density Polyethylene Pipe for NPP Safety Class Application**
Young-jin Oh, Kyoung-su Kim, Seung-gun Lee, and Heung-bae Park(KEPCO E&C)
Jeong-ho Yu and Jong-sung Kim(SCNU)
Jeong-hyun Kim and Chang-heui Jang(KAIST)
Sun-woong Choid(HNU)
- 11:20 Effect of Mechanical Alloying Atmospheres and Oxygen Concentration on Mechanical Properties of ODS Ferritic Steels**
Sanghoon Noh, Byoungkwon Choi, Changhee Han, Ki-baik Kim, Sukhoon Kang, Young-bum Chun, and Tae Kyu Kim(KAERI)
- 11:40 PWSCC of Alloy 600 CRDM in PWRs-History, Repair, Examination**
Seong Sik Hwang, Sung Woo Kim, and Hong Pyo Kim(KAERI)
- 12:00 Surface Analysis of Oxide Grown on Alloy 600 as a Steam Generator Tube Material of a PWR**
Dong-Jin Kim, Byung Hak Mun, Hong Pyo Kim, and Seong Sik Hwang(KAERI)

12:20

Microstructural Evolution and Mechanical Properties of ODS Steel Produced by Cryogenic Milling

Jeoung Han Kim, Seong Woong Kim, Chan Hee Park, and Jong Taek Yeom(KIMS)

Jae Hoon Lee(POSCO TRL)

Thak Sang Byun(ORNL)

Ⅲ. 분과별 논제 및 발표자

제 4 분과 E

핵연료 및 원자력재료(Nuclear Fuel and Materials)- Poster - Fuel analysis & irradiation test

좌 장 천진식(Jin Sik CHEON), 강흥석(Heung Seok KANG)

발표장소 4층 로비

일 정 5. 30(목) 13:00-15:00

- P04E01 A Study of Impact Characteristics of Spacer Grids of PWR Fuel Assembly**
Joung-Yeul Lee, Il-Kyu Kim, Jae-Jun Lee, Yong-Hwan Kim, and Jung-Cheol Shin(KEPCO NF)
- P04E02 Inspection of TRISO-coated Particle Fuel for the Irradiation Test at HANARO**
Woong Ki Kim, Yeon Ku Kim, Kyung Chai Jeong, Sung Ho Eom, Young Woo Lee, Bong Goo Kim, Young Min Kim, and Moon Sung Cho(KAERI)
- P04E03 A Study of On-off Holddown Spring Design for Fuel Assembly Bowing Resistance**
Seong-Soo Kim, Joon-Kyoo Park, Sang-Youn Jeon, and Jung-Min Suh(KEPCO NF)
- P04E04 Development of TIG Welding System for a Nuclear Fuel Test Rig**
Chang-Young Joung, Sung-Ho Ahn, Jin-Tae Hong, and Ka-Hye Kim(KAERI)
- P04E05 Heat Transfer Test on the High Temperature Capsule Mockup (11M-01K)**
Young-Hwan Kang, Sung-Je Park, Ki-Nam Choo, Man-Soon Cho, and Sang-Jun Park(KAERI)
- P04E06 Fatigue Analysis of Nuclear Fuel Protective Grid**
Joo-Young Ryu, Kyong-Bo Eom, Joon-Kyoo Park, Sang-Youn Jeon, and Jung-Min Suh(KEPCO NF)
- P04E07 Energy Calculation of Xenon Stability in Uranium Nitride Using Density Functional Theory**
Sungryul Kim and Yonguhn Kim(CBNU)
Heemoon Kim(KAERI)
- P04E08 Development of Fuel Rod Puncturing and Fission Gas Collection System for Post Irradiation Examination in Hotcell**
Heemoon Kim, Dae Ho Kim, Sang Ryul Baek, Ung-Sup Song, Sang Bok Ahn, and Yong Sun Choo(KAERI)
Sung Ryul Kim(CBNU)
- P04E09 Tensile Test of Welding Joint Parts for a Plate-type Fuel Assembly**
K. H. Yoon, J. Y. Kim, H. I. Kim, and J. S. Yim(KAERI)
- P04E10 State of Art in FE-based Fuel Performance Codes**
Hyo Chan Kim, Yong Sik Yang, Dae Ho Kim, Je Geon Bang, Sun Ki Kim, and Yang Hyun Koo(KAERI)
- P04E11 Fundamental Study of Electron Beam Welding of AA6061-T6 Aluminum Alloy for Nuclear Fuel Plate Assembly (II)**
Soo-Sung Kim, Hae-In Lee, Don-Bae Lee, Jong-Man Park, and Yoon-Sang Lee(KAERI)
- P04E12 Safety Analysis of TRISO Fuel for An Irradiation Test in HANARO**
Moon-Sung Cho and Bong Goo Kim(KAERI)

-
- P04E13 Development of 3D FE Transient Heat Transfer Module for Simulation of the Nuclear Fuel Rod**
Chang-Hak Kang, Sung-Uk Lee, and Dong-Yol Yang(KAIST)
Hyo-Chan Kim and Yong-Sik Yang(KAERI)
- P04E14 Uranium Resource Availability Analysis of Four Nuclear Fuel Cycle Options**
S. R. Youn, S. H. Lee, M. S. Jeong, S. K. Kim, and W. I. Ko(KAERI)
- P04E15 Test of Capsule (11M-22K) with Double Layered Thermal Media for Irradiation of Future Nuclear System Materials**
Man Soon Cho, Kee Nam Choo, Seong Woo Yang, Young Hwan Kang, and Sang Jun Park(KAERI)
- P04E16 Status of Chinese NPP Industry and Nuclear Fuel Cycle Policy**
R. X. Gao(UST)
W. I. Ko and S. K. Kim(KAERI)
- P04E17 Effects of Radial Failure Distribution on Fission Product Release in an FCM Fuel**
Young Min Kim, M. S. Cho, and W. J. Lee(KAERI)
- P04E18 Experimental Dynamic Compatibility Testing for Simulated Test Fuel Plate**
Kang-Hee Lee, Heung-Seok Kang, Yong-Jin Jeong, and Jeong-Sik Yim(KAERI)
- P04E19 The Derivation of Evaluation Criteria of Nuclear Fuel Cycle**
S. K. Kim and W. I. Ko(KAERI)
- P04E20 Experimental Simulation of Flow-induced Vibration for Developing a Grid-to-Rod Fretting Model**
Young-Ho Lee, Hyung-Kyu Kim, and Heung-Seok Kang(KAERI)
- P04E21 Tensile Test of Welding Joint Parts for a Plate-type Fuel Assembly**
K. H. Yoon, J. Y. Kim, H. I. Kim, and J. S. Yim(KAERI)
- P04E22 Study of Graphite Sealing for the Instrumentation Feed through Part**
Jintae Hong, Sung-Ho Ahn, Chang-Young Joung, and Ka-Hye Kim(KAERI)
- P04E23 Preparation for Irradiation Testing of Coated Particle Fuel at HANARO**
Bong Goo KIM, Sung Jae Park, Sung Taek Hong, Byung Chul Lee, Kyung-Chai Jeong, Yeon-Ku Kim, Woong Ki Kim, Young Woo Lee, and Moon Sung Cho(KAERI)

Ⅲ. 분과별 논제 및 발표자

제 4 분과 F

핵연료 및 원자력재료(Nuclear Fuel and Materials)-Poster - Nuclear Materials Ⅲ

좌 장 박종만(Jong-Man PARK), 김태규(Tae Kyu KIM)

발표장소 4층 로비

일 정 | 5. 30(목) 13:00-15:00

- P04F01 Phase Transformation of Metastable Austenite in Steel during Nanoindentation**
Tae-Hong Ahn(KAERI)
Sung Bo Lee and Heung Nam Han(SNU)
Kyung-Tae Park(HBNU)
- P04F02 The Effect of Intermediate Heat Treatment on the Anisotropy of Ferritic ODS Steel**
Min Kyeong Seo, Hyoung Kee Min, Suk Hoon Kang, Young Bum Chun, Sang Hoon Noh, and Tae Kyu Kim(KAERI)
- P04F03 Review on IASCC Initiation of 316 Stainless Steels in a PWR Environment**
Han Ok Lee, Sung Woo Kim, and Seong Sik Hwang(KAERI)
- P04F04 Effects of N Concentration on the Tensile and Impact Properties of 9Cr-1W Steels**
Sang-Min Park, Yong-Rai Kim, Byong-Kwon Choi, Young-Bum Chun, and Tae-Kyu Kim(KAERI)
Soonlg Hong(CNU)
- P04F05 The Effect of Small Additional Elements on the Mechanical Properties of 9Cr-1.5W Steel**
Yong-Rai Kim, Young-Bum Chun, and Tae Kyu Kim(KAERI)
Sang-Min Park(CNU)
- P04F06 Microstructure and Mechanical Properties of Friction Stir Welded 9Cr ODS Steel**
Hyoung Kee Min, Suk Hoon Kang, Sanghoon Noh, Jung Gu Lee, Jinsung Jang, and Tae Kyu Kim(KAERI)
- P04F07 Low Cycle Fatigue of Alloy 690 and Welds in a Simulated PWR Primary Water Environment**
Jong-Dae Hong, Pyungyeon Cho, and Changheui Jang(KAIST)
Tae Soon Kim and Yong Sung Lee(KHNP CRI)
- P04F08 Corrosion Behavior of Alloy 617 in High Temperature Gaseous Impure Helium Environment**
Sujin Jung, Gyeong-Geun Lee, and Dong-Jin Kim(KAERI)
- P04F09 Microstructural Characteristics and Mechanical Properties of a Mechanically Alloyed 15Cr ODS Ferritic Steel**
Injin Sah and Changheui Jang(KAIST)
Tae Kyu Kim and Sanghoon Noh(KAERI)
- P04F10 Effects of Aluminum, and Yttrium Oxide on Microstructure and Mechanical Property of Oxide Dispersion Strengthened Ferritic Steel**
JiEun Choi, SangHoon Noh, JaeWon Shim, ByungKwon Choi, ChangHee Han, KiBaik Kim, and Taekyu Kim(KAERI)
Soonlg Hong(CNU)

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- P04F11 The Influence of PbO on Stress Corrosion Cracking of Ni-based Alloys**
Byung-Hak Moon, Dong-Jin Kim, Hong-Pyo Kim, and Seong-Sik Hwang(KAERI)
- P04F12 Effects of Mo and Al addition on the Mechanical Properties of 15Cr ODS Steel**
JaeWon Shim, SangHoon Noh, SukHoon Kang, Young-Bum Chun, Byoung-Kwon Choi, Chang-Hee Han, and Tae Kyu Kim(KAERI)
- P04F13 Review on Theoretical Calculation of the Magnetite Solubility**
Myong-Jin Kim and Hong Pyo Kim(KAERI)
- P04F14 Structural Integrity Assessment of Reactor Containment Subjected to Aircraft Crash**
Jun-Yong Kim and Yoon-Suk Chang(KHU)
- P04F15 Effect of Cr Content on the Flow Accelerated Corrosion of Pressure Pipe**
T. J . Park and H. P. Kim(KAERI)
- P04F16 Effect of Aging on Fatigue Properties of Type 316 Stainless Steel**
Dae Whan Kim, Eun Jeong Kim, Sung Soo Kim, and Young Suk Kim(KAERI)

Ⅲ. 분과별 논제 및 발표자

제 4 분과 G

핵연료 및 원자력재료(Nuclear Fuel and Materials)-Poster - Fuel fabrication & Cladding

좌 장 이승재(Seung Jae LEE), 김현길(Hyun Gil KIM)

발표장소 4층 로비

일 정 | 5. 30(목) 13:00-15:00

- P04G01 The Effect of U_3O_8 Additon on the Sinterability of CANDU-Type UO_2 Pellet**
G. D. Jung, C. M. Yang, M. J. Yoo, and D. H. Cho(KEPCO NF)
S. H. Na(KAERI)
- P04G02 Analysis of Interaction Layer Inhibition of Nitride or Silicide Coated U-Mo Powder**
Woo Jeong Kim, Ho Jin Ryu, and Jong Man Park(KAERI)
- P04G03 Feasibility Study on Improved Injection Casting of Metal Fuel Slugs for SFR**
Ki-Hwan Kim, Jong-Hwan Kim, Hoon Song, Young-Mo Ko, Yoon-Myung Woo, Chong-Tak Lee, and Chan-Bock Lee(KAERI)
- P04G04 Multilayer Porous Crucibles for the High Throughput Salt Separation from Uranium Deposits**
S. W. Kwon, K. M. Park, J. G. Kim, I. T. Kim, B. K. Seo, and J. G. Moon(KAERI)
- P04G05 Fabrication and Characterization of UAl_x Intermetallic Compounds**
Ji Min Nam, Moon Soo Sim, Ho Jin Ryu, Se Jung Jang, and Jong Man Park(KAERI)
- P04G06 Maximum Oxide Thickness Determination Method and Evaluation of the Irradiated Fuel Rod Obtained from Pool Side Examination and Post Irradiation Examination**
Oh-Hyun Kwon, Hee-Hun Lee, Hong-Jin Kim, and Jung-Cheol Shin(KEPCO NF)
- P04G07 The Effect of Dissolved Hydrogen on the Air Oxidation of Zircaloy-4**
Seonggi Jeong and Kwangheon Park(KHU)
- P04G08 The Effect of SiC Coating by HPCS on the Oxidation of Zr Alloy of High Temperature**
Seonho Noh and Kwangheon Park(KHU)
- P04G09 The Effect of Zn Addition on CRUD Formation**
Jooyoung Park, Kwangheon Park, Kyungtae Kim, and Yunmock Jung(KHU)
- P04G10 The Effect of a Ceramic Coating on Zr Alloys in Terms of Corrosion**
Kyung Tae Kim, Kwangheon Park, Joo Young Park, and Seonho Noh(KHU)
- P04G11 SiC Coating Process Development Using H-PCS in Supercritical CO_2**
Kwangheon Park and Wonyoung Jung(KHU)
- P04G12 Caculation of Water Levels in Spent Fuel Pool and Effective Dose Followed by the Worker Geometrically Exposed to Radiation Using Gamma-ray Source**
DongHee Lee, Kwangheon Park, and Hyoungju Yoon(KHU)

-
- P04G13 Carbon Black Dispersion Experiments into Broth Solution for ADU Gel Preparation**
Jeong Kyung Chai, Eom Sung Ho, Kim Yeon Ku, Kim Young Min, Kim Woong Ki, Kim Bong Ku, Lee Young Woo,
and Cho Moon Seoung(KAERI)
- P04G14 Hydrogen Charging Kinetics in Zr-Nb Alloy Cladding Tube**
Yeon-Soo Na, Chung-Yong Lee, Yong-Kyoon Mok, Yoon-Ho Kim, and Jung-Min Suh(KEPCO NF)
- P04G15 Integrity Assessment of SiC Oxidation at High Temperatures**
Yunmock Jung and Kwangheon Park(KHU)
- P04G16 Characteristics of HANA-4 tube Shell with Different Manufacturing Process**
Min-Young Choi, Yoon-ho Kim, Yong-Kyoon Mok, Seung-Jae Lee, and Jung-Min Suh(KEPCO NF)
- P04G17 Effect of the Heat Treatment on the Graphite Matrix of Fuel Element for HTGR**
Chung-young Lee, Seung-jae Lee, Jung-min Suh, and Young-ho Jo(KEPCO NF)
Young-woo Lee and Moon-sung, Cho(KAERI)
- P04G18 Impregnation of the Polycarbosilane Pre ceramic Polymer into SiC Woven Fabric**
Sun-Han Kim , Yang-Il Jung, Dong-Jun Park, Hyun-Gil Kim, and Jeong-Yong Park(KAERI)
Sun-Ig Hong(CNU)

Ⅲ. 분과별 논제 및 발표자

제 5분과 A

원자력열수력 및 안전(Thermal Hydraulics and Safety)

- 열수력해석(1)

좌 장 김경두(Kyung Doo KIM), 방영석(Young Seok BANG)

발표장소 206

일 정 | 5. 30(목)

- 09:00 Core Nodalization Effects in the Main Steam Line Break Analysis Using the MARS/PARCS Coupled Code**
Hyong Chol Kim, Young Jin Lee, Sam Hee Han, and Sun Byung Park(NSE)
Seung-Hoon Ahn and Ae-Ju Cheong(KINS)
- 09:20 Assessment of SPACE Code Using the LOBI LOCA Test**
Yo-Han Kim, Boram Gil, and Chang Keun Yang(KHNP CRI)
- 09:40 Analysis of ATLAS FLB-EC6 Experiment Using SPACE Code**
Dong-Hyuk Lee, Yo-Han Kim, and Seyun Kim(KHNP CRI)
- 10:00 Reflood PCT Prediction Accuracy of SPACE**
Tong Soo Choi, Nam Yee Kwak, Sang Ik Lee, and Jae Il Lee(KEPCO NF)
- 10:20 Improvement of RELAP5 Rod Models for High Burnup Phenomena**
Tae Beom Lee, Kang Moon Lee, and In Hun Kim(KEPCO NF)
- 10:40 Coffee Break**
- 11:00 Uncertainty Quantification of Physical Model for Best Estimate Safety Analysis**
Jaeseok Heo and Kyung Doo Kim(KAERI)
- 11:20 Audit Calculations of LBLOCA for Ulchin Unit 1&2 Power Uprate**
Dong Gu Kang, Byung Gil Huh, Seung Hun Yoo, Chae-Yong Yang, and Kwang-Won Seul(KINS)
- 11:40 Comparative Study on RELAP5 and TRACE Code for OPR-1000 LBLOCA**
Andong SHIN and Young Seok BANG(KINS)
- 12:00 A Study on Uncertainty Quantification of Reflood Model Using CIRCÉ Methodology**
Seong Su JEON and Soon Joon HONG(FNC Tech.)
Deog-Yeon Oh and Young Seok Bang(KINS)

제 5 분과 B

원자력열수력 및 안전(Thermal Hydraulics and Safety)

- 열수력해석(2)

좌 장 윤한영(Han Young YOON), 김철우(Cheol Woo KIM)

발표장소 Convention Hall 1

일 정 | 5. 30(목)

- 09:00 Thermo-hydraulic Analysis for the Steam Generator Subsystem of a HTR**
Jung Hoon Ha and Jin Ki Ham(HHI)
Won Jae Lee(KAERI)
- 09:20 Prediction of Water Droplet Size Generating from a Wet Spacer Grid in a Rod Bundle**
Han-Ok Kang(KAERI)
Fan-Bill Cheung(PSU)
- 09:40 Heat Structure Coupling of CUPID and MARS for the Passive Auxiliary Feedwater System Analysis**
Hyoung Kyu Cho(SNU)
Yun Je Cho, Seung-Jun Lee, and Han Young Yoon(KAERI)
- 10:00 Assessment of CAP Code Using the ISP-42(PANDA Phase C)**
Choi Hoon(KHNP CRI)
- 10:20 Verification and Validation of a Multi-scale Code, CUPID/MARS**
I. K. Park, S. W. Lee, J. R. Lee, and H. Y. Yoon(KAERI)
- 10:40 Coffee Break**
- 11:00 Spillage of ECC Water Jet by Cross Flow**
Tae-Soon Kwon and Choon-Kyung Park(KAERI)
- 11:20 Volume-Averaged Momentum Equations and Wall Drag for Disperse Phase**
Byoung Jae Kim and Kyung Doo Kim(KAERI)
Jungwoo Kim(Seoul TECH)
- 11:40 Development of the Porosity Calculation Procedure Using Pro/E and Pro/Toolkit**
Sang Yong Lee, Chan Eok Park, and Jong Joo Sohn(KEPCO E&C)

Ⅲ. 분과별 논제 및 발표자

제 5분과 C

원자력열수력 및 안전(Thermal Hydraulics and Safety)

- 중대사고

좌 장 김한철(Han-Chul KIM), 방광현(Kwang-Hyun BANG)

발표장소 Convention Hall 3

일 정 | 5. 30(목)

- 09:00 Development of Basic MELCOR Models to Analyze Severe Accidents in SFP**
Won Tae Kim, Hyung-Seok Kim, and Jun Heo(Aritec. Co., Ltd)
Kwang-II Ahn(KAERI)
- 09:20 MELCOR-RAIM Analysis of Iodine Behavior during a Severe Accident in a Model Plant**
Han-Chul Kim(KINS)
Song-Won Cho(NSE)
- 09:40 Comparison of Severe Accident Phenomena according to the Concrete Composition**
Mi Ro Seo and Hyeong Taek Kim(KHNP CRI)
- 10:00 Development of Severe Accident Management Strategies for Shin-kori #3and #4**
Lee Youngseung, Kim Hyeongtaek, and Shin Jungmin(KHNP CRI)
- 10:20 CFD Simulation for Diluents Effect on the H₂ Flame Propagation in the ENACCEF Facility**
Hyung Seok Kang, Sang-Baik Kim, Seong Wan Hong, and Kwang-II Ahn(KAERI)
- 10:40 Effect of Air Entrainment on Breakup of Plunging Liquid Jet into Water Pool**
Hyoung-Tak Kim and Kwang-Hyun Bang(KMU)
- 11:00 Coffee Break**

제 5분과 D

원자력열수력 및 안전(Thermal Hydraulics and Safety) - PSA(1)

좌 장 한상훈(Sang Hoon HAN), 장승철(Seung-cheol JANG)

발표장소 Convention Hall 3

일 정 | 5. 30(목)

- 11:20 Use of PSA in the Conceptual Design Phase of an Innovative PWR**
Sang Hoon HAN and Joon-Eon YANG(KAERI)
Han Gon KIM(KHNP CRI)
- 11:40 Development of a Base Model for the New Fire PSA Training**
Kilyoo Kim, Daell Kang, Wee Kyong Kim, and Kyu Sik Do(KAERI)
- 12:00 Reliability Data Analysis of the KSNP Safety-related I&C Components from Operational Experience Data during the Period of 2003 through 2007**
Seung-Cheol Jang, Yoon-Hwan Lee, and Seung-Jun Lee(KAERI)

Ⅲ. 분과별 논제 및 발표자

제 5분과 E

원자력열수력 및 안전(Thermal Hydraulics and Safety) - PSA(2)

좌 장 임호곤(Ho-Gon LIM), 박진균(Jinkyun PARK)

발표장소 Convention Hall 1

일 정 | 5. 31(금)

- 09:00** **Development of A Korean Specific PSA Framework for All Mode/All Hazard Site Risk Profile**
Joon-Eon YANG(KAERI)
- 09:20** **A Case Study of the Plant-specific CCF Parameter Estimation for the Safety-related I&C Components Using Bayesian Update Technique**
Seung-Cheol Jang(KAERI)
- 09:40** **A Study on Level 1 Internal PSA of Prototype SFR Conceptual Design**
Kilyoo Kim and SangHoon Han(KAERI)
- 10:00** **Preliminary Study for Developing Bayesian-based CCF Parameten Estimation Program**
Baehyeuk Kwon and Moosung Jae(HYU)
Moon Goo Chi(KHNP CRI)
- 10:20** **HRA Data Collection from Simulators - the List of Necessary Information**
Jinkyun Park(KAERI)
- 10:40** **Coffee Break**
- 11:00** **Qualitative Analysis Results for Applications of a New Fire Probabilistic Safety Assessment Method to Ulchin Unit 3**
Dae Il Kang, Kilyoo Kim, and Seung-Cheol Jang(KAERI)
- 11:20** **A New Method for Level-2 PSA Quantification**
Ho-Gon Lim, Sang-Hoon Han, Jin-Hee Park, and Seong-Chul Jang(KAERI)
- 11:40** **Atmospheric Dispersion Simulation Considering the Circulation Effect at the Ulchin Nuclear Site**
Seung Jun Lee, Seok-Jung Han, and Seung-Cheol Jang(KAERI)
- 12:00** **Failure Characteristic Analysis of a Component on Standby State**
Sung Min Shin and Hyun Gook Kang(KAIST)

일 정 | 5. 31(금)

- 09:00** **Status of the Moderator Circulation Tests at Korea Atomic Energy Research Institute**
Hyoung Tae Kim, Bo Wook Rhee, Jae Eun Cha, and Hwa-Lim Choi(KAERI)
- 09:20** **Development of Surface Temperature Measuring Method by Thermal Liquid Crystal for Simulated Fuel Rods**
Hie Chan Kang and Gum Soo Yeom(KNU)
Chi Young Lee, Chang Hwan Shin, and Wmg Kee In(KAERI)
- 09:40** **Hybrid SIT for Passive Safety System**
Tae-Soon Kwon and Choon-Kyung Park(KAERI)
- 10:00** **ATLAS MSLB Accident Analysis Using the SPACE Code**
Bum-soo Youn, Dong-hyuk Lee, and Se-yun Kim(KHNP CRI)
- 10:20** **An Investigation of Loop Seal Clearings in ATLAS SBLOCA Tests**
Yeon-Sik Kim, Seok Cho, Kyoung-Ho Kang, Hyun-Sik Park, Kyeong-Ho Min, Nam-Hyeon Choi, Jong-Gook Park, Bok-Deuk Kim, and Ki-Yong Choi(KAERI)
- 10:40** **Coffee Break**
- 11:00** **Experimental Investigation of Steam Condensation on Helically-coiled Tube for SMART**
Hyungjun Kim, Dong Eok Kim, and Young-Jong Chung(KAERI)
- 11:20** **Commissioning of an Integral Effect Test Loop for SMART**
Hyun-Sik Park, Hwang Bae, Dong-Eok Kim, Kyoung-Ho Min, Yong-Cheol Shin, Yung-Joo Ko, and Sung-Jae Yi(KAERI)
- 11:40** **Preliminary Test Results of Steady-state Operation and SBLOCA for SMART**
Hwang Bae, Dong Eok Kim, Yong-Cheol Shin, Yung-Joo Ko, Seok Cho, Sang-Ki Moon, Sung-Jae Yi, and Hyun-Sik Park(KAERI)

Ⅲ. 분과별 논제 및 발표자

제 5분과 G

원자력열수력 및 안전(Thermal Hydraulics and Safety)

- 열수력해석(3)

좌 장 배성원(Sung-won BAE), 최동수(Tong Soo CHOI)

발표장소 207

일 정 | 5. 31(금)

- 09:00** **Simulation of Natural Circulation on an Integral Type Experimental Facility, MASLWR**
Young-Jong Chung, Sung-Won Lim, and Jaejoo Ha(KAERI)
- 09:20** **Conceptual Design of Passive Containment Cooling System Based on APR+**
Byong Guk Jeon and Hee Cheon NO(KAIST)
- 09:40** **Numerical Simulations of the Transient Behavior of an Advanced Safety Injection Tank**
H. Y. Yoon(KAERI)
J. J. Jeong(PNU)
H. K. Cho(SNU)
Y. S. Bang and K. W. Seul(KINS)
- 10:00** **Preliminary Performance and Sensitivity Analysis of Hybrid Safety Injection System for Passive Emergency Core Cooling System**
Sang Hee Kang and Han Gon Kim(KHNP CRI)
- 10:20** **Evaluation of the APR+ Passive Auxiliary Feedwater System Performance during Main Feedwater Line Break Accident using MARS-KS**
Min Jeong Hwang, Ralph Marigomen, and S. K. Sim(En2t)
Young Seok Bang(KINS)
- 10:40** **Coffee Break**
- 11:00** **Performance Analysis on Passive Emergency Core Cooling System(P-ECCS)**
Soon Il Chung, Soon Joon Hong, and Doo Yong Lee(FNC Tech.)
Sang Hee Kang and Han Gon Kim(KHNP CRI)
- 11:20** **Preliminary Study on Design of Passive Containment Cooling System (PCCS)**
Yun-Je Cho, Dong-Jin Euh, and Tae-Soon Kwon(KAERI)
- 11:40** **GOTHIC Simulation of Passive Containment Cooling System**
Hui-Un Ha and Han-Gon Kim(KHNP CRI)
- 12:00** **Safety Analysis for Enlargement of Allowance Band of Main Steam Safety Valve Opening Setpoint of Wolsong Unit 1**
Sungmin Kim(KHNP CRI)
Jonghyun Kim and Cheonhwey Cho(ACT Co., Ltd)

일 정 | 5. 31(금)

- 09:00 Coping with Unanticipated Accidents Using Emergency Operating Procedures**
Yochan Kim and Wondea Jung(KAERI)
- 09:20 Experimental Investigation on Core Cooling Effect in Accordance with the Bypass Debris for WH Type Plant**
In-Hwan Kim, Seung-Chan Lee, Je-Joong Sung, and Chang-Hyun Kim(KHNP CRI)
- 09:40 Reactivity Initiated Accident Analysis for the APR1400 PWR Using FALCON Fuel Performance Code**
Yong Deog Kim, Ki Young Kim, Sun Kwan Hong, and Yong Bae Kim(KHNP CRI)
Song Ki Sung(KEPCO NF)
Eui Hwan Hwang and Shin Seob Kang(KHNP)
- 10:00 Considerations for Applying Design Extension Conditions to Domestic Nuclear Power Plants**
Yong Ho RYU(KINS)
- 10:20 Basic Approach of Korean EDMG and FLEX Development**
Moon-Hak Jee and Hyeong-Taek Kim(KHNP CRI)
- 10:40 Coffee Break**
- 11:00 Prioritization of Lesson learned from Fukushima Accident Using AHP**
Muhammad Zubair, Park Sujin, and Gyunyoung Heo(KHU)
- 11:20 A Probabilistic Analysis Methodology and Its Application to A Spent Fuel Pool System**
Hyowon Kim and Moosung Jae(HYU)
Ho G. Ryu(M&D Co.,)
- 11:40 Preliminary Quantifications of Human Failure Events Affected by an Internal Fire Event**
Dae Il Kang and Kilyoo Kim(KAERI)
- 12:00 Thermal-hydraulic Integral Effect Test with the ATLS for Investigation on CEDM Penetration Nozzle Integrity**
Kyoung-Ho Kang, Seok-Cho, Hyun-Sik Park, Nam-Hyun Choi, Yu-Sun Park, Jong-Rok Kim, Byoung-Uhn Bae, Yeon-Sik Kim, Ki-Yong Choi, and Chul-Hwa Song(KAERI)

Ⅲ. 분과별 논제 및 발표자

제 5 분과 I

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

좌 장 정용훈(Yong Hoon JEONG), 조형규(Hyoung Kyu CHO)

발표장소 4층 로비

일 정 5. 30(목) 13:00-15:00

- P05I01 Prediction of Critical Heat Flux under Rolling Motion**
Jin-Seok Hwang, Yeon-Gun Lee, and Goon-Cherl Park(SNU)
- P05I02 An Experimental Study of the Dropwise Condensation on Physically Processed Surface**
Jae Young Choi and Soon Heung Chang(KAIST)
N. Watanabe, T. Sambuichi, D. Shiota, and M. Aritomi(TIT)
- P05I03 Test Specifications and the Design of the Wire Wrapped 37-Pin Fuel Assembly for Hydrodynamic Experiments**
S. K. Chang, D. J. Euh, H. Bae, H. Y. Lee, and S. R. Choi(KAERI)
- P05I04 Local Pool Boiling Heat Transfer Coefficients on Near Horizontal Tubes**
Myeong-Gie Kang(ANU)
- P05I05 Flow Visualization of Natural Circulation Flow inside a Pool Using PIV/PLIF Technique**
Seok Kim, Dong Eok Kim, Young-Jung Youn, and Dong-Jin Euh(KAERI)
- P05I06 Measurement and Prediction of the Average Heat Transfer Coefficient on a Tube**
Myeong-Gie Kang(ANU)
- P05I07 Preliminary Investigation on Turbulent Flow in Tight-lattice Rod Bundle with Twist-mixing Vane Spacer Grid**
Chi Young Lee, Young Kyun Kwack, Ju Yong Park, Chang Hwan Shin, and Wang Kee In(KAERI)
- P05I08 Assessment of Liquid Film Width Model by Two-dimensional Liquid Film Experiment**
Jin-Hwa Yang, Hyung-Kyu Cho, and Goon-Cherl Park(SNU)
Dong Jin Euh(KAERI)
- P05I09 Simulation of Transient Scenarios for Passive Auxiliary Feedwater System in APR+**
Byoung-Uhn Bae, Seok Kim, Yu-Sun Park, and Kyung Ho Kang(KAERI)
- P05I10 An Air Bubble Velocity Measurements in Horizontal Two-phase Bubbly Flow**
Seungtae Lee(UST)
D. J. Euh(KAERI)
- P05I11 Test Facility Design for the Validation of SMART Passive Safety System**
Hwang Bae, Dong Eok Kim, Sung-Jae Yi, and Hyun-Sik Park(KAERI)
- P05I12 APR+ Reactor Core Flow with 15% Unbalanced Flow Conditions**
K. Kim, D. J. Euh, H. S. Choi, Y. J. Youn, and T. S. Kwon(KAERI)
M. H. Park(Ajou Motor College)

P05113 Reflood Experiments in a 2x2 Rod Bundle with 90% Partial Blocked Region

Kihwan Kim, Byung-Jae Kim, Young-Jung Youn, Hae-Seob Choi, and Sang-Ki Moon(KAERI)

P05114 Experimental Facility Design for Assessment of SMART Passive Safety System Concept

Dong Eok Kim, Hwang Bae, Sung-Jae Yi, and Hyun-Sik Park(KAERI)

Ⅲ. 분과별 논제 및 발표자

제 5 분과 J

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

좌 장 정재준(Jae Jun JEONG), 강경호(Kyoungho KANG)

발표장소 4층 로비

일 정 5. 30(목) 13:00-15:00

- P05J01 An ATWS Analysis for EU-APR1400 Following the European Utility Requirement**
Min Shin Jung, Cheol Shin Lee, and Jong Joo Sohn(KEPCO E&C)
- P05J02 Parallelization Performance of the Two-phase Thermal-hydraulics Code, CUPID**
Jae Ryong Lee and Han Young Yoon(KAERI)
H. G. Choi(SNU)
- P05J03 Analysis of Moderator System Failure Accidents by Using New Method for Wolsong-1 CANDU 6 Reactor**
Dongsik Jin, Jonghyun Kim, and Cheonhwey Cho(ACT Co., Ltd)
Sungmin Kim(KHNP CRI)
- P05J04 Evaluation of Pressure Changes in HANARO Reactor Hall after a Reactor Shutdown**
Gee-Yang Han, Jae-Sam Han, Guk-Hoon Ahn, and Hoan-Sung Jung(KAERI)
- P05J05 Safety Analysis of Anticipated Transient without Scram (ATWS) Events for the Prototype GEN-IV SFR (PGSFR) Using MARS-LMR**
Chiwoong Choi, Kwilim Lee, and Kwiseok Ha(KAERI)
Hae Yong Jeong(Sejong Univ.)
- P05J06 Containment Loads Analysis for CANDU6 Reactor Using CONTAIN 2.0**
Tae H. Kim and Chae Y. Yang(KINS)
- P05J07 Development of a Static Gap Pressure Model for the SPACE Code**
Seung Wook Lee and Kyung Doo Kim(KAERI)
- P05J08 Development of the Dynamic Test Bed of JRTR Based on MARS**
Seung Wook Lee, Sung Won Bae, Kyung Doo Kim, and Kee-Choon Kwon(KAERI)
- P05J09 Development of CUPID-SG, a Component Code for a PWR Steam Generator**
I. K. Park, S. J. Lee, S. H. Kim, H. R. Kim, and H. Y. Yoon(KAERI)
- P05J10 Development of a GUI Based Front End for Open Source CFD Program, OpenFOAM**
Sam Hee Han, Young Jin Lee, Hyong Chol Kim, Sun Byung Park, and Hyun Jik Kim(NSE)
- P05J11 Simulation of Loss of Feedwater Transient of MASLWR Test Facility by MARS-KS Code**
Ju Yeop Park(KINS)
- P05J12 The Accident Analysis for Loss of Emergency Core Cooling System in Wolsong Unit 1 Using MARS-KS/CANDU**
Jin-Hyuck Kim, Byung-Gil Huh, and Chae-Yong Yang(KINS)

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- P05J13** **Analysis of a Hypothetical Station Blackout in Kori Nuclear Unit 1 Using the MARS and CUPID Codes**
Dong Hyun Lee, Jun Yeob Lee, and Jae Jun Jeong(PNU)
Ik Kyu Park and Sung Won Bae(KAERI)
- P05J14** **Analysis on the Steam Generator Tube Rupture Accident at APR+ Standard Design**
Huichang Yang and Youngho Lee(TUV Rheinland Korea)
Kap Kim, Young Suk Bang, and Sang Jin Cho(KINS)
- P05J15** **Analytical and Experimental Feasibility Study of Combined OTEC on NPPs**
Jeongtae Cho, Kyemin Oh, and Gyunyoung Heo(KHU)
Hoon jung(KEPCO RI)
- P05J16** **Analysis for Design of Passive Safety Injection Line in IPSS**
Jihee Kim, Sang Ho Kim, and Soon Heung Chang(KAIST)
- P05J17** **MARS Code Assessment of Main Steam Line Break Accident in ATLAS**
HongHyun Son, Gwang Hyeok Seo, and Sung Joong Kim(HYU)
Ki-Yong Choi(KAERI)
- P05J18** **Effects of Chemical Precipitates and Debris Deposited on Fuel Rods after a LOCA**
Suh Jeong-kwan and Lee Jae-yong(KHNP CRI)
Lee Hee-do(ACT Co., Ltd)
- P05J19** **Preliminary Numerical Analysis of 7 Pins Wire-wrapped Bundle**
Chiwoong Choi(KAERI)
Hae Yong Jeong(Sejong Univ.)
- P05J20** **Performance Assessment of Turbulence Models for the Prediction of the Reactor Internal Flow in the Scale-down APR +**
Gong Hee Lee, Young Seok Bang, and Sweng Woong Woo(KINS)
Do Hyeong Kim and Min Ku Kang(ANFLUX Inc.,)
- P05J21** **Evaluation for Effect of Containment Pressure on LBLOCA of Framatome Plant**
Byung Gil Huh, Dong-Gu Kang, Seung Hun Yoo, Chae-Yong Yang, and Kwang-Won Seul(KINS)
- P05J22** **Fuel Temperature Characteristics for Fuel Channels Using Burnable Poison in the CANDU Reactor**
Jun Ho Bae and Jong Yeob Jung(KAERI)
- P05J23** **Mathematical Methodology for New Modeling of Water Hammer in Emergency Core Cooling System**
Seung Chan LEE, Duk Joo YOON, and Sang Jun HA(KHNP CRI)
- P05J24** **Gas-induced Water-hammer Loads Calculation for Safety Related Systems**
Seung Chan LEE and Duk Joo YOON(KHNP CRI)
Doo Yong LEE(FNC Tech.)
- P05J25** **Advanced Model of Spray Droplet Shape in Containment**
Seung Chan Lee, Sang Jun Ha, and Hwang Yong Jun(KHNP CRI)
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P05J26 LOFT L9-1 Experiment Simulation Using the SPACE Code

Chang-Keun Yang, Dong-Hyuk Lee, and Yo-Han Kim(KHNP)

P05J27 Evaluation of Space Code for Simulation of Inadvertent Opening of Spray Valve in Shin Kori Unit 1

Seyun Kim and Bum-Soo Youn(KHNP CRI)

일 정 | 5. 30(목) 13:00-15:00

- P05K01 Experimental Methodology for Structural Material Ablation by Corium Jet Impingement**
Sang Mo An, Kwang Soon Ha, Beong Tae Min, Seong Ho Hong, and Hwan Yeol Kim(KAERI)
- P05K02 Prediction of Natural Circulation Flow with Inclined Downward Facing Heating Channel**
Kwang Soon Ha and Rae Joon Park(KAERI)
- P05K03 Numerical Analysis of Two-phase Natural Circulation Flow in the Core Catcher Test Facility Using the CUPID Code**
Dong Hun Lee and Jae Jun Jeong(PNU)
Ik Kyu Park, Han Young Yoon, and Kwang Soon Ha(KAERI)
- P05K04 Benchmarking Simulation of Long Term Station Blackout Events**
Sungyum Kim and John C. Lee(POSTECH)
Douglas A. Fynan(UMICH)
- P05K05 Prevent Corium Stratification In-vessel Retention**
Seung-Hyun Hong, A-Ra Go, and Sang-Nyung Kim(KHU)
- P05K06 Challenge Identification for the Objective Provision Tree Application to the Effectiveness Evaluation for the Accident Management Guidelines**
Huichang Yang(TUV Rheinland Korea)
Han-Chul Kim and Sung-Han Lee(KINS)
- P05K07 An Investigation of Material Effects on Jet Breakup of Steam Explosions**
I. K. Park, J. H. Kim, and S. W. Hong(KAERI)
- P05K08 Evaluation of Thermal Load to the Lower Head Vessel Using the ASTEC Computer Code**
Rae-Joon Park and Kwang-II Ahn(KAERI)
- P05K09 A Basic Study on the Failure of Lower Head of Nuclear Reactor Vessel by Molten Core in Severe Accident**
JongRea Cho, KwangHyun Bang, JiHoon Bae, ChangSung Kim, and JongWon Jeon(KMU)
- P05K10 MELCOR Simulation of Direct Depressurization Strategy for Total Loss of Feed Water Accident**
Seungwon Seo and Sung Joong Kim(HYU)
Hwan-Yeol Kim and Jong-Hwa Park(KAERI)
- P05K11 Simulation of Ignition Phenomena in Spent Fuel Assemblies in a Complete Loss-of-Coolant Accident**
Jung-Jae Lee and Han-Chul Kim(KINS)

P05K12 Evaluation of Coolant Injection Procedure in the Severe Accident Management Strategy of APR1400

Yongjin CHO, Kukhee LIM, Sungchu SONG, Sukho LEE, and Taesuk HWANG(KINS)

P05K13 Critical Heat Flux in Various Inclined Rectangular Narrow Channels

Sang W. Noh, Kwang S. Ha, and Hwan Y. Kim(KAERI)

Kune Y. Suh(SNU)

P05K14 Development of MELCOR Modeling Input for SBO Analysis of APR1400 NPP

Jun Heo, Won-Tae Kim, and Hyung-Seok Kim(Aritec. Co., Ltd)

Han-Chul Kim and Sung-Han Lee(KINS)

일 정 | 5. 30(목) 13:00-15:00

- P05L01 A Probabilistic Risk Assessment For Emergency Preparedness**
Joomyung Lee and Moosung Jae(HYU)
Kwangil Ahn(KAERI)
- P05L02 Selection of Reference Scenario for SMART Based on Risk-informed Analysis Methodology**
Sung-won Lim, In-sub Jun, and Young-jong Chung(KAERI)
- P05L03 The Result and Risk Insight of Probabilistic Safety Assessment for Advanced Power Reactor Plus**
H. R. Moon, S. H. Kang, and H. G. Kim(KHNP CRI)
- P05L04 A Study on Fire Ignition Frequency of UCN 3 by New Fire PSA**
Kilyoo Kim, Daell Kang, and Seung-Cheol Jang(KAERI)
- P05L05 Preliminary Analysis on Mass Release of SMART SBLOCA for Development Risk-informed Analysis Methodology**
Soo Been Yum, Guy Hyung Lee, and Chung Young Jong(KAERI)
- P05L06 The Effect Analysis of 1741 Oshima-Oshima Tsunami in the West Coast of Japan to Korea**
Min Kyu Kim, Hyun-Me Rhee, and In-Kil Choi(KAERI)
- P05L07 The Risk Insights for the Spent Fuel Pool Accidents**
Hae Cheol Oh, Hyeong taek Kim, and Jungmin Shin(KHNP CRI)
- P05L08 Analysis of the Concept and Implementation Status of Performance Based Regulation for Nuclear Power Plants**
Sang-Kyu Ahn, Gun-Hyun Chang, Young Gill Yune, Hyung-Joon Ahn, Won Joon Chang, and Seung-Ho Cho(KINS)

Ⅲ. 분과별 논제 및 발표자

제 5분과 M

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

좌 장 조형규(Hyoung Kyu CHO), 정용훈(Yong Hoon JEONG)

발표장소 4층 로비

일 정 | 5. 30(목) 13:00-15:00

P05M01 Radiological Assessment in Marine Environment for a Hypothetic Nuclear Accident based on the Database of Tidal Harmonic Constants

Byung Il Min, Min Kyo Youm, and Kyung-Suk Suh(KAERI)
Back Guem Lee(SKKU)

P05M02 Evaluation of Thermal Conductivity Degradation Effect on an OPR1000 Plant

Seung Hun Yoo, Byung Gil Huh, Hyedong Jeong, Dong-Gu Kang, Chae-Yong Yang, and Kwang-Won Seoul(KINS)

P05M03 Revisiting the Concept and Implementation of Defense-in-Depth

Young Sung Choi(KINS)

일 정 | 5. 31(금)

- 09:00 Major Cyber Threat on Nuclear Facility and Key Entry Points of Malicious Codes**
Ickhyun Shin and Kookheui Kwon(KINAC)
- 09:20 New Approach for Measuring 3D Space by Using Advanced SURF Algorithm**
YOUM. MIN KYO, MIN. BYUNG IL, and SUH. KYUNG SUK(KAERI)
LEE BACK GEUN(SKKU)
- 09:40 Influence of Radon Radionuclide for the Development of an Ultra-low Background Gamma Spectrometer in an Underground Research Tunnel**
Wanno Lee, Sang Do Choi, Kyung Soo Kim, Mun Ja Kang, and Geun-Sik Choi(KAERI)
- 10:00 The Environmental Radiation Analysis on the Residential Area around Nuclear Power Plants**
Dong Han Yoo and Hee Reyoung Kim(UNIST)
- 10:20 Y-90 PET Imaging for Radiation Theragnosis Using Bootstrap Event Resampling**
Taewon Nam, Sang-Keun Woo, Gyungju Min, Ji Min Kim, Joo Hyun Kang, Sang Moo Lim, and Kyeong Min Kim(KIRAMS)
- 10:40 Coffee Break**
- 11:00 Enhancement of 3D OSEM for Gate Simulated XCAT PET Image Using Inter-update Median Filtering**
Ji Min Kim, Taewon Nam, Gyeong Ju Min, Kyeong Min Kim, Joo Hyun Kang, Sang Moo Lim, and Sang-Keun Woo(KIRAMS)
- 11:20 Development of a Code for the Isotopic Analysis of Uranium**
J. H. Kim, M. Y. Kang, Jinhyeong Kim, and H. D. Choi(SNU)
- 11:40 Development of A Prototype Short Baseline Detector for Antineutrinos from the HANARO Research Reactor**
Gwang-Min Sun(KAERI)
Eun-ju Jeon, Jinyu Kim, Yeongduk Kim, Jaison Lee, Jeong-yeon Lee, and Kyungiu Ma(Sejong Univ.)
Kyungkwang Joo, Sun-heang So, and In Sung Yeo(Chonnam Univ.)
Hongioo Kim and Jooyoung Lee(KNU)
Kang-soon Park(SKU)
- 12:00 Performance Measurement of Industrial SPECT**
Jinho Moon, Sung-Hee Jung, Jongbum Kim, and Jang Guen Park(KAERI)

Ⅲ. 분과별 논제 및 발표자

제 6분과 B

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

- 방사선 방호/차폐/안전/환경 연구
(Radiation Protection/Shielding/Safety/Environment)

좌 장 이완로(Wanno LEE), 서경석(Kyung-Suk SUH)

발표장소 4층 로비

일 정 5. 30(목) 13:00-15:00

- P06B01 Nuclide Analysis at Domestic Nuclear Power Plant with CZT Detector during the Overhaul**
KANG SEO KON, KANG HWA YOON, MOON JIN SOO, LEE BYOUNG-IL, and KIM JEONG-IN(KHNP RHRI)
- P06B02 Radiation Accident Analysis in Non-destructive Inspection and Its Reduction Measure**
Jun Woo Bae, Dong Han Yoo, and Hee Reyoung Kim(UNIST)
- P06B03 Analysis of the Difference of Radon Concentration between Water Treatment Plant and Tap Water in House**
Jeong Il Seo, Dong Han Yoo, and Hee Reyoung Kim(UNIST)
- P06B04 Re-evaluations for Heavy Ion SINBAD Experiments with MCNPX and PHITS Monte Carlo Particle Transport Codes**
Do Hyun KIM, Song Hyun KIM, Chang ho SHIN, and Jong Kyung KIM(HYU)
Tai Jin PARK and Sang Kyung LEE(KRIA)
- P06B05 A Comparison of Creatinine Concentration with ⁴⁰K Radioactivity in Spot Urine**
Jaeryong YOO, Minjeong Park, Seyoung Park, Wi-Ho Ha, and Seung-Sook Lee(KIRAMS)
- P06B06 Monte Carlo Simulation of a Stand-up Type Whole Body Counter Using Different Sized BOMAB Phantoms**
Minjung Pak, Jaeryong Yoo, Seyoung Park, Wi-Ho Ha, and Seung-Sook Lee(KIRAMS)
Kwang Pyo Kim(KHU)
- P06B07 Functional Requirements of Personal Evacuation Supporting System in the Preparation for the Radiological Emergency**
Seon-Jae KIM, Hyeong-Ki Shin, and Myung-Jo Jhung(KINS)
- P06B08 Transfer Factors of Nuclides for Five Fish Species Inhabiting the Sea near the Younggwang Nuclear Power Plant**
Kwang-Muk Lim, Yong-Ho Choi, In Jun, Byung-Ho Kim, and Dong-Kwon Keum(KAERI)
- P06B09 Effect of Ground Surface Roughness on Atmospheric Dispersion and Dry Deposition of Cs-137 in the UAE Environment**
Sung-yeop Kim and Philip A. Beeley(KUSTAR)
Soon Heung Chang and Kun Jai Lee(KAIST)
- P06B10 Atmospheric Dispersion of Various Types of Iodine in UAE in February and August**
Sung-yeop Kim and Philip A. Beeley(KUSTAR)
Soon Heung Chang and Kun Jai Lee(KAIST)

제 6분과 C

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

- 방사선 생명의학/중성자 · RI 이용/방사선기기/가공(Radiation BioMedical/Nertron · RI Application/Instrumentation/Radiation-Processing)

좌 장 김진규(Jin Kyu KIM), 김계령(Kye Ryung KIM)

발표장소 4층 로비

일 정 | 5. 30(목) 13:00-15:00

P06C01 Effects of Ionizing Radiation and Glutathione Precursor on Antioxidant Enzyme and Cell Survival in Yeast

Jin Kyu Kim, Changhyun Roh, Tae Ho Ryu, and Jiyoung Park(KAERI)
Michael A. Nili(OCRI)

P06C02 Radiation Promotes Cancer Cell Metastasis Via EMT Induction in Mouse Model.

Jong Kuk Park, Su Jin Jang, Sung Wook Kang, Sunhoo Park, Sang-Gu Hwang, Joo Hyun Kang, and Hong-Duck Um(KIRAMS)
Wun-Jae Kim(CBNU)

P06C03 Evaluation of Tumor Motion Effect in Canine Model for Diagnostic and Radiotherapy

Sang-Keun Woo, Taewon Nam, Seungwoo Park, Suchul Han, Kyeong Min Kim, Joo Hyun Kang, and Young Hoon Ji(KIRAMS)
Nohwon Park and Kidong Eom(KU)

P06C04 Assessment of Radiation-equivalency of Favorite Foods in Apoptotic and Clonogenic Cell Killing

Seung-Hee Lee, Hyo-Sung Park, Min-Ho Lee, and Eun-Hee Kim(SNU)

P06C05 Quantitation of OH Radical Production from X-ray and Plasma Treatments Seeking for Radiation-equivalency of Plasma in Clonogenic Cell Killing Effect

Jin-Han Lee, Min-Ho Lee, Sung-Young Yoon, Gon-Ho Kim, and Eun-Hee Kim(SNU)

P06C06 Optimization and Validation of Instrumental Neutron Activation Analysis for the Determination of Elemental Contents in a Human Serum

J. H. Moon, G. M. Sun, S. H. Kim, and Y. S. Chung(KAERI)

P06C07 Dispersion Target Fabrication for Fission Mo Using Atomized Uranium Powder

Moon soo Sim, Ho Jin Ryu, Jong Man Park, Chang Kyu Kim, and Jong Hyeon Lee(KAERI)

P06C08 Magnetic Properties of α -HgI₂

Sunmog Yeo, Jang Ho Ha, Changyul Park, Han Soo Kim, and Young Soo Kim(KAERI)

P06C09 Report of the Design Approval and the Safety Issues of the Ion Accelerator for Manufacturing

Yi-Sub Min and Chan Young Lee(KAERI)

P06C10 A Tilted Fiber-optic Plate Coupled CCD Detector for High Resolution Neutron Imaging

Kim Jongyul and Cho Gyuseong(KAIST)
Lim Chang Hwy, Kim Taejoo, and Lee Kye Hong(KAERI)
Lee Seung Wook(PNU)

P06C11 Industrial Application of Ion Beams in KOMAC

Jae-Sang Lee, Chan Young Lee, Bom Sok Kim, Hyuk-Jun Choi, Yong Ki Kim, Hyung Jin Kim, and Jae Won Park(KAERI)

P06C12 Establishment of Multi-purpose Target Rooms at KOMAC

Kye-Ryung Kim, Myung-Hwan Jung, Sunmog Yeo, Chan-Yeong Lee, Jae-Sang Lee, and Bum-Sok Kim(KAERI)

일 정 | 5. 30(목)

- 09:00 Progress and Strategy of ITER Liquid-type TBM Development**
D. W. Lee, E. H. Lee, J. S. Yoon, H. G. Jin, S. K. Kim, and B. G. Choi(KAERI)
H. G. Lee(NFRI)
- 09:20 Performance Tests of a Permeation Sensor for Test Blanket Modules Using Liquid Metal**
B. G. Choi(UST)
D. W. Lee, E. H. Lee, J. S. Yoon, S. K. Kim, K. I. Shin, and H. G. Jin(KAERI)
H. G. Lee(NFRI)
- 09:40 Current Status and Performance Tests of Korea Heat Load Test Facility KoHLT-EB**
Suk-Kwon Kim, Hyung Gon Jin, Kyu In Shin, Bo Guen Choi, Eo Hwak Lee, Jae-Sung Yoon, and Dong Won Lee(KAERI)
Duck-Hoi Kim and Seungyon Cho(NFRI)
- 10:00 Simulation and RF Test Results on High Power Waterload for KSTAR LHCD System**
H. J. Kim, J. Kim, S. J. Wang, S. Park, Y. S. Bae, H. L. Yang, Y. K. Oh, and J. G. Kwak(NFRI)
M. H. Cho and W. Namkung(POSTECH)
- 10:20 Preliminary Results on Long Term Test of Tungsten Tile with ITER Castellation in KSTAR**
Suk-Ho Hong, E.-N. Bang, Dong-Chul Seo, and Taehyeop Lho(NFRI)
A. Litnovski and M. Hellwig(Jülich)
D. Matveev(Ghent Univ.)
M. Komm(Charles Univ.)
M. van den Berg(DIFFER)
- 10:40 Coffee Break**
- 11:00 The Effects of Gas Puffing for the Heat Flux Mitigation**
Seung Bo Shim and Hae June Lee(PNU)
Vladislav Kotov and Detlev Reiter(Jülich)
Hyunsun Han, Jin Yong Kim, and Suk-ho Hong(NFRI)
Yong-Su Na(SNU)
- 11:20 Survey and Alignment of the 100MeV Linear Accelerator**
Bum-Sik Park, Hyeok-Jung Kwon, Ji-Ho Jang, Han-Sung Kim, Dae-II Kim, and Yong-Sub Cho(KAERI)
- 11:40 Beam Commissioning Plan and Result of KOMAC Linac**
Ji-Ho Jang, Hyeok-Jung Kwon, Han-Sung Kim, and Yong-Sub Cho(KAERI)
- 12:00 Study of Cyclotron Carbon Foil Thickness for Lifetime Extension**
J.H. Kim, S.K. Hong and J. W. Kim (IBS)
Y. K. Choi and Y. S. Kim(DU)

Ⅲ. 분과별 논제 및 발표자

제 7 분과 B

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

좌 장 장지호(Ji-ho JANG), 홍석호(Suk-Ho HONG)

발표장소 4층 로비

일 정 5. 30(목) 13:00-15:00

- P07B01 Progress of KO HCCR TBM Design and Performance Analysis for ITER**
D. W. Lee, K. I. Shin, H. G. Jin, E. H. Lee, J. S. Yoon, S. K. Kim, C. W. Lee, and Y. O. Lee(KAERI)
S. Cho(NFRI)
- P07B02 Verification of Impurity Removal Effect by Ion Cyclotron Wall Conditioning in KSTAR**
S. H. Son, S. H. Hong, H. K. Na, H. J. Kim, S. J. Wang and KSTAR Team(NFRI)
D. Douai and D. KOGUT(CEA)
- P07B03 Status of the Design Tool and Scheme for ITER TBM and Fusion Reactor System in Korea**
H. G. Jin, D. W. Lee, K. I. Shin, E. H. Lee, J. S. Yoon, and S. K. Kim(KAERI)
S. Cho(NFRI)
- P07B04 Structural Analysis of the Current KO HCCR TBM Considering Contact Stress**
K. I. Shin, D. W. Lee, H. G. Jin, J. S. Yoon, S. K. Kim, and E. H. Lee(KAERI)
S. Cho(NFRI)
- P07B05 Developing Fabrication Procedure and Welding Performance Test Using Developing RAFM Steel for ITER HCCR TBM**
J. S. Yoon, E. H. Lee, S. K. Kim, D. W. Lee, K. I. Shin, and H. G. Jin(KAERI)
S. Cho(NFRI)
- P07B06 New Experimental Setup for Boron Isotopes Separation by Laser Assisted Retardation of Condensation Method**
K. A. Lyakhov and H. J. Lee(JNU)
- P07B07 Interferometric Measurement of a Laser Produced Plasma using Nomarski Interferometer**
Seong Y. Oh, Young Jun Hong, Sung Yong Ha, Hee-Jin Kim, and Changhwan Lim(KAERI)
- P07B08 A Development of the Lifting Tools for 40° Sector Sub-assembly and ITER Components**
Nam Kyoungoo, Park Hyunki, Kim Dongjin, and Heejae Ahn(NFRI)
Jaehwan Moon(SFA)
Emma Watson and Robert Shaw(ITER)
- P07B09 A Study on the Ion Beam Uniformity Using High Current Bucket Type Ion Source**
Bom Sok Kim, Hyuk Jun Choi, Chan Young Lee, and Jae Sang Lee(KAERI)
- P07B10 Installation of Ion Beam Facility with Mass Production System for Industrial Use**
Chan Young Lee, Jae Sang Lee, Yong Gi Kim, Yi Sub Min, and Dae Han Choi(KAERI)
- P07B11 Study on Fusion Safety Infrastructure Using ISAM**
Kyemin Oh, Myung-suk Kang, and Gyunyoung Heo (KHU)
Hyoung-chan Kim(NFRI)

-
- P07B12 Preliminary Design of 3.5-MeV Helium RFQ for Fusion Materials Radiation Damage Study**
Yong-Sub Cho, Ji-Ho Jang, and Hyeok-Jung Kwon(KAERI)
- P07B13 Installation and Commissioning of the Resonant Frequency Control Cooling System**
Hyeok-Jung Kwon, Kyung-Tae Seol, Han-Sung Kim, Ji-Ho Jang, and Yong-Sub Cho(KAERI)
- P07B14 Conceptual Design of Chopper for Pulsed Proton Beam**
Han-Sung Kim, Ji-Ho Jang, Hyeok-Jung Kwon, and Yong-Sub Cho(KAERI)
- P07B15 Preliminary Results on Adhesion Improvement Using Ion Beam Sputtering Deposition**
Kim Yong Gi, Kim Bom Sok, and Lee Jae Sang(KAERI)
- P07B16 Modification of the Helium Supply System with a PCHE Type Recuperator**
E. H. Lee, S. K. Kim, J. S. Yoon, H. G. Jin, and D. W. Lee(KAERI)
Seungyon Cho(NFRI)
- P07B17 Study of Dust Velocity with Plasma Rotation in KSTAR**
Kyung-Rae Kim, Suk-Ho Hong, Won-Ha Ko, Yong-Un Nam, and JinIl Jung(NFRI)

Ⅲ. 분과별 논제 및 발표자

제 8분과 A

원전 건설 및 운영 기술(Nuclear Power Plant Construction and Operation Technology)
- 원전 운전/정비, 설계, 제작, 경년열화(NPP's Operating & Maintenance
Technology, Design, Manufacture, Equipment Aging Management)

좌 장 방상윤(Sang Youn BANG), 박영섭(Young Seob PARK)

발표장소 204

일 정 | 5. 30(목)

- 09:00 Control Room Habitability Analysis and Testing for Wolsong Unit 1**
J. B. Lee(KHNP CRI)
- 09:20 Zero Power Physics Test by Using Core Simulator(CoSi) for OPR1000**
Yu Sun Choi, Hwan Soo Lee, and Ho Cheol Shin(KHNP CRI)
- 09:40 Multi-frequency Electrical Impedance Tomography System for Non-Destructive Crack Detection**
Byung Il Lee, Tong In Oh, and Eung Je Woo(KHU)
Jin Wook Jeong(WSNESC)
- 10:00 Evaluation on Degradation of Cable in Nuclear Power Plant by Boric Acid**
Mun Hwan Kim, Geun Dong Song, Yeon Ku Kim, and Wan Young Maeng(KAERI)
- 10:20 The Primary Water Stress Corrosion Cracking Mechanism of Alloy 600 Steam Generator Tubes: Materials Perspective**
Young Suk Kim, Sung Soo Kim, and Dae Whan Kim(KAERI)
- 10:40 Coffee Break**
- 11:00 Status of U.S.NRC Actions for the Events of Fukushima Dai-ichi NPP**
Donghak Kim, Jaeyong Lee, and Myungki Kim(KHNP CRI)
- 11:20 Analyzing the Effects of Size of Hole on Plate Failure**
Behzad Mohammadzadeh and Hyuk Chun, Noh(Sejong Univ.)
- 11:40 Measurements of Henry's Law Constant for Hydrogen in Simulated PWR Primary Water**
E. H. Lee, D. H. Lee, M. S. Choi, and D. H. Hur(KAERI)
- 12:00 Development of Coolant Radioactivity Interpretation Code**
Ki-Young Kim(KHNP CRI)
Young-Suk Jung and Kyoung-Hyun Kim(ACT Co., Ltd)
Jang-Wook Kim(KEPCO NF)
- 12:20 Importance of RWT Drain Down Scenario due to MSO during a Fire**
Hyun Tae Yim(PNE Co., Ltd)
Yong Bum Bae(KINS)

제 8 분과 B

원전 건설 및 운영 기술

(Nuclear Power Plant Construction and Operation Technology)-Poster

좌 장 장희승(HeeSeung CHANG), 이종범(Jong Beom Lee)

발표장소 4층 로비

일 정 | 5. 30(목) 13:00-15:00

- P08B01 A Probability Analysis of the Generating Cost of APR+ Dual Unit**
Gak-Hyeon Ha and Sung-Hwan Kim(KHNP)
- P08B02 Experience in Application of Calandria Internal Inspection System to Wolsung NPP#1**
Jaedong Kim, Seukhong Jin, and Gyoonyoung Moon(KHNP CRI)
- P08B03 Development of Signal Acquisition Software for Eddy Current Test**
Hyun Ju Yoo, Hee Jong Lee, Chan-Hee Cho, and Hyung Nam Kim(KHNP CRI)
- P08B04 Preliminary Assessment of Equivalency for a New Eddy Current System**
Chan Hee Cho, Hee Jong Lee, Hyun Ju Yoo, Gyoon Young Moon, and Tae Hoon Lee(KHNP CRI)
- P08B05 Development of Inspection Technique for Socket Weld of Small Bore Piping in Nuclear Power Plant**
Byungsik Yoon, Yongsik Kim, and Jeongseok Lee(KHNP CRI)
- P08B06 A Reinforcement Plate for Partially Thinned Pressure Vessel Designed to Measure the Thickness of Vessel Wall Applying Ultrasonic Technique**
Hyung-nam Kim, Min-woo Nam, and Hyun-ju Yoo(KHNP CRI)
- P08B07 A Study on the Predictive Maintenance in NPP by Thermography Diagnosis Test**
Gwang-Yeol Ryu and Goung-Jin Lee(CSU)
- P08B08 Cleaning of OPR1000 Steam Generator by Ultrasonic Cavitation in Water**
Woo-Tae Jeong(KHNP CRI)
Sang-Tae Kim, Sang-Jung Yoon, and Yong-Seok Choi(Sae-an ENG.)
- P08B09 Development of Safety Review Guide for the Periodic Safety Review of Reactor Vessel Internals**
Jeong Soon Park, Hanok Ko, Seonjae Kim, and Myung Jo Jhung(KINS)
- P08B10 A Study on the System and Method for Drawing 3-Dimensional Cable Object with the Cable Tracking Navigation**
Keug-Jin Bhang and Sun-Chul Jung(KHNP CRI)
Jun-Hee Hong(CNU)
- P08B11 Development of Integrated Regulatory Aging Management System Related to Reactor Vessel Internals**
Hanok Ko, Jeongsoon Park, Seonjae Kim, and Myung Jo Jhung(KINS)
- P08B12 Advanced Detection Technology of Trace-level Borate for SG Leakage Monitoring**
Seban Lee, Dukwon Kang, Seungil Kim, Hyunki Kim, Jun Heo, and Jinhyun Sung(HaJI Co., Ltd)
Dongbum Lee(TFS Co.)

P08B13 The Manufactured Position Control of Stress Corrosion Cracking using Welding Heat Input

Youngkwan Woo, Hyunmin Lim, Woonggi Hwang, Sungsik Kang, and Boyoung Lee(KAU)
Seunggi Bae(KINS)

P08B14 Numerical Simulation of Missile Impacts on Reinforced Concrete Plates

Chul-Hun CHUNG, Jungwhee LEE, and Han-Joo LEE(DKU)
Raeyoung JUNG and Moon-Soo KIM(KINS)

P08B15 Local Impact Simulation of SC Wall Structures Using Aircraft Engine Projectile

Chul-Hun CHUNG, Jungwhee LEE, and Han-Joo LEE(DKU)
Raeyoung JUNG and Chang-Hun HYUN(KINS)

P08B16 On the Generation of Response Spectrum

Myung Jo Jhung and Hanok Ko(KINS)

제 8 분과 C

원전 건설 및 운영 기술

(Nuclear Power Plant Construction and Operation Technology)

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

좌 장 장정범(Jung Bum JANG), 주광호(Kwang Ho JOO)

발표장소 204

일 정 | 5. 31(금)

- 09:00 Optimization of General Arrangement for Fuel Handling Equipment in Fuel Handling Area**
Sang-Gyoon Chang and Taek-Sang Choi(KEPCO E&C)
Duck-Hee Moon(KHNP)
- 09:20 Preliminary Study on the Recurrence Interval and Tsunami Heights for PTHA**
Hyun-Me Rhee, Min-Kyu Kim, and In-Kil Choi(KAERI)
Dong-Hoon Sheen(JNU)
- 09:40 Ultimate Internal Pressure Capacity Assessment of SC Structure**
Hyung-Kui Park and In-Kil Choi(KAERI)
- 10:00 A Preliminary Study on HTGR with Air-cooled Condenser at Riyadh, Saudi Arabia**
Jonghwa Chang and Won-Jae Lee(KAERI)
- 10:20 Development of Probabilistic Performance Evaluation Method for Interface Piping System of Seismically Isolated NPPs**
Daegi Hahm, Junhee Park, and In-Kil Choi(KAERI)
- 10:40 Coffee Break**
- 11:00 Variation in the Displacement of Base Isolation System Caused by an Uncertainty of Mechanical Properties**
Jung Han Kim, Min Kyu Kim, and In-Kil Choi(KAERI)
- 11:20 Influence of Steel Fibers on the Structural Performance of a Prestressed Concrete Containment Building**
Young-Sun Choun, Daegi Hahm, and Junhee Park(KAERI)
- 11:40 Floor Response Spectra of a Base Isolated Auxiliary Building in Different Temperature Environments**
Junhee Park, Young-Sun Choun, and In-Kil Choi(KAERI)
- 12:00 Parametric Study on Important Variables of Aircraft Impact to Prestressed Concrete Containment Vessels**
Shin, Sangshup, Daegi Hahm, and In-Kil Choi(KAERI)

Ⅲ. 분과별 논제 및 발표자

제 9분과 A

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

좌 장 서민원(Min-Won SEO), 임채영(Chae Young LIM)

발표장소 C312

일 정 | 5. 30(목)

- 09:00 A Study on the Economic Feasibility of Nuclear Power Caused by Fukushima Nuclear Power Accident**
Kim dongwon(KONEPA)
- 09:20 Further Considerations for Development of the Comprehensive Fuel Sevices**
Dong Hoon Lee, Jae Soo Ryu, Eunju Jun, Han-Myung Lee, and Kwang Seok Lee(KAERI)
- 09:40 Development of Virtual Environment under Member State Support Program**
Byung Marn KOH and Na Young LEE(KINAC)
- 10:00 Key Factors for the Linkage Strategy between R&D and Commercialization for Gen-IV**
Kyoungmi Lee and Jung Suk Hong(KISTEP)
- 10:20 Development of an Integrated Education/Training based Nuclear Outreach Model**
Kyoung-Won Han, Young-Mi Nam, In-A Hwang, Ji-Sook Lee, Han-Suk Ko, and Tae-Joon Lee(KAERI)
- 10:40 Coffee Break**
- 11:00 Standardized System of Nuclear Safety Information for the Promotion of Transparency and Openness**
Lee Gi-Hyung, Kim Sang-Hyun, Lee Gye-Hwi, Yoon Yeon-Hwa, Song HyeRim, and Jeong Jin-A(KINS)
Byun Jae-Hyung and Seo Jong-Hwan(Dong-A Univ.)
- 11:20 A Study on the Systematization of Classification Process for NSG Trigger List Items**
Seung-hyo Yang, Jae-woong Tae, and Dong-hoon Shin(KINAC)
- 11:40 A Study on the International Cooperation through the NSG-DMTE**
Jae-woong Tae, Young-wook Lee, Sun-do Choi, and Jong-sook Kim(KINAC)
- 12:00 Lessons Learned and Regulatory Countermeasures of Nuclear Safety Issues Last Year**
Y. E. Lee(KINS)

제 9분과 B

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

좌 장 정환삼(Whan-Sam CHUNG), 이나영(Na-Young LEE)

발표장소 4층 로비

일 정 | 5. 30(목) 13:00-15:00

- P09B01 SAPE Database Building for a Security System Test Bed**
Kwang Ho Jo and Woo-jin Kim(KINAC)
- P09B02 Study on Assessment Zone Setup Methodology for CCTV Systems at the Nuclear Power Plants**
Woo-jin Kim and Kwang Ho Jo(KINAC)
- P09B03 A Feasibility Study of Optimal Nuclear Desalination Process for Industrial Water Supply in Korea**
Hyun-Chul Park and Ki-In Han(KINGS)
- P09B04 A Study on MUF (Material Unaccounted For) Evaluation Plan**
Hye-Won Shim and Min-Su Kim(KINAC)
- P09B05 Impact of Fukushima NPPs Accident on Young Generation's Understanding of Radiation**
Yoon-Seok Choi, Wook Kim, Yeon-Jung Joo, and No-Woon Choi(KANS)
- P09B06 Comparative Study on NPP Commissioning and Operation Requirements between IAEA and Korea**
Won Joon chang, Young Gill Yune, Hyung Joon Ahn, Sang-Kyu Ahn, and Seung-Ho Cho(KINS)
- P09B07 A Study of Overseas Research Activities for Thorium Reactors and the Need for the Introduction of the Domestic Nuclear Power**
Dong-Won Park and Keun-Teag Park(KI Co.)
- P09B08 Regulatory Initiative to Oversee Licensees' Safety Culture**
Young Sung Choi(KINS)
- P09B09 An Analysis on Types of Strategic Commodities and Technologies**
Jae-woong Tae and Dong-hun Shin(KINAC)

Ⅲ. 분과별 논제 및 발표자

제 10 분과 A

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

좌 장 윤재희(Jae Hee YUN), 박정진(Jung Jin PARK)

발표장소 Convention Hall 2

일 정 | 5. 30(목)

- 09:00** **Design of Automated Function for Safe Cooldown Using F&B Operation**
Bo Gyung Kim, Hee Eun Kim, Sang Ho Kim, and Hyun Gook Kang(KAIST)
- 09:20** **The Relationship between Human Operators' Psycho-physiological Condition and Human Errors in Nuclear Power Plants**
Ar Ryum Kim, Inseok Jang, Hyun Gook Kang, and Poong Hyun Seong(KAIST)
- 09:40** **Computational Representation of Situation Awareness with Graphical Expressions**
Ho Bin Yim and Poong Hyun Seong(KAIST)
- 10:00** **Determination of the Recovery Time of Unhealthy SISs in LOCA**
Dae Seop Kim, Soon Ho Park, Ju Hyun Kim, Kwae Hwan Yoo, and Man Gyun Na(CSU)
- 10:20** **Introduction of Deterministic OS for SPLC in Advanced Nuclear I&C System**
C. W. Son, D. H. Kim, and G. S. Son(KAERI)
- 10:40** **Coffee Break**
- 11:00** **Comparison of HuRAM⁺ and HERA for Development of Data Worksheet for Simulator-based HRA Databank**
Sun Young Choi and Wondea Jung(KAERI)
- 11:20** **A Framework to Measure Operator's Workload in Main Control Room of APR1400**
Seunghwan Kim, Yochan Kim, and Wondea Jung(KAERI)
- 11:40** **Analysis for Secondary Task in Advanced Main Control Room Using Soft Controls**
Hyoung Ju Kim, Seung Jun Lee, and Won Dae Jung(KAERI)
- 12:00** **Architecture Dependent Availability Analysis of RPS for Research Reactor Applications**
Rahman Khalil ur and Gyunyoung Heo(KHU)
Hanseong Son(JBU)
Youngki Kim and Jaekwan Park(KAERI)
- 12:20** **Study on Virtual Redundancy Among Process Parameters for Accident Management Applications**
Rizwan Ahmed, Sukyoung Pak, and Gyunyoung Heo(KHU)
Jung-Taek Kim, Soo Yong Park, and Kwang-II Ahn(KAERI)
- 12:40** **A Study on Duplexing of HP TBN Throttle Valve Control System in Yeonggwang Unit #1, 2**
Hyun-Woo Yeo and Man-Gyun Na(CSU)

제 10분과 B

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

좌 장 김장열(Jang Yeol KIM), 이동훈(Dhong-Hoon LEE)

발표장소 4층 로비

일 정 | 5. 30(목) 13:00-15:00

- P10B01 Safety Review Related to Commercial Grade Digital Equipment in Safety System**
Yeong Jin Yu and Hyun Shin Park(KINS)
Jae Heung Lee(HBNU)
- P10B02 FPGA-based Dual Controllers**
wooseok Heo and kwang-young SOHN(KoRTS)
jun-ku LEE and geun-ok PARK(KAERI)
- P10B03 Segmentation Scheme for Safety Enhancement of Engineered Safety Features Component Control System**
sang-seok LEE and kwang-young SOHN(KoRTS)
jun-ku LEE and geun-ok PARK(KAERI)
- P10B04 The Verification of ESF-CCS Integration Test procedure by Utilizing Labview**
ja-young LEE, sang-seok LEE, and kwang-young SOHN(KoRTS)
jun-ku LEE and geun-ok PARK(KAERI)
- P10B05 Balancing Human-machine Interface (HMI) Design in Complex Supervisory Tasks**
Jun Su Ha(KUSTAR)
Ar Ryum Kim, Inseok Jang, and Poong Hyun Seong(KAIST)
- P10B06 FPGA Design and Verification Procedure for Nuclear Power Plant MMIS**
Dongil Lee and Kawnwoo Yoo(PONUTECH)
Kwangki Ryoo(HNU)
- P10B07 Robot Dispatching Scenario for Accident Condition Monitoring of NPP**
Jong-Seog Kim(KHNP CRI)
- P10B08 Study for Wireless Power Transmission of Nuclear Robot System**
Jong-Seog Kim(KHNP CRI)
- P10B09 Applying Hamming Code to Memory System of Safety Grade PLC (POSAFE-Q) Processor Module**
Taehee Kim, Sung Jae Hwang, and Gang Min Park(PONUTECH)
- P10B10 FPGA Design Methodologies Applicable to Nuclear Power Plants**
Yong-il won and Choong-heui Jeong(KINS)
- P10B11 Cyber Security Risk Analysis Model of I&C System Using Bayesian Network**
Jinsoo Shin and Gyunyoung Heo(KHU)
Hanseong Son(JBU)
Jaekwan Park(KAERI)

-
- P10B12 Verification Results of Safety-grade Optical Modem for Core Protection Calculator (CPC) in Korea Standard Nuclear Power Plant (KSNP)**
Jang Yeol Kim, Kwang Seop Son, Young Jun Lee, Se Woo Cheon, Kyoung Ho Cha, Jang Soo Lee, and Kee Choon Kwon(KAERI)
- P10B13 Development of Iridium Solid-state Reference Electrode for the Water Chemistry Status Measurement in Nuclear Power Plants**
Hee Kwon Ku, Dong Seok Lim, and Jae Seon Cho(FNC Tech.)
- P10B14 Preliminary Study on Information Display System for Operator Support in Severe Accident**
Kwang-II Jeong, Gwi-Sook Jang, Sang-Moon Suh, Joon-Ku Lee, and Geun-Ok Park(KAERI)
- P10B15 Some Reliability Considerations of UGV for Remote-response in Nuclear Emergency Situation**
Heung-Seop Eom, Jai Wan Cho, and Kyungmin Jeong(KAERI)
- P10B16 A Design V&V Process of Hardwired PAMS for KJRR**
Gwi-sook Jang, Yong-suk Suh, and Young-ki Kim(KAERI)
- P10B17 An Entry Point of the Emergency Response Robot for Management of Severe Accident of the Nuclear Power Plant**
Jai Wan Cho and Kyung Min Jeong(KAERI)
- P10B18 Gamma Radiation Effect of F and Ce Doped Germano-silicate Optical Fiber**
Hyun-Kyu Jung, Jong-Yeol Kim, and Nam-Ho Lee(KAERI)
Young-Woong Kim and Won-Taek Han(GIST)
- P10B19 Automation-aided Task Loads Index Based on the Automation Rate Reflecting the Effects on Human Operators in NPPs**
Seung Min Lee and Poong Hyun Seong(KAIST)
Jong Hyun Kim(KINGS)

제 10분과 C

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

좌 장 장통일(Tong Il JANG), 변형현(Hyung Hyun BYUN)

발표장소 Convention Hall 2

일 정 | 5. 31(금)

- 09:00 Reliability Analysis Multiple Redundancy Controller for Nuclear Safety Systems**
Gwang-Seop Son, Dong-Hoon Kim, and Choul-Woong Son(KAERI)
- 09:20 Recent Trends on Software Verification and Validation Testing**
Hyung Tae Kim and Choong Heui Jeong(KINS)
- 09:40 Lessons-Learned from an Event during Overhaul**
Ji Tae Kim(KINS)
- 10:00 A Method to Select Test Input Cases for Safety-critical Software**
Hee Eun Kim and Hyun Gook Kang(KAIST)
Han Seong Son(JBU)
- 10:20 Utilization of Lamp Lock-in for Wall-Thinned Defects Detection Using IR Thermography**
Kwae Hwan Yoo, Ju Hyun Kim, Man Gyun Na, Jin Weon Kim, Hyun Chul Jung, and Kyeong Suk Kim(CSU)
- 10:40 Coffee Break**
- 11:00 Diagnostic Strategy in APR1400**
Dongyoung Kim and Jonghyun Kim(KINGS)
- 11:20 An Approach to Establish Design Requirements for Human-System Interface (HSI) of Automatic Systems in Nuclear Power Plants**
Nuraslinda Anuar and Kim Jonghyun(KINGS)
- 11:40 Equivalence Checking between Pre-synthesis and Post-synthesis Programs by Using VIS**
Jong-Hoon Lee and Junbeom Yoo(KKU)
Jong Gyun Choi and Jang-Soo Lee(KAERI)
- 12:00 Vulnerability Identification and Design-Improvement-Feedback using Failure Analysis of Digital Control System Designs**
Eun-Chan Lee and Yeon-Kyoung Bae(KHNP CRI)
- 12:20 Tethered Contactless Mobile Nuclear Environment Monitoring Robot**
S. Y. Choi, E. S. Lee, Kun J. Lee, Su H. Kim, and C. T. Rim(KAIST)

Ⅲ. 분과별 논제 및 발표자

학생 / 청년

Competition Session

좌 장 양준언(Joon-Eon YANG), 정광희(Kwang Hee JEONG)

발표장소 207

일 정 | 5. 30(목)

- 09:00 Evaluation of Tensile Properties for TP316 Stainless Steel Pipe Bends Manufactured by High-Frequency Induction Heating Process**
Sa Yong Lee and Jin Weon Kim(CSU)
Young Jin Oh(KEPCO E&C)
- 09:20 Heat Transfer Modes and their Coefficients for a Passive Containment Cooling System of PWR Using a Multi-Pod Heat Pipe**
Gyeong-Ho Nam, Jun-Seok Park, and Sang-Nyung Kim(KHU)
- 09:40 Analysis for Passive Safety Injection of IPSS in Various LOCAs**
Sang Ho Kim and Soon Heung Chang(KAIST)
- 10:00 Experimental Study of Pool Boiling Heat Transfer and Critical Heat Flux on a Horizontal Zircaloy Tube**
Gwang Hyeok Seo, Gyoodong Jeun, and Sung Joong Kim(HYU)
- 10:20 Mode Analysis of Wake Flow from a Cylinder using Double Proper Orthogonal Decomposition**
Tae Sung Kim and Huinam Rhee(SCNU)
Jin Ho Park(KAERI)
- 10:40 Coffee Break**
- 11:00 Dynamic Characteristics of Steam Generator Tubes with Defect due to Wear**
Sangjin Park and Huinam Rhee(SCNU)
Doo Byung Yoon(KAERI)
- 11:20 Prediction of Reactor Vessel Water Level Using Fuzzy Neural Networks in Severe Accidents due to LOCA**
Soon Ho Park, Jae Hwan Kim, and Man Gyun Na(CSU)

IV. 행사장안내

1. 행사장 교통안내

김대중컨벤션센터 : 광주광역시 서구 상무누리로 30(치평동 1159-2) 대표번호 : 062-611-2000

▣ 자가차량 이용시

경로	이용노선
서울 → 광주 (경기, 대전, 전북)	호남고속도로 이용 - 서광주요금소 - 동림IC진입(빛고을로 이용) - 시청후문-상무소각장 - 김대중컨벤션센터
대구 → 광주 (경주, 포항)	88고속도로이용 - 동광주요금소 - 동림IC진입(빛고을로 이용) - 시청후문-상무소각장 - 김대중컨벤션센터
부산 → 광주 (순천, 여수)	호남고속도로 이용 - 동광주요금소 - 동림IC진입(빛고을로 이용) - 시청후문 - 상무소각장 - 김대중컨벤션센터

- 동림IC 진입 - 빛고을로 이용 - 빛고을로 종료 지점으로부터 100m 정도 직진 후 우회전 - 천변도로와 합류 - 천변도로를 타고 직진 - 김대중컨벤션센터 안내 교통 표지판이 나타남 - 이후부터는 이 교통 표지판을 참고(10분 소요)

▣ 주차 안내

센터내 주차를 하시는 경우에는 주차료가 발생합니다

(• 기본 30분까지 : 300원 • 이후 15분 초과시 : 250원 추가 • 일일 주차시 : 5,600원)

센터앞에 위치한 518공원(약 30대 규모)에 무료주차 하시거나, 센터내 주차하신 경우에는 출차시 개별 정산하여 주시면 됩니다.

▣ 고속버스 이용시

출발지	소요시간	배차간격
서울 → 광주	3시간 30분	5~10분
부산 → 광주	3시간 30분	20분
대구 → 광주	3시간 40분	40분
대전 → 광주	2시간	30분
전주 → 광주	1시간 20분	20분
울산 → 광주	4시간 30분	2시간

광주고속버스터미널 → 김대중컨벤션센터	
택시 이용시	약 15분 소요
버스 이용시	순환 01번, 상무 64번, 일곡 38번, 518번 (김대중컨벤션센터 정류장 하차)

IV. 행사장안내

▶ 항공기 이용시

구 간	소요시간	1일 운항횟수
김포 → 광주	50분	10~11회
제주 → 광주	1시간 15분	12회

- 상세한 내용은 각 항공사 홈페이지를 확인하시기 바랍니다.
 - 아시아나 항공 : 1588-8000 <http://www.flyasia.com/>
 - 대한항공 : 1588-2001 <http://kr.koreanair.com/>

광주공항 → 김대중컨벤션센터	
택시 이용시	약 10분 소요
지하철 이용시	약 6분 소요

▶ 기차 이용시

구 간	소요시간
용산역 → 광주역	일반 : 4시간 20분 KTX : 2시간 30분
용산역 → 광주송정역	
대전역 → 광주역	일반 : 2시간 30분 KTX : 2시간
화순역 → 광주역	일반 : 1시간

광주역 → 김대중컨벤션센터	
택시 이용시	약 30분 소요
버스 이용시	상무64, 일곡38, 518번 (김대중컨벤션센터 정류장 하차) 상무02, 상무62, 대촌27, 대촌69, 송정19, 송정39, 송암73, 첨단20번 (종축장 정류장 하차)

광주송정역 → 김대중컨벤션센터	
택시 이용시	약 10분 소요
버스 이용시	상무02번 (종축장 정류장 하차)
지하철 이용시	약 10분 소요

2. 숙박안내

▣ 훌리데이인 광주 호텔 (센터에서 도보로 5분 거리)

- 객실종류 및 금액 (세금, 봉사료 포함)

객실종류	금액	비고
Double	160,000원	1인 조식 포함
Twin	175,000원	2인 조식 포함

- 예약방법 : 객실 예약 신청서 작성후 담당자에게 이메일 송부
- 송 부 처 : higwangju.res@ihg.com 또는 팩스 062-610-7099
- 문 의 처 : 062-610-7000

▣ 라마다프라자 광주 호텔 (센터에서 차량으로 7~8분 거리)

- 객실종류 및 금액 (세금, 봉사료 포함)

객실종류	금액	비고
Double	154,000원	1인 조식 포함
Twin	170,500원	2인 조식 포함

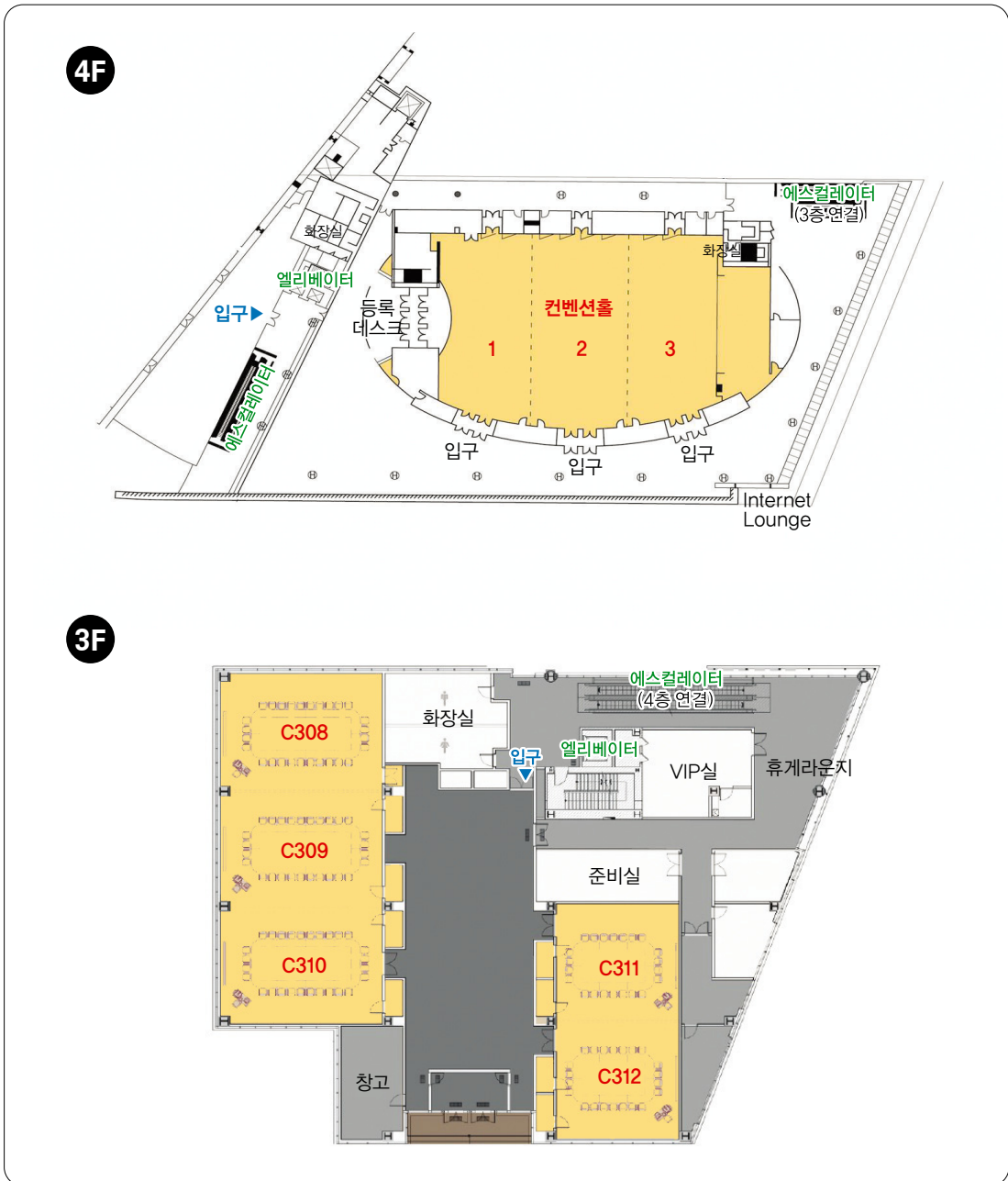
- 예약방법 : 객실 예약 신청서 작성후 담당자에게 이메일 송부
- 송 부 처 : resv@ramadagwangju.com 또는 팩스 062-717-7700
- 문 의 처 : 062-717-7002

※ 객실 예약 신청서는 www.kns.org의 상단메뉴바의 게시판 → 문서자료실에서 다운로드 가능

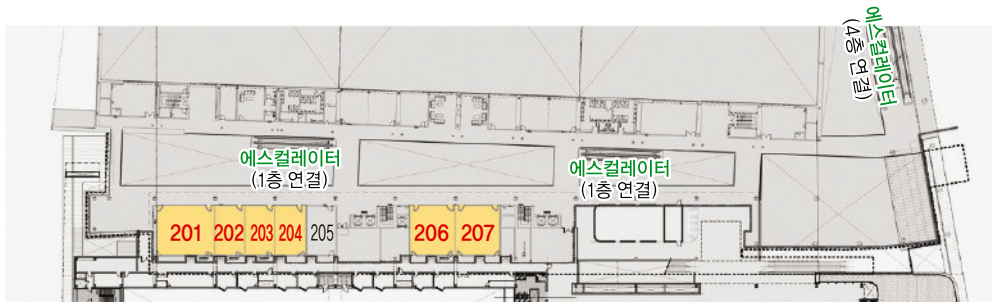
IV. 행사장안내

3. 행사장 배치도

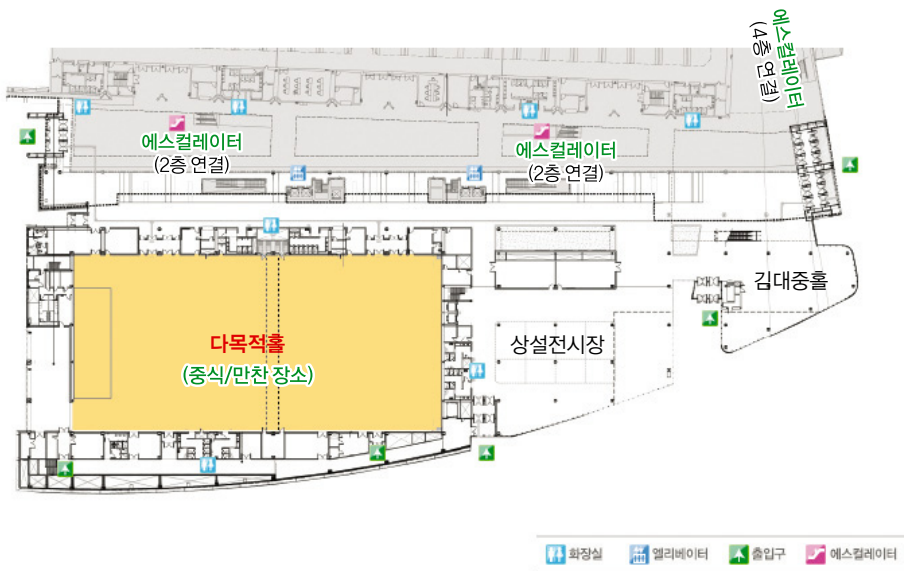
- 등록 및 접수 : 5. 29(수)~5. 31(금) / 4층 등록데스크
- 개회식 및 특별강연 : 5. 30(목) 15:30~18:00 / 4층 컨벤션홀
- 포스터발표 : 5. 30(목) 13:00~15:00 / 4층 로비
- 만찬 : 5. 30(목) 18:00~ / 1층 다목적홀
- 중식 : 5. 30(목)~5.31(금) 12:00~13:30 / 1층 다목적홀



2F



1F



V. 연구부회 모임 일정 안내

아래와 같이 각 연구부회별로 사업계획 및 연구부회 활성화 방안 등을 논의하기 위한 자리를 마련하였습니다. 해당하는 연구부회 모임에 많은 관심과 참석을 부탁드립니다.

• 일 시 : 2013년 5월 30일(목) 13:30 ~ 14:30

[연구부회별 모임 장소]

구분	연구부회명	모임 장소	위치
1	원자로시스템기술	C308	3층
2	원자로물리 및 계산과학	C310	3층
3	방사성폐기물관리	C309	3층
4	핵연료 및 원자력재료	202+203	2층
5	원자력열수력 및 안전	206	2층
6	방사선 이용 및 방호	201	2층
7	양자공학 및 핵융합기술	C311	3층
8	원전 건설 및 운영 기술	204	2층
9	원자력정책, 인력 및 협력	C312	3층
10	원자력계측제어 및 자동원격	207	2층

Ⅵ. 행운권(경품) 행사 안내

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2013춘계학술발표회 행사와 더불어 회원분들을 위하여 아래와 같이 행운권(경품) 행사를 마련 하였습니다. 많은 참여 바랍니다.

▶ 추첨 일정

구분	일시	장소 / 위치	비고
1차	2013. 5. 30(목) 18:30	다목적홀/1층	만찬시
2차	2013. 5. 31(금) 12:40	다목적홀/1층	중식시

▶ 대 상 자 : 학술발표회 등록 회원 (사전등록 및 현장등록)

▶ 운영방법 : 추첨을 통하여 추첨시 참석한 회원에게 경품 지급

VII. 2013 춘계학술발표회 사전등록 신청 안내

▶ 사전등록 방법 :

- 학회 홈페이지(www.kns.org) 회원라운지 → 학술발표회 논문투고/발표참가 → 사전등록신청에 접속 후, 해당사항 체크후 참가 신청
- 참가신청후, 마이페이지 → 학술발표회 참가를 통해 확인 가능
- 아이디를 잊으신 회원분은 회원라운지에서 아이디/패스워드 찾기에 성함과 이메일을 입력하시면 아이디(소속명시)가 나타나며, 패스워드는 저희 사무국으로 연락주시면 몇가지 본인 확인 절차후 알려드립니다.

▶ 학술발표회 참가 (5월 30일(목) ~ 5월 31일(금))

구 분	학 생	정/평생회원	비회원	원료회원
등록금액	2만원	8만원	12만원	면 제

※ 학술발표회 등록비 계좌 : 우리은행 268-036646-13-001(예금주:한국원자력학회)

▶ Workshop 참가 (5월 29일(수))

코드	Workshop명	일 정	참가비
A	중수로 안전성 증진기술 현황 및 전략	13:00~18:00	<input type="checkbox"/> 무료
B	우리나라의 핵자료, 원자로물리 및 계산과학 연구 현황	13:30~17:10	<input type="checkbox"/> 무료
C	방사성폐기물관리기술 최근 동향	13:30~18:00	<input type="checkbox"/> 50,000원
D	사고저항성 핵연료의 필요성 및 국내외 개발현황	13:00~18:00	<input type="checkbox"/> 30,000원
E	중대사고시 노심용융물 관리기술 및 국내 중대사고 정책·제도 추진 방향	09:00~18:00	<input type="checkbox"/> 30,000원
F	핵융합실증로 실현을 위한 핵심 기반기술 확보 방안	13:30~18:00	<input type="checkbox"/> 30,000원
G	원자력 커뮤니케이션 무엇이 어려운가?	14:00~18:00	<input type="checkbox"/> 30,000원
H	핵비확산·핵안보 현안과 미래 전망	14:00~18:00	<input type="checkbox"/> 무료
I	가동원전 I&C의 디지털 업그레이드 국내외 현황 및 국내 가동원전에서의 적용 방안	13:00~18:00	<input type="checkbox"/> 30,000원
J	해양원자력 시스템의 개발 방향	13:00~18:00	<input type="checkbox"/> 50,000원

※ Workshop 등록비 계좌 : 우리은행 1005-200-945714(예금주: 한국원자력학회)

▶ 공통사항

- 온라인 계좌 입금시 필히 **학술발표회 등록비**의 경우 **등록신청자명**으로 입금하여 주시기 바라며, workshop 참가비의 경우 **신청자명+신청workshop 코드** (예:홍길동A)로 입금하여 주시기 바랍니다.
- **학술발표회 등록비 입금계좌와 workshop 참가비 입금계좌가 다름**을 양지하시기 바랍니다. 단, Workshop 참가비는 행사당일 현장에서도 납부 가능합니다.

▶ 일반참가자 등록기한 : 2013년 5월 22일(수)

▶ 문 의 처 : 042-826-2613/4

※ 관련 내용을 파일로 원하시는 회원분께서는 학회 홈페이지 www.kns.org 상단계시판의 문서자료실에서 다운받아 사용하시기 바랍니다.



행복한 창조도시 광주!

광주는 멋의 벨트를 따라 맛의 풍류를 즐기는
전통과 현대가 조화를 이루고 예술과 산업이 어우러진
아시아의 문화중심 도시입니다.

Creative Gwangju, 국제회의 중심도시 !

대규모 국제행사 2014 세계수소에너지학술대회와
2015 하계 유니버시아드대회를 유치한 창조 중심도시 광주가
국제적인 관광 컨벤션도시로 부상하고 있습니다.
그 중심에서 광주관광컨벤션뷰로가 정성을 다하는 마음으로
손님 맞이에 임하도록 하겠습니다.

광주의 가치

전통과 현대의 어울림,
21세기 아시아 대표 문화도시,
신 녹색성장을 통한 관광 컨벤션 허브,
결론은 '광주' 입니다.

대표 유치회의 및 행사

2011 도시환경협약 광주정상회의
2013 JCI 아·태대회
2014 세계수소에너지학술대회
2015 하계 유니버시아드 대회



광주관광컨벤션뷰로
GWANGJU CONVENTION & VISITORS BUREAU

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