## **Technical Sessions**

#### **Tuesday**, June 24th

Track1-1 Cold source reliability of nuclear power plant 8:30 am – 10 am, C-101AB

#### Session Chair:

Session Co-Chair:

Improvement design of open channel interception facilities for nuclear power plant

Technical Paper Publication: ICONE32-0056

Yujia MAO - China Nuclear Power Engineering Co.,Ltd.
Liyuan SHENG - China Nuclear Power Engineering Co.,Ltd.
Ruobing YANG - China Nuclear Power Engineering Co.,Ltd.
Wei BAI - China Nuclear Power Engineering Co.,Ltd.

Study on Capacity Improvement of Cooling Chain System in CPR1000 NPP in High Temperature Site Technical Paper Publication: ICONE32-0074

Yang Ting - China Nuclear Power Engineering Co. Ltd Peng Yue - China Nuclear Power Engineering Co. Ltd Zeng Jianli - China Nuclear Power Engineering Co. Ltd Ma Chao - China Nuclear Power Engineering Co. Ltd Hu Jian - China Nuclear Power Engineering Co. Ltd

Research and Application of Key Technologies for Monitoring and Early Warning of Typical Disaster-Causing Objects (Jellyfish) in the Thermal Sink of Nuclear Power Plants

Technical Paper Publication: ICONE32-0098

Zhang Wenjie - China Nuclear Power Engineering Co., Ltd.
Chen Hongyi - China Nuclear Power Engineering Co., Ltd.
Zhang Rongyong - China Nuclear Power Engineering Co., Ltd.
Li Yushan - China Nuclear Power Engineering Co., Ltd.
Zhao Yazhuo - China Nuclear Power Engineering Co., Ltd.
Lin Yuting - Third Institute Of Oceanography,MNR
Li Qi - China Nuclear Power Engineering Co., Ltd.

Research on the Effect of High Temperature of Seawater on the Cooling of Spent Fuel Pool

<sup>d</sup> International Conference on Nuclear Engineering

Technical Paper Publication: ICONE32-0458

Dingfang XU - Suzhou Nuclear Power Research Institute Co., Ltd.
Yan ZHOU - Yangjiang Nuclear Power Co., Ltd.
Fang LIU - Suzhou Nuclear Power Research Institute Co., Ltd.
Yanyu YANG - Yangjiang Nuclear Power Co., Ltd.
Chihua HE - Yangjiang Nuclear Power Co., Ltd.

.....

ANALYSIS OF SEA WATER TEMPERATURE RISE IMPACT ON THE PERFORMANCE OF REACTOR COOLANT PUMP THERMAL BARRIER IN NUCLEAR POWER PLANT

Technical Paper Publication: ICONE32-0660

Lala Yang - Suzhou Nuclear Power Research Institute Co., Ltd. Yangyu Yang - Yangjiang Nuclear Power Co.,Ltd.

Qiuyang Chen - Suzhou Nuclear Power Research Institute Co., Ltd.

Hui Shao - Suzhou Nuclear Power Research Institute Co., Ltd.

Jian Zhang - Suzhou Nuclear Power Research Institute Co., Ltd.

Analysis on the effect of ultimate heat sink temperature rise in nuclear power plant at the coastal site and its solution

Technical Paper Publication: ICONE32-1095

Ziyi Xu - CNNC Nuclear Power Operation Research Institute Sheng Zhu - CNNC Nuclear Power Operation Research Institute Fuhai Zhang - CNNC Nuclear Power Operation Research Institute Jianjun Wang - CNNC Nuclear Power Operation Research Institute

Track2-1 Nuclear Reactor Materials (I) 8:30 am – 10 am, C-102

Session Chair:

Session Co-Chair:

Experimental Study on Irradiation Hardening of Nickelbased Alloy



#### Technical Paper Publication: ICONE32-1328

Wen-dong Cui - Institute of Nuclear and New Energy Technology, Key Laboratory of Advanced Reactor Engineering and Safety of Ministry of Education, Tsinghua University, China Jun-feng Nie - Institute of Nuclear and New Energy Technology, Key Laboratory of Advanced Reactor Engineering and Safety of Ministry of Education, Tsinghua University, China

Lei He - Institute of Nuclear and New Energy Technology, Key Laboratory of Advanced Reactor Engineering and Safety of Ministry of Education, Tsinghua University, China

**Jun-yu Chen** - Institute of Nuclear and New Energy Technology, Key Laboratory of Advanced Reactor Engineering and Safety of Ministry of Education, Tsinghua University, China

**Pan-dong Lin -** Ministry of Education, Key Laboratory for Liquid-Solid Structural Evolution and Processing of Materials, School of Materials Science and Engineering, Shandong University, China

Impact of Aluminium in High-Temperature and High-Pressure Water on the Oxide Films of 304L Stainless Steel for Nuclear Power Plants

Technical Paper Publication: ICONE32-1389

Xiangyu Cai - Huaneng Xiapu Nuclear Power Co., Ltd Yongxing Chen - Huaneng Xiapu Nuclear Power Co., Ltd Jun Chen - Huaneng Xiapu Nuclear Power Co., Ltd Shengli Cai - Huaneng Xiapu Nuclear Power Co., Ltd Hongjie Chen - Huaneng Xiapu Nuclear Power Co., Ltd Yangcong Dai - Huaneng Xiapu Nuclear Power Co., Ltd Peng Zhao - Huaneng Xiapu Nuclear Power Co., Ltd He Zhao - Huaneng Xiapu Nuclear Power Co., Ltd Wei Tian - Huaneng Xiapu Nuclear Power Co., Ltd

Performance Evaluation of Oxygen Sensors with Cu/ Cu \] O and Ni/NiO Reference Electrodes in Lead-Bismuth Eutectic

Technical Paper Publication: ICONE32-1684

Tengjun Geng - North China Electric Power University Zhenhua Sheng - North China Electric Power University Jianing Zhao - North China Electric Power University Fang Liu - North China Electric Power University Shengfei Wang - North China Electric Power University Haicai Lyu - North China Electric Power University

γ- Scattering Evaluation of the Impact of Internal and External of the Building under the Scene of Lack of Top Shielding in Radioactive Waste Buckets of NPP

Technical Paper Publication: ICONE32-1823

**Zhenyu JIANG -** State Key Laboratory of Nuclear Power Safety Technology and Equipment, China Nuclear Power Engineering Co., Ltd.

Shuhua YIN - China Nuclear Power Design Co., Ltd. Jie LIU - China Nuclear Power Design Co., Ltd.

Yujia CHEN - China Nuclear Power Design Co., Ltd.

Shielding Design Method for Radioactive Compartments in Nuclear Power Plants Coupled with the Effect of γ Scattering from Wall Holes

Technical Paper Publication: ICONE32-1841

Liang ZHAO - China Nuclear Power Design Co., Ltd. Quan GONG - China Nuclear Power Design Co., Ltd. Zhenyu JIANG - State Key Laboratory of Nuclear Power Safety Technology and Equipment, China Nuclear Power Engineering Co., Ltd.

Nanfeng CAO - China Nuclear Power Design Co., Ltd.

.....

INVESTIGATION OF ELECTRON STOPPING POWER OF LOW-ENERGY PARTICLES IN SILICON CARBIDE: A DYNAMICS SIMULATION BASED ON TIME-DEPENDENT DENSITY FUNCTIONAL THEORY

Technical Paper Publication: ICONE32-1876

ligang wang - North China Electric Power University qiang zhao - North China Electric Power University yangyang li - North China Electric Power University guanxiang yang - North China Electric Power University xiaoping ouyang - North China Electric Power University

-02-



Track 7-1 Thermal-hydraulic experiments and measurement methods (I)

8:30 am - 10 am, C-103

#### Session Chair:

Session Co-Chair:

## EXPERIMENTAL STUDY ON VOID FRACTION MEASUREMENT OF AIR-WATER TWO-PHASE DOWNWARD FLOW IN ROD BUNDLE CHANNELS

Technical Paper Publication: ICONE32-1664

Huihui Li - Science and Technology Research Institute of State Power Investment Group

Wendi Huang - North China Electric Power University

Jianfu Du - North China Electric Power University

**Pucheng Fan -** Science and Technology Research Institute of State Power Investment Group

**Fuming Yang -** Science and Technology Research Institute of State Power Investment Group

Shengfei Wang - North China Electric Power University

#### EXPERIMENTAL STUDY ON THE FILM FORMATION CHARACTERISTICS OF NOZZLES IN JET-TYPE CONDENSERS

.....

Technical Paper Publication: ICONE32-1678

Yinghua Chai - Wuhan Second Ship Design and Research Institute, China

Qi Xiao - Wuhan Second Ship Design and Research Institute, China

Chonghai Huang - Wuhan Second Ship Design and Research Institute, China

**Bangminig Li** - Wuhan Second Ship Design and Research Institute, China

Hanbing Ke - Wuhan Second Ship Design and Research Institute, China

.....

## EXPERIMENTAL RESEARCH OF NATURAL CIRCULATION CHARACTERISTICS OF LEAD-BISMUTH EUTECTIC UNDER VERTICAL AND INCLINATION CONDITIONS

Technical Paper Publication: ICONE32-1808

Zhipeng Liu - Chongqing University
Qinglong Wen - Chongqing University
Chenglong Wang - Xi'an Jiaotong University
Zhongkai Mei - Chongqing University
Zhengang Duan - Chongqing University
Wenxi Tian - Xi'an Jiaotong University

EXPERIMENTAL DESIGN OF HEAT EXCHANGER FAILURE AND ALGORITHM VALIDATION

Technical Paper Publication: ICONE32-1986

Jiajun Li - Harbin Engineering University

Hengyuan Wei - Harbin Engineering University Dongyang Li - Harbin Engineering University Sichao Tan - Harbin Engineering University

Ruifeng Tian - Harbin Engineering University

Detection of Boiling in Fuel Assembly Components using the Pressure Noise Correlation Technique

.....

Technical Paper Publication: ICONE32-2191

William Byers - Westinghouse Electric LLC

Yiban Xu - Westinghouse Electric LLC

## Track 8-1 Multiphase Flow

8:30 am – 10 am, C-104A

Session Chair:

Session Co-Chair:

## FLUID MECHANICS OF PNEUMATIC CONVEYING FOR SPHERICAL FUEL ELEMENTS IN HTR: A REVIEW OF THEORY AND APPLICATIONS

Technical Paper Publication: ICONE32-0049

Yunmeng Mu - Tsinghua University Xin Wang - Tsinghua University Bin Wu - Tsinghua University Jinhua Wang - Tsinghua University Lihua Gao - Tsinghua University Haitao Wang - Tsinghua University



## TRANSIENT SIMULATION STUDY ON THE FLOW OF AIR AND NITROGEN OXIDES IN CHUTE PIPELINE OF DISSOVLER IN HEAD-END PROCESS

Technical Paper Publication: ICONE32-0575

Jian Zhou - CNNC 404 Co., Ltd Jian Wang - CNNC 404 Co., Ltd Caibing Liu - CNNC 404 Co., Ltd Qin Chen - CNNC 404 Co., Ltd Xilin Xi - CNNC 404 Co., Ltd Quanming Liang - CNNC 404 Co., Ltd Yajun Bi - CNNC 404 Co., Ltd Xiyuan Gao - CNNC 404 Co., Ltd Bingzheng Ke - CNNC 404 Co., Ltd

Research on the internal instability of Gas-Liquid Two-Phase Swirling Flow

Technical Paper Publication: ICONE32-0722

Jiaming Li - Harbin Engineering University Yicheng Ou - Harbin Engineering University Guangming Fan - Harbin Engineering University Xiaobo Zeng - Harbin Engineering University

.....

#### NUMERICAL STUDY OF BOILING TWO-PHASE FLOW IN THE SUBCHANNEL UNDER INCLINED CONDITION

Technical Paper Publication: ICONE32-0867

Yaru Li - China Nuclear Power Engineering Co.,Ltd. Chenshi Yang - China Nuclear Power Engineering Co.,Ltd.

.....

Numerical simulation of gas-liquid swirling flow based on OpenFOAM

Technical Paper Publication: ICONE32-1514

Haiyang Yang - Harbin Engineering University Xiaobo Zeng - Harbin Engineering University

Guangming Fan - Harbin Engineering University

Yinyuan Tang - Harbin Engineering University

#### CFD STUDY OF GAS-LIQUID TWO-PHASE INTERFACE FLUCTUATION AND ANTI-SHAKING IN WATER TANKS WITHIN PORTABLE NUCLEAR POWER PLATFORMS

Technical Paper Publication: ICONE32-2046

Ruohan Chen - CGN Research Institute Co., LTD. Bin Yang - CGN Research Institute Co., LTD. Feng Chen - CGN Research Institute Co., LTD. Junfeng Li - CGN Research Institute Co., LTD.

Track 9-1 Radioactive Waste Treatment Technology (I) -Gaseous Effluents

8:30 am - 10 am, C-104B

#### Session Chair:

Session Co-Chair:

## MONTE CARLO SIMULATION OF GAMMA DOSE DISTRIBUTION OF NATURALLY OCCURRING RATIONUCLIDES IN NON-STANDARD ROOMS

Technical Paper Publication: ICONE32-0804

**Shang Geng -** School of Energy and Power Engineering, Chongqing University, China

**Feng Wang -** School of Energy and Power Engineering, Chongqing University, China

**Chuncen Wu** - School of Energy and Power Engineering, Chongqing University, China

**Hengyan Du** - Chongqing Radiation Environment Supervision and Management Station, China

**Xiuqin Zhang -** School of Energy and Power Engineering, Chongqing University, China

**Yifan Song -** School of Energy and Power Engineering, Chongqing University, China

Yang Chen - Chongqing Radiation Environment Supervision and Management Station, China

**Mingxiao Wang -** Chongqing Radiation Environment Supervision and Management Station, China

**Guoqiang Wang -** School of Energy and Power Engineering, Chongqing University, China

Tianya Huang - Chongqing Radiation Environment Supervision



and Management Station, China

**Xue Zhao -** Chongqing Radiation Environment Supervision and Management Station, China

Fei Li - Chongqing Radiation Environment Supervision and Management Station, China

Guang Li - Chongqing Radiation Environment Supervision and Management Station, China

#### NUMERICAL STUDY OF A SUPERCRITICAL WATER OXIDATION REACTOR FOR ION EXCHANGE RESIN CONTAINING RADIOACTIVE CONTAMINANTS

Technical Paper Publication: ICONE32-0866

Yaru Li - China Nuclear Power Engineering Co.,Ltd.

Xiangyu Chi - China Nuclear Power Engineering Co.,Ltd.

.....

## THE RESEARCH OF GRAPHITE DUST DEPOSITION IN HTR-PM RADIOACTIVE PIPES AND VALVES

Technical Paper Publication: ICONE32-1236

Xiaomuzi Hu - China Institute of Atomic Energy Xinke Cai - HuaNeng ShanDong ShiDao Bay Nuclear Power co.,ltd. Fang Han - HuaNeng ShanDong ShiDao Bay Nuclear Power co.,ltd. Haiqiong Li - HuaNeng ShanDong ShiDao Bay Nuclear Power co.,ltd. Bin Qu - HuaNeng ShanDong ShiDao Bay Nuclear Power co.,ltd.

## SYNTHESIS OF HIERARCHICAL POROUS ZEOLITE AS EFFICIENT ADSORBENTS FOR METHYL IODIDE REMOVAL FROM SPENT FUEL DISSOLUTION OFF-GAS

Technical Paper Publication: ICONE32-1277

Jinjie Sun - Harbin Engineering University Caishan Jiao - Harbin Engineering University Mengxun Liu - Harbin Engineering University Gang Zhang - CNNC 404 Co., Ltd Wei Gong - CNNC 404 Co., Ltd Jian Ding - CNNC 404 Co., Ltd Chenxi Hou - CNNC 404 Co., Ltd Yaorui Li - Harbin Engineering University Meng Zhang - Harbin Engineering University Research on the assessment method of graphite dust generation in high-temperature gas cooled reactor Technical Paper Publication: ICONE32-1431

Ruonan Guo - Huaneng Nuclear Energy Technology Research Institute Guofeng Tan - Huaneng Hainan Changjiang Nuclear Power Co., Ltd. Jin Shi - Huaneng Nuclear Energy Technology Research Institute Zhende Zhou - Huaneng Nuclear Energy Technology Research Institute Songyang Liu - Huaneng Nuclear Energy Technology Research Institute Qin Zhou - Huaneng Nuclear Energy Technology Research Institute Yangcong Dai - Huaneng Nuclear Energy Technology Research Institute Zhu Wang - Huaneng Nuclear Energy Technology Research Institute Yujia Hong - Huaneng Nuclear Energy Technology Research Institute Xingwang Tang - Huaneng Nuclear Energy Technology Research Institute

Chao Li - Huaneng Nuclear Energy Technology Research Institute Xuelin Li - Huaneng Nuclear Energy Technology Research Institute Lang Wang - Huaneng Nuclear Energy Technology Research Institute Jinsong Guo - Huaneng Nuclear Energy Technology Research Institute Zuxuan Xu - Huaneng Hainan Changjiang Nuclear Power Co., Ltd.

CALCULATION OF RADIOLYTIC PRODUCTS CONCENTRATIONS AND ECP IN PWR PRIMARY COOLANT CIRCUITS DURING SHUTDOWN

Technical Paper Publication: ICONE32-1957

Xiaoqian Zhang - China Nuclear Power Technology Research Institute Co., Ltd

Weijiang Liang - Daya Bay Nuclear Power Operations and Management Co., Ltd

Hantao Lin - China Nuclear Power Technology Research Institute Co., Ltd

**Peng Xu -** China Nuclear Power Technology Research Institute Co., Ltd

Pengtao Fu - China Nuclear Power Technology Research Institute Co., Ltd



Track1-10 Artificial Intelligence and Simulation Control I 8:30 am – 10 am, C-105A

Session Chair:

Session Co-Chair:

#### DEFECT DETECTION IN CONCRETE STRUCTRES USING MULTIHEAD CONVOLUTIONAL NETWORK

Technical Paper Publication: ICONE32-0330

Jesua EPEQUIN - EDF China

Yiting DONG - EDF China

Qiufeng ZHENG - EDF China

Jun MA - Suzhou Nuclear Power Research Institute

Wenrang ZHANG - EDF China

Yiyang LI - EDF China

Yi LI - Suzhou Nuclear Power Research Institute

.....

A Multi-Scale Spatial Convolutional Neural Network for Centrifugal Pumps Fault Diagnosis in Nuclear Power Plant

Technical Paper Publication: ICONE32-0370

Yushun Wang - Department of Engineering Physics, Tsinghua University, China

**Jingquan Liu** - Department of Engineering Physics, Tsinghua University, China

Guangyu Li - Fujian Ningde Nuclear Power Co., Ltd, China

**Ming Ouyang -** Department of Engineering Physics, Tsinghua University, China

Shuai Hu - Fujian Ningde Nuclear Power Co.,Ltd, China

Xianghai Kong - Fujian Ningde Nuclear Power Co., Ltd, China

**Hao Wang -** Department of Engineering Physics, Tsinghua University, China

Yuxuan Han - Department of Engineering Physics, Tsinghua University, China

**Yicong Wu -** Asiainfo Technologies Limited EBC Technology R&D Center, China

**Ziyang Zhang -** Department of Engineering Physics, Tsinghua University, China

.....

#### RESEARCH ON MULTI OBJECTIVE LQR-SMC CONTROL OF REACTOR POWER BASED ON TWO-POINT MODEL

Technical Paper Publication: ICONE32-0695

Yukun Liu - Harbin Engineering University, China Yongkuo Liu - Harbin Engineering University, China Junling Wang - Harbin Engineering University, China Ji Liu - Harbin Engineering University, China

.....

## FUZZY PID SLIDING MODE SELF-TUNED ADAPTIVE CORE POWER CONTROL OF VVER-1000 NUCLEAR REACTOR USING NONLINEAR MULTIPOINT KINETIC MODEL DURING LOAD-FOLLOWING OPERATIONS

Technical Paper Publication: ICONE32-0751

Hailemichael Guadie Mengsitu - Harbin Engineering University

Xiuchun Luan - Harbin Engineering University

Hetao Sun - Harbin Engineering University

Fabiano Gibson Daud Thulu - Virginia Commonwealth University

Cedrick Shema - Harbin Engineering University

.....

Research on the LOCA Diagnosis Technology in PWR based on Recurrent Neural Network (RNN)

Technical Paper Publication: ICONE32-0770

Ke Yi - China Nuclear Power Engineering Co., Ltd.

Time series forecasting framework based on autocorrelation feature and Transformer architecture

.....

Technical Paper Publication: ICONE32-1175

xuan zhang - Colledge of Smart Energy, Shanghai jiao tong universityfan wang - State Nuclear Power Automation System EngineeringCompany, China

meiqi song - Colledge of Smart Energy, Shanghai jiao tong universityyunwei wang - State Nuclear Power Automation SystemEngineering Company, China

xiaojing liu - School of Mechanical Engineering, Shanghai jiao tong university

-06-



#### Track2-10 Fast Reactor Physics (V)

#### 8:30 am - 10 am, C-105B

#### Session Chair:

Session Co-Chair:

Surrogate Machine Learning Model for Multi objective Simulated Annealing-based Core Reloading Pattern Optimization

Technical Paper Publication: ICONE32-0614

Omar Almaleki - Technology Innovation Institute

Khurrum Saleem Chaudri - Khalifa University of Science and Technology

**Mohamed Lahdour -** Khalifa University of Science and Technology

**mohammad Alrwashdeh -** Khalifa University of Science and Technology

**Saeed A. Alameri -** Khalifa University of Science and Technology

#### SNPT-U A PARALLEL SN TRANSPORT SOLVER BASED ON SWEEPING OF UNSTRUCTURED MESHES

Technical Paper Publication: ICONE32-0627

Shengcheng Zhou-CAEP Software Center for High Performance Numerical Simulation, Institute of Applied Physics and Computational Mathematics, China

**Mingrui Yang -** CAEP Software Center for High Performance Numerical Simulation, China

**Zhipeng Li** - CAEP Software Center for High Performance Numerical Simulation, Institute of Applied Physics and Computational Mathematics, China

.....

Study on optimization of low enriched uranium core arrangement of MNSR

Technical Paper Publication: ICONE32-0771

Qian Hao -China Institute of Atomic Energy XiaoBo Wu - China Institute of Atomic Energy JingYan Hong - China Institute of Atomic Energy JinHua Zhang - China Institute of Atomic Energy Dan Peng - China Institute of Atomic Energy YiGuo Li - China Institute of Atomic Energy

#### QUANTIFYING THE IMPACT OF PARTICLE SIZE DISTRIBUTION ON PLATE-TYPE DISPERSED PARTICLE FUEL NEUTRONICS

.....

Technical Paper Publication: ICONE32-0832

Anmin Yuan - Research Institute of Nuclear Power Operations Sicong Fang - Research Institute of Nuclear Power Operations Yuexia Wu - Wuhan 2nd Ship Design and Research Institute Tong Zhu - Research Institute of Nuclear Power Operations Binyue Yu - Research Institute of Nuclear Power Operations Xiaolong Ran - Research Institute of Nuclear Power Operations Ming Qu - Research Institute of Nuclear Power Operations

#### RELATIVE MEASUREMENT AND CALCULATION ANALYSIS OF NEUTRON FLUX BASED ON GOLD FOIL ACTIVATION METHOD IN CARR

Technical Paper Publication: ICONE32-0844

binhe hu -China Institute of Atomic Energyzheng lv -China Institute of Atomic Energyjianlong li - China Institute of Atomic Energy

#### SIMULATION OF PASSIVE START-UP OF MODULAR HIGH TEMPERATURE GAS COOLED REACTOR

Technical Paper Publication: ICONE32-1169

Yangyang Dai - Lanzhou University

Yong Luo - HUANENG Nuclear Energy Technology Research Institute

Zuoye Liu - Lanzhou University

.....

Track 8-10 Safety and Accident Analysis

8:30 am – 10 am, C-106A

Session Chair:

Session Co-Chair:



Numerical Simulation on Hydrogen Distribution and Risk Mitigation within the Isotope Finished Source Products Building of Qinshan

Technical Paper Publication: ICONE32-0058

**Yuxiang Shen -** CNNC Qinshan Isotope Co., Ltd **Yunlong Li -** China Nuclear Power Engineering co.,Ltd. Zhengzhou Branch

**Zhe Lyu -** China Nuclear Power Engineering co.,Ltd. Zhengzhou Branch

.....

#### DEVELOPMENT OF A CFD-BASED ACCIDENT ANALYSIS TOOL AND ITS APPLICATIONS FOR A PRISMATIC GAS-COOLED MICRO REACTOR

Technical Paper Publication: ICONE32-0149

**ZHENG HUANG -** China Nuclear Power Engineering Co., Ltd. (CNPE)

**SHUOTING ZHANG -** China Nuclear Power Engineering Co., Ltd. (CNPE)

JIANHUA DONG - China Nuclear Power Engineering Co., Ltd. (CNPE)

Simulation Study on the Impact of Floating Disaster-Causing Agent Migration to Water Intake Project of Coastal Nuclear Power Plant

Technical Paper Publication: ICONE32-0527

Puyue Ma - China Nuclear Power Engineering Co., Ltd.

Xinshu Jiang - China Nuclear Power Engineering Co., Ltd.

Yu Zhang - Hainan Nuclear Power Co., Ltd.

Jianxin Chen - Hainan Nuclear Power Co., Ltd.

Rongyong Zhang - China Nuclear Power Engineering Co., Ltd.

Qi Li - China Nuclear Power Engineering Co., Ltd.

## COMPARATIVE VERIFICATION OF SIMULATION SOFTWARE FOR INTERNAL FLOODING IN NUCLEAR ISLAND

Technical Paper Publication: ICONE32-0690

Huicui Chen - China Nuclear Power Engineering Co., LTD Yuxuan Fan - China Nuclear Power Engineering Co., LTD Rui Zhang - China Nuclear Power Engineering Co., LTD

## RESEARCH ON HYDRAULIC TRANSIENT AND PREVENTION STRATEGY AT THE INLET OF DEAERATOR IN NPP

Technical Paper Publication: ICONE32-1913

Jiaming Zhao - China Nuclear Power Engineering Co.,Ltd Rui Zhang - China Nuclear Power Engineering Co.,Ltd Wentao Guo - North China Electric Power University Shengfei wang - North China Electric Power University

#### ANALYSIS OF STEEL PLATE CONCRETE MODULE'S THERMAL RESPONSE UNDER FIRE CONDITION IN REACTOR BUILDING BASED ON FDS-ABAQUS

Technical Paper Publication: ICONE32-1936

Lu Zhang - China Nuclear Power Engineering Co., Ltd.
Lan Liu - China Nuclear Power Engineering Co., Ltd.
Xiaomeng Xiong - China Nuclear Power Engineering Co., Ltd.
Yanli Li - China Nuclear Power Engineering Co., Ltd.
Le Wang - China Nuclear Power Engineering Co., Ltd.

.....

Track 7-10 Nuclear reactor safety analysis (II) 8:30 am – 10 am, C-106B

Session Chair:

Session Co-Chair:

## FLOW PATTERN EVOLUTION CHARACTERISTICS OF NARROW CHANNEL REFLOODING PROCESS

Technical Paper Publication: ICONE32-1079

Qianlong Zuo - Chongqing university Erlei Zhao - Nuclear Power Institute of China Haidong Liu - Chongqing University of Technology Deqi Chen - Chongqing university Jian Deng - Nuclear Power Institute of China Hanzhou Liu - Chongqing university Junchen Wu - Chongqing university

-08-



## NUMERICAL SIMULATION OF FLOODING PATHWAYS IN NUCLEAR POWER PLANTS BY COUPLING A POROUS MEDIA MODEL WITH LSMPS

Technical Paper Publication: ICONE32-1099

Xinkai Wang - Xi'an Jiaotong University Xinkun Xiao - Xi'an Jiaotong University Wen Ding - Xi'an Jiaotong University Ronghua Chen - Xi'an Jiaotong University Wenxi Tian - Xi'an Jiaotong University Suizheng Qiu - Xi'an Jiaotong University Guanghui Su - Xi'an Jiaotong University

Numerical investigation on pressure wave in steam generator tube rupture accident of liquid metal cooled fast reactor Technical Paper Publication: ICONE32-1295

Di Wang - China Nuclear Power Technology Research Institute Ren Liang - China Nuclear Power Technology Research Institute Huo Liang - China Nuclear Power Technology Research Institute Zhikang Lin - China Nuclear Power Technology Research Institute

Study on The Single Failure of Steam Generator Tube Rupture Accident

Technical Paper Publication: ICONE32-1300

Xiaoshuang Zhao - China Nuclear Power Design Co., Ltd.Diyan Zhang - China Nuclear Power Design Co., Ltd.Yijun Lv - China Nuclear Power Design Co., Ltd.

WATER HAMMER ANALYSIS OF ESSENTIAL SERVICE WATER SYSTEM IN NUCLEAR POWER PLANT

Technical Paper Publication: ICONE32-1383

Sheng Yan - Sun Yat-Sen University
Jiayue Chen - Sun Yat-Sen University
Yanyu Yang - Yangjiang Nuclear Power Co.,Ltd.
Lv Li - Sun Yat-Sen University
Xiaolong He - Yangjiang Nuclear Power Co.,Ltd.
Xinming Huang - Sun Yat-Sen University
Rongyan Huang - Yangjiang Nuclear Power Co.,Ltd.
Hong Xu - Sun Yat-Sen University

Analysis of Anticipated Operational Occurrences with Loss of Offsite Power for Hualong Nuclear Power Plants Technical Paper Publication: ICONE32-1507

Yanhua Cheng - China Nuclear Power Design Co., Ltd.
Danjing Wei - China Nuclear Power Design Co., Ltd.
Fangqing Yang - China Nuclear Power Design Co., Ltd.
Yousen Hu - China Nuclear Power Design Co., Ltd.

track 9-11 Digital research and applications (I)

8:30 am - 10 am, C-107A

Session Chair:

Session Co-Chair:

## LOPMENT OF AN αMACHINE LEARNING TECHNIQUES FOR THE DEVE, β & γ RADIATION SOURCES DISCRIMINATION SOFTWARE USING A 2D-IMAGING RADIATION DETECTOR

Technical Paper Publication: ICONE32-0160

Hugo Laffolley - Japan Atomic Energy Agency Youichi Tsubota - Japan Atomic Energy Agency Tomoya Tsuji - Japan Atomic Energy Agency Fumiya Honda - Japan Atomic Energy Agency Ayako Nitta - Japan Atomic Energy Agency Riku Kikuchi - Japan Atomic Energy Agency

Performance Evaluation of Silicon-Tungsten Composites for Gamma Radiation Shielding Using Geant4 Simulations

Technical Paper Publication: ICONE32-0792

**Bashir Garba Aminu -** Fundamental Science on Nuclear Safety and Simulation Technology Laboratory, Harbin Engineering University, China

**Yong-Kuo Liu** - Fundamental Science on Nuclear Safety and Simulation Technology Laboratory, Harbin Engineering University, China

Hanan Akhdar - Imam Mohammad bin Saud Islamic University (IMSIU), Saudi Arabia)

Munyense Terence Kashiba - Fundamental Science on



Nuclear Safety and Simulation Technology Laboratory, Harbin Engineering University, China

Musa Abdulhamid - University of Science and Technology of China

.....

Simulation of dose distribution of radioactive equipment in nuclear power plant based on three-dimensional radiation Dose Field Fast Computing software (DOLPHINS)

Technical Paper Publication: ICONE32-0898

Chenyu Shan - China Nuclear Power Technology Research Institute Co.,Ltd.

Jia Huang - China Nuclear Power Technology Research Institute Co.,Ltd.

Wenzhang Xie - China Nuclear Power Technology Research Institute Co.,Ltd.

**Qingxin Lei -** China Nuclear Power Technology Research Institute Co.,Ltd.

Kang Chang - China Nuclear Power Technology Research Institute Co.,Ltd.

Hao Zhou - China Nuclear Power Technology Research Institute Co.,Ltd.

**Feng Liu -** China Nuclear Power Technology Research Institute Co.,Ltd.

Xiajie Liu - China Nuclear Power Technology Research Institute Co.,Ltd.

Chaoyuan Xiao - China Nuclear Power Technology Research Institute Co.,Ltd.

**Yizhi Chen -** China Nuclear Power Technology Research Institute Co.,Ltd.

Digital Research and Application of Radiation Protection in Pressurized Water Reactor Nuclear Power Plants Technical Paper Publication: ICONE32-0939

Quan Gong - China Nuclear Power Engineering Co., Ltd. Wenhua NIU - China Nuclear Power Engineering Co., Ltd. Xiaoqiang Chen - China Nuclear Power Engineering Co., Ltd. Weihua He - Taishan Nuclear Power Joint Venture Company Limited Nanfeng Cao - China Nuclear Power Engineering Co., Ltd.

## A GAUSSIAN CONVOLUTION AND CURVE FITTING METHOD FOR IDENTIFYING OVER-LAPPING PEAKS IN GAMMA ENERGY SPECTRA

Technical Paper Publication: ICONE32-1080

Rulan Qin - Shanghai Institute of Applied Physics, Chinese Academy of Sciences

**Jun Cai -** Shanghai Institute of Applied Physics, Chinese Academy of Sciences

Changyuan Li - Shanghai Institute of Applied Physics, Chinese Academy of Sciences

Zhangjian Qin - Chengdu University of Technology

**Bingbing Gou -** Shanghai Institute of Applied Physics, Chinese Academy of Sciences

Zhihong Zhang - Shanghai Institute of Applied Physics, Chinese Academy of Sciences

Zhicheng Qian - Shanghai Institute of Applied Physics, Chinese Academy of Sciences

Verifying the accuracy of two-dimensional ocean nuclide migration model using statistical parameters and machine learning method

Technical Paper Publication: ICONE32-1875

Chenrui Fan-Weiyang College, Tsinghua University

**Zhengzhe Qu** -Institute of Nuclear and New Energy Technology, Collaborative Innovation Center of Advanced Nuclear EnergyTechnology, Key Laboratory of Advanced Reactor Engineering and Safety of Ministry of Education, TsinghuaUniversity

Yu Wang-Institute of Nuclear and New Energy Technology, Collaborative Innovation Center of Advanced Nuclear EnergyTechnology, Key Laboratory of Advanced Reactor Engineering and Safety of Ministry of Education, TsinghuaUniversity

Feng Xie-Institute of Nuclear and New Energy Technology, Collaborative Innovation Center of Advanced Nuclear EnergyTechnology, Key Laboratory of Advanced Reactor Engineering and Safety of Ministry of Education, TsinghuaUniversity

-10-



Yongye Liu - Nuclear and Radiation Safety Center, MEE, China Ping Wang - Nuclear and Radiation Safety Center, MEE, China Xinhua Liu - Nuclear and Radiation Safety Center, MEE, China

Track 16-1 Reactor Physics and Coupling Analysis I 8:30 am – 10 am, C-107B

#### Session Chair:

Session Co-Chair:

#### STUDY ON NEUTRONIC AND THERMAL-HYDRAULIC COUPLING OF A MOLTEN SALT REACTOR BASED ON GEN-FOAM

Technical Paper Publication: ICONE32-0147

Wenqiang Wu - Xi'an Jiaotong University
Dalin Zhang - Xi'an Jiaotong University
Xingguang Zhou - Xi'an Jiaotong University
Wenxi Tian - Xi'an Jiaotong University
Suizheng Qiu - Xi'an Jiaotong University
Guanghui Su - Xi'an Jiaotong University

High-fidelity Neutronic-Thermohydraulic Coupling Method in Plate-Type PWR with High Local Void Fraction

Technical Paper Publication: ICONE32-0550

Guodong Liu - Tsinghua University Ying He - Tsinghua University Junren Hou - Tsinghua University Meiming Qiu - Tsinghua University Xingyu Zhao - Tsinghua University Shanfang Huang - Tsinghua University Kan Wang - Tsinghua University

Zhigang Li - Nuclear Power Institute of China

Chuan Lu - Nuclear Power Institute of China

Diffusion based pin-resolved neutronics simulation of a hexagonal lead-cooled fast reactor with L-BFGS optimization of superhomogenization factors

Technical Paper Publication: ICONE32-0610

#### Fredrik Dehlin - KTH

High-Fidelity CRUD Coupling Simulation for PWR Power Shift

.....

Technical Paper Publication: ICONE32-0810

chaoyuan zhang - School of Nuclear Science and Engineering, Shanghai Jiao Tong University, China tengfei zhang - School of Nuclear Science and Engineering, Shanghai Jiao Tong University, China han yin - School of Nuclear Science and Engineering, Shanghai Jiao Tong University, China van liu - School of Nuclear Science and Engineering, Shanghai Jiao Tong University, China hui he - School of Nuclear Science and Engineering, Shanghai Jiao Tong University, China xiaojing liu - School of Nuclear Science and Engineering, Shanghai Jiao Tong University, China Initial calculations of neutronics, neutron energy and neutron flux spectrum at Joyo fast reactor MK-IV core for radioisotope production purposes 「常陽」 Technical Paper Publication: ICONE32-1665

Luis Fernando Salas Tapia - The University of Tokyo Shuichi Hasegawa - The University of Tokyo

.....

Track 3-1 Instrumentation and Measurement Technology

8:30 am – 10 am, C-108A

Session Chair:

Session Co-Chair:

#### RANDOM SIGNAL GENERATION METHOD FOR TESTING EX-CORE NUCLEAR MEASUREMENT SYSTEMS

Technical Paper Publication: ICONE32-0557

**Qichang Huang -** National Key Laboratory of Nuclear Reactor Technology, Nuclear Power Institute of China

**Wenbin Wei -** National Key Laboratory of Nuclear Reactor Technology, Nuclear Power Institute of China



**Yuan Xia -** National Key Laboratory of Nuclear Reactor Technology, Nuclear Power Institute of China

**Bo Wan -** National Key Laboratory of Nuclear Reactor Technology, Nuclear Power Institute of China

**Bangping Xiong -** National Key Laboratory of Nuclear Reactor Technology, Nuclear Power Institute of China

**Miao Wang -** National Key Laboratory of Nuclear Reactor Technology, Nuclear Power Institute of China

**Shangqing Sun -** National Key Laboratory of Nuclear Reactor Technology, Nuclear Power Institute of China

Naixin Zhang - National Key Laboratory of Nuclear Reactor Technology, Nuclear Power Institute of China

.....

Application Introduction and Measurement Difference Analysis of Bend Flow Meter in Helium Flow Measurement of High Temperature Gas Cooled Reactor Primary Loop

Technical Paper Publication: ICONE32-1094

**Zhongshu Zhang -** Huaneng Shandong Shidao Bay Nuclear Power Co., Ltd

Lei Jiang - Huaneng Shandong Shidao Bay Nuclear Power Co., Ltd Baokun Liu - Huaneng Shandong Shidao Bay Nuclear Power Co., Ltd Zengtian Ru - Huaneng Shandong Shidao Bay Nuclear Power Co., Ltd Feng Wang - Huaneng Shandong Shidao Bay Nuclear Power Co., Ltd Feng Jiang - Huaneng Shandong Shidao Bay Nuclear Power Co., Ltd Na Song - Huaneng Shandong Shidao Bay Nuclear Power Co., Ltd

Response Current Delay-Effect Elimination for SPND in PWR-Core

Technical Paper Publication: ICONE32-1200

Hangqi Zhang - Xi'an Jiaotong University, China Yunzhao Li - Xi'an Jiaotong University, China Liangzhi Cao - Xi'an Jiaotong University, China

Enangem Cuo Th un bluotong Chitershy, China

#### A STUDY ON THE SPATIAL EFFECT OF EMITTER BURNUP IN RHODIUM SELF-POWERED NEUTRON DETECTORS

Technical Paper Publication: ICONE32-1408

Bite Qiu - Xi'an Jiaotong University

Shiyu Liu - Xi'an Jiaotong University Yaodong Sang - Xi'an Jiaotong University

Qingmin Zhang - Xi'an Jiaotong University

## RESEARCH ON ADVANCED MEASUREMENT TECHNOLOGY APPLIED TO RADIATION MONITORING SYSTEM IN NUCLEAR POWER PLANT

.....

Technical Paper Publication: ICONE32-1500

Tianzhi JIANG - Nuclear Power Institute of China

Jin LI - Nuclear Power Institute of China

Xianglin ZHUO - Nuclear Power Institute of China

Research and Development of The Long-life Class 1E

Dewpoint meter and Portable Comparison Device for HTR-PM

Technical Paper Publication: ICONE32-2041

**Qiangqiang yang -** Huaneng Nuclear Energy Technology Research Institute Co., Ltd

Huimin Sun - Huaneng Nuclear Energy Technology Research Institute Co., Ltd

Wei wang - Huaneng Nuclear Energy Technology Research Institute Co., Ltd

Weijun Lei - Huaneng Nuclear Energy Technology Research Institute Co., Ltd

**Jie Xu -** Huaneng Nuclear Energy Technology Research Institute Co., Ltd

**Ping Liu -** Huaneng Nuclear Energy Technology Research Institute Co., Ltd

Ying Sun - Huaneng Shandong Shidao Bay Nuclear Power Co., Ltd Chen Wang - Huaneng Shandong Shidao Bay Nuclear Power Co., Ltd

Track 16-7 Reactor Physics and Coupling Analysis II 8:30 am – 10 am, C-108B

Session Chair:

Session Co-Chair:

Design of extraction system of ECR ion source for associated particle neutron generator



#### Technical Paper Publication: ICONE32-0103

Yingying Cao - Northeast Normal University Pingwei Sun - Northeast Normal University Shangrui Jiang - Northeast Normal University Jiayu Li - Northeast Normal University Sijia Zhou - Northeast Normal University Jia Song - Northeast Normal University Shengduo Liu - Northeast Normal University Weiyang Zhang - Northeast Normal University Siqi Liu - Northeast Normal University Zebin Li - Northeast Normal University Yuxuan Gu - Northeast Normal University Yue Sun - Northeast Normal University Hailong Xu - Northeast Normal University Shiwei Jing - Northeast Normal University

#### Neutron Ionization Chamber Based on Multi-Layer Boron-Coated Cylinders

Technical Paper Publication: ICONE32-0864

Peng Tang - Institute of Nuclear and New Energy Technology Jiahao Chang1 - Institute of Nuclear and New Energy Technology Hongyin Zhang1 - Institute of Nuclear and New Energy Technology Jintao Fu - Institute of Nuclear and New Energy Technology Xincheng Xiang - Institute of Nuclear and New Energy Technology

#### STUDY OF REFINED EVENT PARALLEL ALGORITHM FOR GPU-BASED MONTE CARLO PARTICLE TRANSPORT

Technical Paper Publication: ICONE32-0928

Yushuo Ren - Tsinghua University, China Zeguang Li - Tsinghua University, China Henglong Lin - Tsinghua University, China Zilin Su - Tsinghua University, China Haochun Ding - Tianjin Normal University, China Kan Wang - Tsinghua University, China

#### A BOUNDARY-TYPE ALGORITHM BASED ON NONLINEAR ITERATION FOR NEUTRON DIFFUSION EQUATION

Technical Paper Publication: ICONE32-0992

yanting cheng - North China Electric Power Universitymei huang - North China Electric Power Universityxiaoping ouyang - North China Electric Power University

Research on Scanning Trajectories and Reconstruction Algorithms for Industrial CT Inspection of Large Components

Technical Paper Publication: ICONE32-1037

Jintao Fu - Tsinghua University Zirou Jiang - Tsinghua University Tianchen Zeng - Tsinghua University Yuewen Sun - Tsinghua University Bo Zhao - Tsinghua University Peng Tang - Tsinghua University Peng Cong - Tsinghua University

Research on Uncertainty in Online Nuclide Measurement for Pebble Bed High-Temperature Reactors Technical Paper Publication: ICONE32-1329

Zhang Hongjian - Tsinghua University
Yu Chenyue - East China University of Technology
Wen Yanlong - Tsinghua University
Zhu Qin - Tsinghua University
Xiao Haiyan - Tsinghua University
Zhang Liguo - Tsinghua University
Ma Tao - Tsinghua University

Neutron physical performance analysis of helical cruciform fuel rods based on Direct Accelerated Geometry Monte Carlo

Technical Paper Publication: ICONE32-1456

Jiejin Cai - South China University of Technology Jingqi He - South China University of Technology

Track13-1 PSA-I

8:30 am - 10 am, C-109A



#### Session Chair:

Session Co-Chair:

Research on uncertainty analysis and evaluation of cosCONT software

Technical Paper Publication: ICONE32-0399

YICHUN WANG - North China Electric Power UniversityQILONG WANG - North China Electric Power UniversityYU YU - North China Electric Power University

PSA Application for High Energy Line Breaks in Nuclear Power Plant

.....

Technical Paper Publication: ICONE32-0417

Yulong WU - China Nuclear Power Engineering Co., Ltd.
Huina SANG - China Nuclear Power Engineering Co., Ltd.
Chunju YANG - China Nuclear Power Engineering Co., Ltd.
Jinkai WANG - China Nuclear Power Engineering Co., Ltd.
Zhiwen WANG - China Nuclear Power Engineering Co., Ltd.
Xiaoming TANG - China Nuclear Power Engineering Co., Ltd.

**Risk-informed DEC-B Sequence Determination** Technical Paper Publication: ICONE32-0795

Wenjing LI - CNPE Kunxiu LIU - CNPE Jing LIU - CNPE Wei WEI - CNPE

#### A RISK CLASSIFICATION METHOD OF NUCLEAR POWER SMALL BRANCH PIPING FOR PREVENTIVE MAINTENANCE PURPOSES

Technical Paper Publication: ICONE32-1432

Dan Wang - Xi'an Thermal power research institute CO.,LTD Peiyao Qi - Xi'an Thermal power research institute CO.,LTD Boyuan Wang - Xi'an Thermal power research institute CO.,LTD Bo Zhao - Xi'an Thermal power research institute CO.,LTD Dawei Wei - Xi'an Thermal power research institute CO.,LTD Heng Zhang - Xi'an Thermal power research institute CO.,LTD Qilong Hu - Xi'an Thermal power research institute CO.,LTD Xinhui Yang - Huaneng Hainan Changjiang Nuclear Power CO., LTD Ke Ren - Huaneng Hainan Changjiang Nuclear Power CO., LTD Youxing Wang - Huaneng Hainan Changjiang Nuclear Power CO., LTD

.....

## ANALYSIS OF SEVERE ACCIDENT RISK OF GEN II NUCLEAR POWER PLANTS BASED ON INTERNAL EVENT LEVEL2 PROBABILISTIC SAFETY ASSESSMENT

Technical Paper Publication: ICONE32-1602

Shujie Guo - CNPE Yun Yu - CNPE Jingyi Liang - CNPE Wenjing Li - CNPE Wei Wei - CNPE Xinli Yu - CNPE

**Risk Assessment of the Large Release for Hainan SMR** Technical Paper Publication: ICONE32-1760

.....

Jing Liu - CNPE Yu Liu - CNPE Jingyi Liang - CNPE Wei Wei - CNPE Xinli Yu - CNPE

Track 13-2 PSA-II 8:30 am – 10 am, C-109B

Session Chair:

Session Co-Chair:

Research of the Risk of Interfacing-System Loss-of-Coolant Accident for HPR1000

Technical Paper Publication: ICONE32-0019

Jian Yang - china nuclear power engineering co. ltd Chu Ran Feng - china nuclear power engineering co. ltd

Research on the Key Parameters of the Natural Cooling Process in Lead-Bismuth Fast Reactor Based on Analytic Hierarchy Process

Technical Paper Publication: ICONE32-0402



Qilong Wang - North China Electric Power UniversityYichun Wang - North China Electric Power UniversityYu Yu - North China Electric Power University

## An Adaptive Artificial Neural Network for Functional Failure Identification of Passive Safety Systems Technical Paper Publication: ICONE32-0423

Xiaowei Jiao - Nuclear Power Operations Research Institute Shanpu Wang - Nuclear Power Operations Research Institute Jianhua Xia - Nuclear Power Operations Research Institute Jiajian Wang - Nuclear Power Operations Research Institute Yue Li - Nuclear Power Operations Research Institute Chaoquan Shi - Nuclear Power Operations Research Institute Liwen He - Nuclear Power Operations Research Institute

**Study on Risk-Informed Single Failure Criterion** Technical Paper Publication: ICONE32-0492

Qianwen Liu - China Nuclear Power Engineering Co., Ltd Yuxiang Wu - China Nuclear Power Engineering Co., Ltd Lifeng Song - China Institute of Nuclear Industry Strategy Guangfei Wang - China Nuclear Power Engineering Co., Ltd Jian Yang - China Nuclear Power Engineering Co., Ltd

Theoretical Investigation of F-C Curves for Non-Light Water Reactors and Comparison with Probabilistic Safety Objectives of HTGRs

Technical Paper Publication: ICONE32-0889

Jie He - Sichuan University

Guofeng Tan - Huaneng Hainan Changjiang Nuclear Power Co., Ltd. Jin Shi - Huaneng Nuclear Energy Technology Research Institute Ning Huang - Sichuan University

Zhende Zhou - Huaneng Nuclear Energy Technology Research Institute

Ruonan Guo - Huaneng Nuclear Energy Technology Research Institute

Qin Zhou- Huaneng Nuclear Energy Technology Research Institute

Zuxuan Xu - Huaneng Hainan Changjiang Nuclear Power Co., Ltd.Yujia Hong - Huaneng Nuclear Energy Technology Research

#### Institute

**XingWang Tang** - Huaneng Nuclear Energy Technology Research Institute

Yangcong Dai - Huaneng Nuclear Energy Technology Research Institute

Chao Li - Huaneng Nuclear Energy Technology Research Institute

Junjie Chen - Huaneng Nuclear Energy Technology Research Institute

Sanping Xiao - Huaneng Nuclear Energy Technology Research Institute

Study on Relay Desensitization of Main Feed Water Regulating Valves in A Nuclear Power Plant

Technical Paper Publication: ICONE32-1613

**YUEHUA HU** - Shanghai Nuclear Engineering Research & Design Institute CO.LTD

**JINGJING LIU** - Shanghai Nuclear Engineering Research & Design Institute CO.LTD

JIAQING CHEN - CNNP Nuclear Power Operation and Management CO., LTD.

**Ming ZHAO -** CNNP Operation and Maintain Technology CO., LTD

Yong LIU - Shanghai Nuclear Engineering Research & Design Institute CO.LTD

.....

THE RESULTS AND INSIGHTS OF LEVEL 1 PROBABILISTIC SAFETY ANALYSIS FOR SODIUM COOLED FAST REACTOR

Technical Paper Publication: ICONE32-1712

jing WANG - China Institute of Atomic Energy

Han YAN - China Institute of Atomic Energy

Ting WANG - China Institute of Atomic Energy

**Track15-1 Nuclear Education** 

8:30 am – 10 am, C-112

Session Chair:

Session Co-Chair:



Research on project-driven "nuclear+X" graduate training mechanism

Technical Paper Publication: ICONE32-0745

Feng Wang - Chongqing University
Zhongqing Yang - Chongqing University
Zhaolei Zheng - Chongqing University
Hong Gao - Chongqing University
Guoqiang Wang - Chongqing University
Lizha BIEKEEN - Chongqing University
Shang Geng - Chongqing University
Yifan Song - Chongqing University

#### DIFFERENCES IN RISK PERCEPTION BETWEEN NUCLEAR TECHNOLOGY EXPERTS AND THE PUBLIC: AN ANALYSIS OF DECISION-MAKING MODELS BASED ON DUAL PROCESS THEORY

Technical Paper Publication: ICONE32-0767

Wenjie Zhu - Sun Yat-sen University

Dawei Pan - Sun Yat-sen University

## A NUCLEAR PROFESSIONAL LLM-BASED AI AND ITS TEACHING APPLICATION

Technical Paper Publication: ICONE32-0828

**Yanwei Wu** - Department of Engineering Physics, Tsinghua University China

Miao Yan - Department of Engineering Physics, Tsinghua University China

**Wenrui Hao -** Department of Engineering Physics, Tsinghua University China

Nanzhi Wang - Department of Engineering Physics, Tsinghua University China

Yang Chang - Department of Engineering Physics, Tsinghua University China

**Chong Liu** - Department of Engineering Physics, Tsinghua University China

**Zan Zhai -** Department of Engineering Physics, Tsinghua University China

**Shanfang Huang -** Department of Engineering Physics, Tsinghua University China Wei Wei - CNNC Key Laboratory on Nuclear Industry Simulation Wuhan, China

Yuxi Liu - CNNC Key Laboratory on Nuclear Industry Simulation Wuhan, China

**Xiong Huang -** CNNC Key Laboratory on Nuclear Industry Simulation Wuhan, China

**Kan Wang -** Department of Engineering Physics, Tsinghua University China

.....

Rad-Sim: Radiation-field-simulation Software Used for Teaching

Technical Paper Publication: ICONE32-0900

Wenrui Hao - Tsinghua University, China

Miao Yan - Tsinghua University, China

Yanwei Wu - Tsinghua University, China

Nanzhi Wang - Tsinghua University, China

Yang Chang - Department of Engineering PhTsinghua University, China

Shanfang Huang - Tsinghua University, China

**Kan Wang -** Department of Engineering Physics, Tsinghua University, China

Wei Wei - CNNC Key Laboratory on Nuclear Industry Simulation, China

Xiong Huang - CNNC Key Laboratory on Nuclear Industry Simulation, China

CLIMATE CHANGE AND THE ROLE OF NUCLEAR ENERGY

Technical Paper Publication: ICONE32-1830

Zafar Koreshi - Solved Engineering Technologies (SMC-Pvt) Ltd.

Track6-1 Research on the Engineering Cost 8:30 am – 10 am, C-113

Session Chair:

Session Co-Chair:

Research on Construction Management Costs of Civil Engineering in Nuclear Chemical Construction Projects

-16-

e 32<sup>nd</sup> International Conference on Nuclear Engineering

#### Technical Paper Publication: ICONE32-0233

Jianbin Niu - China Nuclear Power Engineering Corporation Hongying Yu - China Nuclear Power Engineering Corporation Dong Zhao - China Nuclear Power Engineering Corporation

Research on the Labor Costs Related to the Fixed Budget for the Construction of a Nuclear Chemical Reprocessing Plant

Technical Paper Publication: ICONE32-0349

Lei Cao - China Nuclear Power Engineering Co.,LTD Dong Zhao - China Nuclear Power Engineering Co.,LTD

The Practice of Compilation of Budgetary Quotas for Steel Structure Works in Civil Construction of Nuclear Chemical Construction Projects

Technical Paper Publication: ICONE32-0763

Hong-Ying Yu - China Nuclear Power Engineering Co., Ltd.Jian-Bin Niu - China Nuclear Power Engineering Co., Ltd.Dong Zhao - China Nuclear Power Engineering Co., Ltd.

Research on the calculation of safety and civilized construction cost standard of nuclear chemical construction project

Technical Paper Publication: ICONE32-1274

Hong Gao - Nuclear Power Engineering Co., Ltd., China Jian-bin Niu - Nuclear Power Engineering Co., Ltd., China Dong Zhao - Nuclear Power Engineering Co., Ltd., China

Research on the Evaluation System for the Implementation of Nuclear Power Standards and Construction of a Feedback System

Technical Paper Publication: ICONE32-2151

Ruilin Dong - Institute for Standardization of Nuclear Industry Shaolin Zhang - Institute for Standardization of Nuclear Industry

Yang Liu - Institute for Standardization of Nuclear Industry Dengxiao Wang - Institute for Standardization of Nuclear Industry Inspiration and Reference of the Power Industry Engineering Quota Standards Management System to Quota Standards and Cost Management in the Nuclear Engineering Field

Technical Paper Publication: ICONE32-2156

Yang Liu - Institute for Standardization of Nuclear Industry Ruilin Dong - Institute for Standardization of Nuclear Industry Shaolin Zhang - Institute for Standardization of Nuclear Industry

Track6-4 Standardization of nuclear power plants

8:30 am - 10 am, C-114

Session Chair:

Session Co-Chair:

#### RESERCH ON EQIPMENT QUALIFICATION STANDARDS FOR AUTOMATIC FIRE ALARM SYSTEM IN NUCLEAR POWER PLANT

Technical Paper Publication: ICONE32-0038

Chen Zhang - China Nuclear Power Engineering Co., Ltd Linna Zhang - China Nuclear Power Engineering Co., Ltd.

A Brief Discussion on the Standardization Management of Material Master Data in Nuclear Power Projects

Technical Paper Publication: ICONE32-0131

Chen Shi - China Nuclear Power Engineering Co., Ltd. Xiao Yuan - China Nuclear Power Engineering Co., Ltd.

Studies on J-integral estimation of pipeline with circumferential surface crack based on finite element analysis

Technical Paper Publication: ICONE32-0868

Yingke Li - China Productivity Center for Machinery Co., Ltd Xiaomin Tan - Nuclear Power Operations Research Institute, China Yuhan Wang - Nuclear Power Operations Research Institute, China Jun Pan - China Productivity Center for Machinery Co., Ltd Zhangxing Chen - China Productivity Center for Machinery Co., Ltd



Chang Liu - China Productivity Center for Machinery Co., Ltd Xihui Su - China Productivity Center for Machinery Co., Ltd

Analysis of fusion reactors design safety requirements Technical Paper Publication: ICONE32-0891

Qiwei TIAN - China Nuclear Power Engineering Co., Ltd Xiangyi WANG - China Nuclear Power Engineering Co., Ltd Yijie QIAN - China Nuclear Power Engineering Co., Ltd Haifu SHI - China Nuclear Power Engineering Co., Ltd Chong LI - China Nuclear Power Engineering Co., Ltd

#### MATERIAL RELOCATION TEST STUDY OF PELLET TO CLADDING INTERACTION IN FAST REACTOR DESIGN

Technical Paper Publication: ICONE32-2033

Yan PENG - China Institute of Atomic Energy

#### **Track1-2 Material fatigue effect**

10:30 am - 12 pm, C-101AB

#### Session Chair:

Session Co-Chair:

#### DIAGNOSIS OF WORN LABYRINTH IN A 16 MW STEAM TURBINE BEARING

Technical Paper Publication: ICONE32-2194

KAMORUDEEN ABIDOGUN- Lead Engineer, Saudi Aramco

#### RESEARCH ON THE THERMAL AGING BEHAVIOR OF SMAW WELDED JOINTS FOR PRIMARY COOLANT PIPING

Technical Paper Publication: ICONE32-0488

**Shuang Qi** - Materials Engineering Research Center, Suzhou Nuclear Power Research Institute

Wangjie Qian - Materials Engineering Research Center, Suzhou Nuclear Power Research Institute

**Guannan Jiang -** Daya Bay Nuclear Power Operations and Management Co,Ltd

Yinghui An - Daya Bay Nuclear Power Operations and

Management Co,Ltd

**Minyu Fan** - Materials Engineering Research Center, Suzhou Nuclear Power Research Institute

Weiwei Yu - Materials Engineering Research Center, Suzhou Nuclear Power Research Institute

Kuiyuan Fang - Daya Bay Nuclear Power Operations and Management Co,Ltd

**Ping Huang -** Materials Engineering Research Center, Suzhou Nuclear Power Research Institute

Kexin Cai - Materials Engineering Research Center, Suzhou Nuclear Power Research Institute

Thermal Stress and Fatigue Analyses of RRA Heat Exchanger Under The condition of Increasing The Preheating Rate of RRA System

Technical Paper Publication: ICONE32-1375

Feifei TANG - Suzhou Nuclear Power Research Institute Co.,Ltd. Yongjun Gao - Suzhou Nuclear Power Research Institute Co.,Ltd.

.....

Research Progress of Creep Life Prediction Methods for High-Temperature Structural Materials

Technical Paper Publication: ICONE32-1761

**Xu Li -** Huaneng Nuclear Energy Technology Research Institute Co., Ltd.

**Qingwu Wang -** Huaneng Nuclear Energy Technology Research Institute Co., Ltd.

Yingjie Zhan - Huaneng Shandong Shidao Bay Nuclear Power Co., Ltd.

A COMPARATIVE STUDY OF NUMERICAL ANALYSIS METHODS FOR THE STRAIN RATE OF PWR ENVIRONMENTAL FATIGUE CORRECTION FACTOR

Technical Paper Publication: ICONE32-1853

xuejiao shao - National Key Laboratory of Nuclear Reactor Technology, Nuclear Power Institute of China

hai xie - National Key Laboratory of Nuclear Reactor Technology, Nuclear Power Institute of China

xiaoming bai - National Key Laboratory of Nuclear Reactor

e 32<sup>nd</sup> International Conference on Nuclear Engineering

Technology , Nuclear Power Institute of China hui li - National Key Laboratory of Nuclear Reactor Technology , Nuclear Power Institute of China

**jianhao zhang -** National Key Laboratory of Nuclear Reactor Technology , Nuclear Power Institute of China

**shuai liu** - National Key Laboratory of Nuclear Reactor Technology , Nuclear Power Institute of China

**daoping liu** - National Key Laboratory of Nuclear Reactor Technology , Nuclear Power Institute of China

.....

#### AN APPRAOCH TO PREDICT THE LONG-TERM CREEP LIFE OF METAL MATERIALS BASED ON AN IMPROVED LM PARAMETER METHOD

Technical Paper Publication: ICONE32-1882

Hui Li - National Key Laboratory of Nuclear Reactor Technology, Nuclear Power Institute of China

Xiaoming Bai - National Key Laboratory of Nuclear Reactor Technolog , Nuclear Power Institute of China

**Xuejiao Shao -** National Key Laboratory of Nuclear Reactor Technolog, Nuclear Power Institute of China

**Jianhao Zhang -** National Key Laboratory of Nuclear Reactor Technology, Nuclear Power Institute of China

Jun Tian - National Key Laboratory of Nuclear Reactor Technology, Nuclear Power Institute of China

**Binyang Wu -** National Key Laboratory of Nuclear Reactor Technology, Nuclear Power Institute of China

Research on Key Technologies for Nuclear Power Plant Life Extension Based on Fatigue Monitoring and Transient Statistics

Technical Paper Publication: ICONE32-2111

**Fengxian Zhu -** Huaneng Hainan Changjiang Nuclear Power Co., Ltd

Jilan Zhang - Huaneng Hainan Changjiang Nuclear Power Co., Ltd Ke Ren - Huaneng Hainan Changjiang Nuclear Power Co., Ltd Xinhui Yang - Huaneng Hainan Changjiang Nuclear Power Co., Ltd Shan Xue - Hainan University

#### .....

## Track2-2 Nuclear Reactor Materials (II) 10:30 am – 12 pm, C-102

Session Chair:

Session Co-Chair:

#### HIGH TEMPERATURE CORROSION BEHAVIORS OF INCONEL 617 IN HELIUM CONTAINING TRACE IMPURITIES

Technical Paper Publication: ICONE32-0066

Wei Zheng - Nuclear Power Institute of China
Haoxiang Li - Nuclear Power Institute of China
Tiebo Liang - Nuclear Power Institute of China
Lei Li - Nuclear Power Institute of China
Jingwei Yi - Nuclear Power Institute of China
Huaqiang Yin - Tsinghua University
Tao Ma - Tsinghua University

## FORMATION AND EVOLUTION OF MICROSTRUCTURE IN DISSIMILAR MATERIAL JOINTS OF NUCLEAR POWER PLANTS

Technical Paper Publication: ICONE32-0259

Xiaogang Li - Tsinghua University

Xuelan Yan - Gansu Academy of Sciences

**Xu Zhang -** Beijing Institute of Astronautical Systems Engineering

Haiquan Zhang - Tsinghua University

.....

Study on Microstructure and Mechanical Properties Evaluation of Additive Manufacturing Materials for Nuclear Power Applications

Technical Paper Publication: ICONE32-0354

Jian-hui Shi - Yangjiang Nuclear Power Co., Ltd.

Hui-qiang Liu - Suzhou Nuclear Power Research Institute Co.,Ltd.

Zheng-ping Liu - Yangjiang Nuclear Power Co., Ltd.

**Rong-cheng Wang -** Sino-French Institute of Nuclear Engineering and Technology, Sun Yat-sen University

Hai-tao Dong - Suzhou Nuclear Power Research Institute Co.,Ltd.



Huan-chun Wu - Suzhou Nuclear Power Research Institute Co.,Ltd.

ANALYSIS OF NITROGEN CONTENT IN CARBON MATERIALS OF HIGH-TEMPERATURE GAS-COOLED REACTOR

Technical Paper Publication: ICONE32-0605

Bin Du - Tsinghua University

Xuedong He - Tsinghua University

Tao Ma - Tsinghua University

Wei Zheng - Nuclear Power Institute

# Study on oxidation kinetics of Incoloy 800H in He-ppmO2 atmosphere

Technical Paper Publication: ICONE32-0628

Haoxiang Li - Nuclear Power Institute of China
Dapeng Yan - Nuclear Power Institute of China
Zihao Zhu - Nuclear Power Institute of China
Jintao Mo - Nuclear Power Institute of China
Xiaotong Wang - Nuclear Power Institute of China
Wei Zheng - Nuclear Power Institute of China
Bin Du - Tsinghua University
Huaqiang Yin - Tsinghua University

#### THREE-DIMENSIONAL PHASE-FIELD SIMULATION OF ISOTHERMAL $\beta \rightarrow \omega$ PHASE TRANSFORMATION IN TI-VALLOYS

.....

Technical Paper Publication: ICONE32-0659

Shisen Gao - School of Nuclear Science and Technology, Xi'an Jiaotong University

Xvxi Liu - School of Nuclear Science and Technology, Xi'an Jiaotong University

**Wenbo Liu -** School of Nuclear Science and Technology, Xi'an Jiaotong University, Shaanxi Key Laboratory of Advanced Nuclear Energy and Technology

.....

The sliding wear behavior and model of plasma nitrided precipitation hardening stainless steel in high temperature water Technical Paper Publication: ICONE32-1294

Zhongli Han - China Nuclear Power Technology Research Institute Wenhua Zhuang - Chengdu University

Xu Wang - China Nuclear Power Technology Research Institute Liutao Chen - China Nuclear Power Technology Research Institute

Lefu Zhang - Shanghai Jiao Tong University

Track 7-2 Thermal-hydraulic experiments and measurement methods (II)

10:30 am - 12 pm, C-103

Session Chair:

Session Co-Chair:

#### EXPERIMENTAL STUDY ON THE EROSION OF HELIUM STRATIFICATION BY VERTICAL AIR JET ON CABLE TEST FACILITY

Technical Paper Publication: ICONE32-1065

Xiaochuan Wang - China Nuclear Power Engineering Co.,Ltd
Ningxi Jia - China Nuclear Power Engineering Co.,Ltd
Zhuo Liu - China Nuclear Power Engineering Co.,Ltd
Mingrui Yu - China Nuclear Power Engineering Co.,Ltd
Yidan Yuan - China Nuclear Power Engineering Co.,Ltd

Simple understanding of natural circulation thermal– hydraulic characteristics through experimental observations

Technical Paper Publication: ICONE32-1131

Nisrene M.Ahmed - Harbin Engineering University/Sudanese nuclear and Radiological Regulatory Authority

Puzhen Gao - Harbin Engineering University

Oke Samuel OLAOLUWA - Harbin Engineering University Abdelgadir Eltayeb - Sudanese Nuclear and Radiological Regulatory Authority

Verification and application of Reynolds similarity criterion for pressure drop experiments of complex structure in advanced reactor using alternative fluids

-20-

**32<sup>nd</sup> International Conference** on Nuclear Engineering

Technical Paper Publication: ICONE32-1288

Wentao SHI - China General Nuclear Research Institute
Xiangyu YUN - China General Nuclear Research Institute
Lei ZHANG - China General Nuclear Research Institute
Xiaohang WU - China General Nuclear Research Institute
Huiyong ZHANG - China General Nuclear Research Institute
Junying XU - China General Nuclear Research Institute
Yuzhou LU - China General Nuclear Research Institute
Bing DU - China General Nuclear Research Institute
Peng TANG - China General Nuclear Research Institute
Chengtao LI - Harbin Engineering University
Ruifeng TIAN - Harbin Engineering University

Experimental Study on Flow Instability in Parallel Multi-Helical Tubes

Technical Paper Publication: ICONE32-1501

Xiong Zheng - China Nuclear Power Technology Research Institute Yaxin Gao - China Nuclear Power Technology Research Institute Jiming Lin - China Nuclear Power Technology Research Institute Yisong Hu - China Nuclear Power Technology Research Institute Dechang Cai - China Nuclear Power Technology Research Institute Zhaojun Yuan - China Nuclear Power Technology Research Institute

An Experimental Investigation on the Effect of Condensate Water Volume on Condensation-Induced Water Hammer

Technical Paper Publication: ICONE32-1632

Minchao Liang - North China Electric Power University Jiaming Zhao - China Nuclear Power Engineering Co.,Ltd Rongyong Xue - North China Electric Power University Jiarui Zhang - North China Electric Power University Wentao GUO - North China Electric Power University Shengfei Wang - North China Electric Power University

EXPERIMENTAL INVESTIGATION OF IODINE REMOVAL EFFICIENCY DURING THE POOL SCRUBBING

Technical Paper Publication: ICONE32-1652

Shumiao Zhao - Tsinghua University

Yiyang Zhang - Tsinghua University Yating Wang - Tsinghua University Zhikai You - Tsinghua University

Track 8-2 Flow-induced Vibration

10:30 am - 12 pm, C-104A

Session Chair:

Session Co-Chair:

Numerical Study of Pressure Oscillations of Jets in a Pressurized Containment System Technical Paper Publication: ICONE32-0050

Facheng Chen - China Nuclear Power Technology Research Institute Zhihong Tang - China Nuclear Power Technology Research Institute Junfeng Li - China Nuclear Power Technology Research Institute

Flow-induced vibration analysis of large-scale Steam generator in integrated Sodium-cooled Fast Reactor Technical Paper Publication: ICONE32-0665

Shan He - CIAE Shuai Xing - CIAE Lina Zhu - CIAE Zhiguang Wu - CIAE

.....

CFD FOR STRUCTURAL STABILITY OF CROSSFLOW OVER TANDEM CYLINDERS

Technical Paper Publication: ICONE32-1101

Ahmed Abuelyamen - Khalifa University Ahmed Alkaabi - Khalifa University Saeed Alameri - Khalifa University Imran Afgan - Khalifa University

Numerical Simulation Study on Flow-Induced Vibration Characteristics of Single-Row and Multi-Row Helical Tube Bundles under Lead-Bismuth Fluid Flow

Technical Paper Publication: ICONE32-1218

Zhong Xu - Harbin Engineering University Ruifeng Tian - Harbin Engineering University



Xiaochang Li - Harbin Engineering UniversityHaisong Wang - Nuclear Power Institute of ChinaSichao Tan - Harbin Engineering University

#### NUMERICAL STUDY ON FLOW-INDUCED VIBRATION CHARACTERISTICS OF WIRE-WRAPPED FUEL ASSEMBLIES IN LEAD-BISMUTH ENVIRONMENT

Technical Paper Publication: ICONE32-1256

Shusheng Dai - Harbin Engineering University
Xiaochang Li - Harbin Engineering University
Ruifeng Tian - Harbin Engineering University
Yu Zhang - Nuclear Power Institute of China
Hai Zhao - Sichuan University of Science & Engineering
Sichao Tan - Harbin Engineering University

### NUMERICAL SIMULATION STUDY ON FLOW-INDUCED VIBRATION OF STEAM COIL HEAT EXCHANGER IN METAL REACTOR

.....

Technical Paper Publication: ICONE32-2047

Xinming Zhu - CGN Research Institute Co., LTD. Guangyu Jiang - CGN Research Institute Co., LTD. Xiang Li - CGN Research Institute Co., LTD. Qianwen Wei - CGN Research Institute Co., LTD.

Track 9-2 Radioactive Waste Treatment Technology (II) -Solid Waste

10:30 am - 12 pm, C-104B

Session Chair:

Session Co-Chair:

A brief discussion of intercrystalline corrosion and its influence factors on nickel alloy metal materials for radioactive waste treatment usage

Technical Paper Publication: ICONE32-0379

NINGHUI HAN - China Nuclear Power Engineering Co,. Ltd. XIAO FAN - China Nuclear Power Engineering Co,. Ltd.

#### LONG-TERM CONSTRAINT OF 129-I: A REVIEW OF IMMOBILIZATION OF WASTE SILVER ADSORBENTS FROM SPENT FUEL REPROCESSING FACILITIES

Technical Paper Publication: ICONE32-0434

Yumeng Hou - CNNC Long' an Co., Ltd. Meng Wei - CNNC Long' an Co., Ltd.

#### A REVIEW: TREATMENT TECHNOLOGIES OF RADIOACTIVE SPENT ION EXCHANGE RESINS BASED ON BIBLIOMETRIC ANALYSIS

Technical Paper Publication: ICONE32-0860

Mengying Lyu - Chongqing Electric Power College Xianghong Fang - Chongqing Electric Power College Han Zeng - Chongqing Electric Power College Beixi Tang - CQJianAn Instrument Co., Ltd

## SUBCRITICAL WATER TREATMENT OF SPENT TANNIN-BASED URANIUM RECOVERY ADSORBENT

Technical Paper Publication: ICONE32-1152

Toshihiro Iwamoto - Japan Atomic Energy Agency

Kohei Ohmori - Japan Atomic Energy Agency

Yoichi Arai - Japan Atomic Energy Agency

Tomomasa Funakoshi - Japan Atomic Energy Agency

Sou Watanabe - Japan Atomic Energy Agency

Masahiro Nakamura - Japan Atomic Energy Agency

Masaru Watanabe - Tohoku University

RESEARCH ON THE POTENTIAL APPLICATION OF NOVEL ZEOLITE MATERIALS IN THE TREATMENT OF RADIOACTIVE LIQUID, GAS AND SOLID WASTE

Technical Paper Publication: ICONE32-1301

Yaorui Li - Harbin Engineering University

.....

Research on the Optimization of High-Dose Rate Radioactive Waste Filter Cartridges Volume Reduction and Compaction Capacity

e 32<sup>nd</sup> International Conference on Nuclear Engineering

#### Technical Paper Publication: ICONE32-1939

Dong Li - China Nuclear Power Engineering Co.,Ltd Xueling Zhang - China Nuclear Power Engineering Co.,Ltd Chaoping Xiao - China Nuclear Power Engineering Co.,Ltd Houshun Huang - TNPJVC, Taishan City, China Xinghuan Luo - China Nuclear Power Engineering Co.,Ltd

# Track1-11 Chemistry and Water Quality Control (Primary) I

10:30 am - 12 pm, C-105A

#### Session Chair:

Session Co-Chair:

Study on aluminum removal during Hot Functional Test of primary circuit at PWR Nuclear Power Plant Technical Paper Publication: ICONE32-0037

Zhaohui Tian - Suzhou Nuclear Power Research Institute Co., Ltd.
Yun Sun - Suzhou Nuclear Power Research Institute Co., Ltd.
Zefeng Yu - Fujian Ningde Nuclear Power Co., Ltd., China
Lijun Song - Suzhou Nuclear Power Research Institute Co., Ltd.
Zhipeng Wang - Suzhou Nuclear Power Research Institute Co., Ltd.
Canshuai Liu - Suzhou Nuclear Power Research Institute Co., Ltd.
Xiaocong Zhan - Fujian Ningde Nuclear Power Co., Ltd., China
Jing Cao - Fujian Ningde Nuclear Power Co., Ltd., China
Fuping Li - Fujian Ningde Nuclear Power Co., Ltd., China
Yicai Liang - Fujian Ningde Nuclear Power Co., Ltd., China

Application Practice of Zinc Injection Technology in the Primary Circuit of Hualong Nuclear Power Plants Units Technical Paper Publication: ICONE32-0220

Yanyan Zhang - CGN Huizhou Nuclear Power CO.,Ltd Wei Zou - Suzhou Nuclear Power Research Institute Co.,Ltd Zhaohui Tian - Suzhou Nuclear Power Research Institute Co.,Ltd

Zhipeng Wang - Suzhou Nuclear Power Research Institute Co.,Ltd

Genxian Lin - Suzhou Nuclear Power Research Institute Co.,Ltd Yun Sun - Suzhou Nuclear Power Research Institute Co.,Ltd Fuhai Li - Suzhou Nuclear Power Research Institute Co.,Ltd

## HIGH-PRECISION BORON CONCENTRATION DETECTION IN THE PRIMARY CIRCUIT OF PRESSURIZED WATER REACTOR BASED ON RAMAN SPECTROSCOPY

Technical Paper Publication: ICONE32-0313

Shi-Tao Hu - China Jiliang University

Bo Xu - China Nuclear Power Operation Management Co., Ltd. Peng-Fan Xiong - China Nuclear Power Operation Management Co., Ltd. Gang Wu - China Nuclear Power Operation Management Co., Ltd. Yan-Long Meng - China Jiliang University Wen-Jie Li - China Jiliang University Shu Wang - China Jiliang University Chun-Lian Zhan - China Jiliang University Zheng-Ye Zhou - China Nuclear Power Operation Management Co., Ltd. Study On The High-Coincidence De-Baseline Method Of **Boric Acid Raman Spectroscopy** Technical Paper Publication: ICONE32-0343 Wen-jie Li - China Jiliang University Shi-Tao Hu - China Jiliang University Bo Xu - China Nuclear Power Operation Management Co., Ltd Peng-Fan Xiong - China Nuclear Power Operation Management Co., Ltd Gang Wu - China Nuclear Power Operation Management Co., Ltd Yan-Long Meng - China Jiliang University Shu Wang - China Jiliang University Chun-Lian Zhan - China Jiliang University Zheng-Ye Zhou - China Nuclear Power Operation Management Co., Ltd Release and burnup analysis of soluble fission products during transient power reduction in fuel rod failure Technical Paper Publication: ICONE32-0362

Shengyi Zhang - Harbin Engineering University Yushou Song - Harbin Engineering University

-23-



Jiawen Hu - Harbin Engineering University
Chenchen Li - Harbin Engineering University
Haikuan Jia - Harbin Engineering University
Chunzhi Zhou - State Key Laboratory of NBC Protection for Civilian, China
Jing Du - China Kunlun Contracting & Engineering Corporation

Application of Primary Circuit Zinc Additionin Technology and Design of Zinc Adding Device Technical Paper Publication: ICONE32-2193

**Deqi Chen -** Chongqing University **Yi Li -** Nuclear Power Institute of China

.....

Track2-11 Fast Reactor Physics (VI) 10:30 am – 12 pm, C-105B

#### Session Chair:

Session Co-Chair:

Integrated Fast Reactor Transport-Burnup Coupled Calculation and Analysis

Technical Paper Publication: ICONE32-0223

Kangkang Yang - China Institute of Atomic Energy Mingyu Wu - China Institute of Atomic Energy

Analysis of Hydrogen Isotopes in Helium by Gas Chromatograph with Coated Cryogenic Column of Fusion Reactors

Technical Paper Publication: ICONE32-0301

Liling Yang - China Institute of Atomic Energy

Self-development and Online Verification of Trace Components Analysis in Process Gas by Chromatography Technical Paper Publication: ICONE32-0302

Liling Yang - China Institute of Atomic Energy Qin Zhan - China Institute of Atomic Energy

Monte Carlo Variance Reduction Method Based on Adjoint Weight Window Method Technical Paper Publication: ICONE32-0498

Xiaodi Ma - CHINA INSTITUTE OF ATOMIC ENERGY Jianping Xu - CHINA INSTITUTE OF ATOMIC ENERGY Feng Liu - CHINA INSTITUTE OF ATOMIC ENERGY Mingze Sun - CHINA INSTITUTE OF ATOMIC ENERGY

## GASEOUS FISSION PRODUCTS MIGRATION BEHAVIOR MODELING AND SENSITIVITY ANALYSIS FOR A MOLTEN SALT REACTOR

Technical Paper Publication: ICONE32-0544

**Bolin Fu** - State Key Laboratory of Thorium Energy, Shanghai Institute of Applied Physics, CAS

Jianhui Wu - State Key Laboratory of Thorium Energy, Shanghai Institute of Applied Physics, CAS

**Xiangzhou Cai -** State Key Laboratory of Thorium Energy, Shanghai Institute of Applied Physics, CAS

Jun Zhou - State Key Laboratory of Thorium Energy, Shanghai Institute of Applied Physics, CAS

Jingen Chen - State Key Laboratory of Thorium Energy, Shanghai Institute of Applied Physics, CAS

Kinetic model of solid fission products in Molten Salt Reactors based on Lattice Boltzmann Method Technical Paper Publication: ICONE32-0561

Haotian Bao - Shanghai Institute of Applied Physics Jianhui Wu - Shanghai Institute of Applied Physics Chaoyue Wang - Shanghai Institute of Applied Physics Jingen Chen - Shanghai Institute of Applied Physics Xiangzhou Cai - Shanghai Institute of Applied Physics

Track 8-11 Enhancement of Condensation Heat Transfer 10:30 am – 12 pm, C-106A

#### Session Chair:

Session Co-Chair:

Numerical research on the heat transfer enhancement of steam-air condensation under various tube bundle arrangements

-24-

e 32<sup>nd</sup> International Conference on Nuclear Engineering

Technical Paper Publication: ICONE32-0727

Daiyong Song - Harbin Engineering University
Ruihan Jing - Harbin Engineering University
Xu Zhang - Harbin Engineering University
Xinyi Shen - Harbin Engineering University
Zhongning Sun - Harbin Engineering University
Haozhi Bian - Harbin Engineering University

## NUMERICAL INVESTIGATION ON THE ENHANCEMENT OF STEAM-AIR CONDENSATION HEAT TRANSFER OUTSIDE TUBES WITHIN GUIDE SLEEVES

Technical Paper Publication: ICONE32-0761

Liang Ding - Harbin Engineering University Xu Zhang - Harbin Engineering University Ruihan Jing - Harbin Engineering University Xinyi Shen - Harbin Engineering University Zhongning Sun - Harbin Engineering University Haozhi Bian - Harbin Engineering University

#### SENSITIVITY ANALYSIS OF DIFFUSION BOUNDARY LAYER CONDENSATION MODEL WITH VARIOUS TURBULENCE MODELS AND WALL FUCTIONS

Technical Paper Publication: ICONE32-0969

Ruihan Jing - Harbin Engineering University
Xu Zhang - Harbin Engineering University
Xinyi Shen - Harbin Engineering University
Chao Jiang - Harbin Engineering University
Haozhi Bian - Harbin Engineering University
Jianjun Wang - Harbin Engineering University

Sensitivity analysis of new variants of partitioned

Technical Paper Publication: ICONE32-1234

convection system

Siwei Wang - College of Nuclear Science and Technology, Harbin Engineering University

Xiang Wang - College of Nuclear Science and Technology, Harbin Engineering University Study on Cavitation Phenomenon at DVI Nozzle Technical Paper Publication: ICONE32-1463

**GuoGang Bao -** China Nuclear Power Technology Research Institute, CO., Ltd.

JingZhi Chen - SJTU Paris Elite Institute of Technology, Shanghai Jiao Tong University

ZhiKang Lin - China Nuclear Power Technology Research Institute, CO., Ltd.

JianHua Cao - China Nuclear Power Technology Research Institute, CO., Ltd.

Liang Chen - SJTU Paris Elite Institute of Technology, Shanghai Jiao Tong University

.....

#### PRESSURE PULSATION CHARACTERISTICS OF NUCLEAR SLEEVE CONTROL VALVE UNDER CAVITATING FLOW CONDITIONS

Technical Paper Publication: ICONE32-1806

Xuan-jie Gu - Zhejiang University

An-qi Guan - Zhejiang University

Ling-feng Hang - Zhejiang University

Jin-yuan Qian - Zhejiang University

**Zhi-jiang Jin** - Zhejiang University; Institute of Wenzhou, Zhejiang University

.....

Track 7-11 Nuclear reactor safety analysis (III)

10:30 am – 12 pm, C-106B

Session Chair:

Session Co-Chair:

Analysis and research on long-term safety and stability state of VVER-1200 after FLB accident

Technical Paper Publication: ICONE32-0007

Chenshi Yang - China Nuclear Power Engineering Co., Ltd. Yaru Li - China Nuclear Power Engineering Co., Ltd.

Study of the effect of different decay heat on accident progression during mid-Loop operation for CPR1000 Technical Paper Publication: ICONE32-0464



Xiaofeng Ju - Suzhou Nuclear Power Research Institute Co., Ltd Yongxiang Wang - Suzhou Nuclear Power Research Institute Co., Ltd

Yong Zhang - Suzhou Nuclear Power Research Institute Co., Ltd Liangwang Xu - Suzhou Nuclear Power Research Institute Co., Ltd Jian Zhang - Suzhou Nuclear Power Research Institute Co., Ltd Xu Yang - Suzhou Nuclear Power Research Institute Co., Ltd Jun Wei - Suzhou Nuclear Power Research Institute Co., Ltd Dingfang Xu - Suzhou Nuclear Power Research Institute Co., Ltd

The analysis on the large break loss of coolant accident under the impacts of stretch-out operation of the thirdgeneration pressurized water reactor nuclear power plant Technical Paper Publication: ICONE32-0487

Yuan HU - China Nuclear Power Engineering Co., LtdYijun LV - China Nuclear Power Engineering Co., LtdFangqing YANG - China Nuclear Power Engineering Co., Ltd

Thermal safety analysis of brazed water-cooled beam window under extreme operating conditions Technical Paper Publication: ICONE32-0664

Zhang Hao - Institute of Advanced Light Source Facilities, Shenzhen, China

#### DYNAMIC RESPONSE OF VCT OUTLET CONCENTRATION IN BORATION OPERATION

Technical Paper Publication: ICONE32-0829

Xiangyu Chi - China Nuclear Power Engineering Co.,Ltd.
Yaru Li - China Nuclear Power Engineering Co.,Ltd.
Liang Ding - China Nuclear Power Engineering Co.,Ltd.
Pei Yu - China Nuclear Power Engineering Co.,Ltd.
Jiazhi Liu - China Nuclear Power Engineering Co.,Ltd.

#### THERMAL ANALYSIS OF FRESH FUEL TRANSPORT CASK UNDER ACCIDENT TRANSPORT CONDITIONS

.....

Technical Paper Publication: ICONE32-0985

Youxin Zhou - China Nuclear Power Technology Research Institute Co.Ltd. Wei Yao - China Nuclear Power Technology Research Institute Co.Ltd.

Xin Wang - China Nuclear Power Technology Research Institute Co.Ltd.

Jie Ye - China Nuclear Power Technology Research Institute Co.Ltd. Yiran Liu - China Nuclear Power Technology Research Institute Co.Ltd.

Track 9-12 Digital research and applications (II) 10:30 am – 12 pm, C-107A

Session Chair:

Session Co-Chair:

#### RESEARCH ON OPTIMIZATION OF WAVELET DENOISING THRESHOLD FUNCTION IN PGNAA BASED ON EMPIRICAL MODE DECOMPOSITION TECHNOLOGY

Technical Paper Publication: ICONE32-0363

Hailong Xu - Northeast Normal University
Ke Gong - Northeast Normal University
Yingying Cao - Northeast Normal University
Pingwei Sun - Northeast Normal University
Shangrui Jiang - Northeast Normal University
Jiayu Li - Northeast Normal University
Sijia Zhou - Northeast Normal University
Jia Song - Northeast Normal University
Shengduo Liu - Northeast Normal University
Shengduo Liu - Northeast Normal University
Siqi Liu - Northeast Normal University
Siqi Liu - Northeast Normal University
Zebin Li - Northeast Normal University
Yuxuan Gu - Northeast Normal University
Yue Sun - Northeast Normal University
Shiwei Jing - Northeast Normal University

A compressed-sensing-based unfolding algorithm for neutron spectrum using method of optimal directions Technical Paper Publication: ICONE32-0420

Qimeng Fan - Rocket Force University of Engineering

-26-



Jialin Chen - Rocket Force University of Engineering	Jiejuan Tong - Tsinghua University			
Ning Lv - Rocket Force University of Engineering	Scale Assessment of Emergency Decontamination			
Study of the Solid Radiation Effects on the Electrode	Station for Nuclear Power Plants Based on Population			
Plates of a Gas Ionization Chamber Based on the Monte	Distribution			
Carlo Method	Technical Paper Publication: ICONE32-1177			
Technical Paper Publication: ICONE32-0620	Zhijie Tian - China Institute for Radiation Protection, Taiyuan,			
Zhang Hongyin - Institute of Nuclear and New Energy	China			
Technology, Tsinghua University	Bing Lian - China Institute for Radiation Protection, Taiyuan,			
Chang Jiahao - Institute of Nuclear and New Energy	China			
Technology, Tsinghua University	Xingzhen Lyu - National Nuclear Emergency Response			
Zhang Helin - Fujian Ningde Nuclear Power Co.,Ltd	Technical Assistance Center, China			
Jiang Zirou - Institute of Nuclear and New Energy Technology,	Anchang Deng - National Nuclear Emergency Response			
Tsinghua University	Technical Assistance Center, China			
Wang Zhentao - Institute of Nuclear and New Energy	Qingjian Yang - Nanjing University of Information Science			
Technology, Tsinghua University	&Technology			
Tang Peng - Institute of Nuclear and New Energy Technology,				
Tsinghua University	Monte Carlo Computational and Experimental Study of			
Liu Xinjun - Fujian Ningde Nuclear Power Co.,Ltd	Explosive Detection System Based on D-D Sealed Neutron			
	Generator			
Research on Complex 2D Radiation Field Reconstruction	Technical Paper Publication: ICONE32-1676			
Based on Improved Convolutional Neural Network	Yipin Jing - Jilin University, China			
Technical Paper Publication: ICONE32-0894	Dedong He - Zhenneng School, China			
- Les Les Trischer Heinerich	Deuong ne - Zhenneng Senoor, ennia			
hao hu - Tsinghua University	Track 16-3 Artificial Intelligence Application			
sheng fang - Tsinghua University				
yuhan xu - Tsinghua University	10:30 am – 12 pm, C-107B			
jiali wang - Tsinghua University				
Tritium permeation models and their engineering	Session Chair:			
applications in nuclear reactors	Session Co-Chair:			
Technical Paper Publication: ICONE32-1075	Accelerated determination of entry conditions for faulty			
Mengjie Wu - Tsinghua University	procedures via large language models and knowledge			
Jing Chen - CHINERGY CO., LTD, Beijing	graphs			
Tirui Xia - CHINERGY CO., LTD, Beijing	Technical Paper Publication: ICONE32-0853			
Ziling Zhou - Tsinghua University	Ben Qi - Tsinghua University			
Yu Wang - Tsinghua University	Xingyu Xiao - Tsinghua University			
<b>Zhaowen Zhu</b> - Nuclear and Radiation Safety Center, MEE, China	Jingang Liang - Tsinghua University			
znaowen zhu - reueren and readaiton Safety Center, MEE, Chilla				

Liqiang Wei - Tsinghua University Feng Xie - Tsinghua University

2025/6/12 15:34:03



#### SUPER-RESOLUTION RECONSTRUCTION OF BUBBLE DISTRIBUTION BASED ON NEURAL NETWORKS

Technical Paper Publication: ICONE32-1233

Zhiyuan Sun - Tsinghua University
Deyang Gao - Tsinghua University
Jinyu Han - Tsinghua University
Wen He - Tsinghua University
Yanlin Li - Tsinghua University
Hanliang Bo - Tsinghua University

.....

### A MULTI-PHYSICS INFORMED MACHINE LEARNING MODEL TO PREDICT CRITICAL HEAT FLUX (CHF)

Technical Paper Publication: ICONE32-1240

Abdullah Al Mahmud - Department of Applied Quantum Physics & Nuclear Engineering, Graduate School of Engineering, Kyushu University, 744 Motooka, Nishi-ku, Fukuoka 819-0395, Japan

Asao Kanta - Department of Applied Quantum Physics & Nuclear Engineering, Graduate School of Engineering, Kyushu University, 744 Motooka, Nishi-ku, Fukuoka 819-0395, Japan Koji Morita - Department of Applied Quantum Physics & Nuclear Engineering, Graduate School of Engineering, Kyushu University, 744 Motooka, Nishi-ku, Fukuoka 819-0395, Japan Wei Liu - Department of Applied Quantum Physics & Nuclear Engineering, Graduate School of Engineering, Kyushu University, 744 Motooka, Nishi-ku, Fukuoka 819-0395, Japan

Augmented Reality in Nuclear Facilities: Insights from Experiments in the Mont Terri Underground Rock Laboratory, Switzerland

.....

Technical Paper Publication: ICONE32-1462

Pascal Mosler - Institute of Numerical Methods and Informatics in Civil Engineering, Technical University of Darmstadt
Ole Christian Woock - Technical University of Darmstadt
Theo Kastner-Guhl - Technical University of Darmstadt
Martin Ziegler - Swiss Federal Office of Topography (swisstopo), Mont Terri URL Uwe Rüppel - Institute of Numerical Methods and Informatics in Civil Engineering, Technical University of Darmstadt

Visualization of void fraction of Gas-liquid Two-phase Flow by Fuzzy Phase Classification Implemented in Electrical Impedance Tomography (fEIT) Technical Paper Publication: ICONE32-1484

Fuyang Yang - Chiba university
Songshi Li - Chiba unicersity
Asmara Sejati Prima - Chiba university
Shuichiro Miwa - Tokyo university
Masahiro Takei - Chiba university

Development of Drift Flux Correlations in Vertical Rod Bundle Flow Channels: Knowledge-Informed Artificial Neural Network Approaches (KINN-SHAP and KINN-DN)

Technical Paper Publication: ICONE32-1817

Mohamed Salem Taaryet - Harbin Engineering University Xu Han - Harbin Engineering University Jianjun Wang - Harbin Engineering University

Track 3-2 Instrumentation, Measurement and General Technology

#### 10:30 am – 12 pm, C-108A

Session Chair:

Session Co-Chair:

#### DESIGN OF A MULTI-MRAD RADIATION-HARDENED AC-DC LED DRIVER

Technical Paper Publication: ICONE32-0421

**Apeng Zhao -** China Nuclear Power Technology Research Institute Co., Ltd.

Enlong Wang - Shaoxing Heshijie Technology Co., Ltd. Guofeng Zhou - China General Nuclear Power Co., Ltd.

.....

A NEW METHOD TO RECOGNIZE CONTROL RODS POSITION BASED ARRAY-CONTINUITY CAPACITOR

-28-



Technical Paper Publication: ICONE32-0739

Benke Qin - Tsinghua University

Wen He - Tsinghua University

.....

review on the mechanism of performance degradation of pressure sensors under mechanical factors

Technical Paper Publication: ICONE32-1005

Xuanyu Shen - Tsinghua University

Yunlong Zhu - Tsinghua University

Pengcheng Li - Tsinghua University

Xiaojin Huang - Tsinghua University

••••••

Review on the degradation of FBG sensors in humid environment

Technical Paper Publication: ICONE32-1134

Feier Zhao - Tsinghua University

**Yunlong Zhu** - Tsinghua University Institute of Nuclear and New Energy Technology

Xuanyu Shen - Tsinghua University

**Shuqiao Zhou -** Tsinghua University Institute of Nuclear and New Energy Technology

#### DESIGN AND TESTING OF RADIATION-HARDENED TEMPERATURE SENSORS

Technical Paper Publication: ICONE32-1145

Hong Ying - Suzhou Nuclear Power Research Institute Tianyu Hui - Suzhou Nuclear Power Research Institute Tao Zhang - Suzhou Nuclear Power Research Institute Tao Liu - Suzhou Nuclear Power Research Institute Binfeng Wang - Suzhou Nuclear Power Research Institute Tang Tang - Suzhou Nuclear Power Research Institute Yingjie Wang - Suzhou Nuclear Power Research Institute Nan Lin - Suzhou Nuclear Power Research Institute Qiang Wang - Suzhou Nuclear Power Research Institute

Design of Universal Servo Control Module Based on Three-dimensional lamination process Technology Technical Paper Publication: ICONE32-1898

.....

Mengying He - Xi 'an Institute of Microelectronics, China

Aerospace Industry Corp

**Hui Wang -** Xi 'an Institute of Microelectronics, China Aerospace Industry Corp.

**Lianqiang Ma -** Xi 'an Institute of Microelectronics, China Aerospace Industry Corp.

Guojun Chai - Naval University of Engineering

**Mo Yang -** Xi 'an Institute of Microelectronics, China Aerospace Industry Corp.

**Qiaoling He -** Xi 'an Institute of Microelectronics, China Aerospace Industry Corp.

**Jinliang He -** Wuhan Second Ship Design and Research Institute **Mo Tao -** State Key Laboratory of Marine Thermal Energy and Power, Wuhan Second Ship Design and Research Institute

Track 16-8 Reactor Materials and Multiphysics Analysis 10:30 am – 12:00 pm, C-108B

Session Chair:

Session Co-Chair:

Cellular Automaton Model of Stainless Steel Corrosion/ Oxidation in Oxygenated LBE

Technical Paper Publication: ICONE32-0170

Junyao Chen - North China Electric Power University
Zimeng Qin - North China Electric Power University
Chenxi Yang - North China Electric Power University
Xuefeng Lyu - North China Electric Power University
Fang Liu - North China Electric Power University
Yongqi Huang - Huaneng Clean Energy Research Institute Co., Ltd.
Yu Yu - North China Electric Power University
Shengfei Wang - North China Electric Power University

Effect of gas flow rate on the corrosion behavior of Inconel 617 superalloy in helium gas containing traces of oxygen or methane

Technical Paper Publication: ICONE32-0621

Bin Du - Tsinghua University Penghui Xiao - Tsinghua University Huaqiang Yin - Tsinghua University Xuedong He - Tsinghua University



Tao Ma - Tsinghua University Wei Zheng - Nuclear Power Institute

# CONSTRUCTION OF CATION-MODIFIED INORGANIC MATERIALS FOR THE ADSORPTION OF CESIUM

Technical Paper Publication: ICONE32-0630

Hongji Sang - Shanghai Jiao Tong University
Jiawei Zheng - Shanghai Jiao Tong University
Zhennan Wu - Shanghai Jiao Tong University
Jianing Xing - Shanghai Jiao Tong University
Yan Wu - Shanghai Jiao Tong University
Yuezhou Wei - Shanghai Jiao Tong University

# A multi-fidelity data fusion method for prediction of nuclear power plant operation parameters

Technical Paper Publication: ICONE32-1352

Ke Pu - Shanghai Jiao Tong University Houde Song - Shanghai Jiao Tong University Meiqi Song - Shanghai Jiao Tong University Xiaojing Liu - Shanghai Jiao Tong University

Multiphysics Analysis of the Burst Behavior of Chromium Coating Zr-4 Cladding Under LOCA Condition Technical Paper Publication: ICONE32-1406

Zefeng Zhuang - South China University of Technology Rong Liu - South China University of Technology

Atomic modelling of irradiation-induced microstructure evolution and swelling in uranium nitride

.....

Technical Paper Publication: ICONE32-1977

Qiuguo Yang - KTH Royal Institute of Technology, Nuclear Science and Engineering, Stockholm, Sweden Ida Andersson Neretnieks - KTH Royal Institute of Technology Jonas Planck - KTH Royal Institute of Technology Ebrahim Mansouri - KTH Royal Institute of Technology Aymeric Le Harivel de Gonneville - École polytechnique

.....

Pär Olsson - KTH Royal Institute of Technology

#### MECHANICAL PROPERTIES OF FECOCRNI-BASED QUINARY HEAS BY MOLECULAR DYNAMICS SIMULATION

Technical Paper Publication: ICONE32-1979

Ding Wenli - Harbin Institute of Technology

Zhang Haochun - Harbin Institute of Technology

Huo Enbo - Harbin Institute of Technology

.....

#### Track13-3 Hazard PSA-I

10:30 am - 12 pm, C-109A

#### Session Chair:

Session Co-Chair:

Risk-informed fire protection method and its application in nuclear power plants

Technical Paper Publication: ICONE32-0026

Wang Chao - China Nuclear Power Technology Research Institute Zhang Xiaoming - China Nuclear Power Technology Research Institute

APPLICATION OF DETAILED CIRCUIT FAILURE AND SPURIOUS OPERATION ANALYSIS IN INTERNAL FIRE PSA IN NUCLEAR POWER PLANT Technical Paper Publication: ICONE32-0263

Xianwen zeng - State Key Laboratory of Nuclear Power Safety Technology and Equipment, China Nuclear Power Engineering Co., Ltd.

**Modi Lin** - State Key Laboratory of Nuclear Power Safety Technology and Equipment, China Nuclear Power Engineering Co., Ltd.

Jinhui Li - State Key Laboratory of Nuclear Power Safety Technology and Equipment, China Nuclear Power Engineering Co., Ltd.

Haiqing Deng - State Key Laboratory of Nuclear Power Safety Technology and Equipment, China Nuclear Power Engineering Co., Ltd.

.....

-30-



#### APPLICATION OF FIRE SIMULATION IN INTERNAL FIRE PSA IN NUCLEAR POWER PLANT

Technical Paper Publication: ICONE32-0291

Modi Lin - China Nuclear Power Engineering Co., Ltd. Yulong Wu - China Nuclear Power Engineering Co., Ltd. Jinhui Li - China Nuclear Power Engineering Co., Ltd. Xianwen Zeng - China Nuclear Power Engineering Co., Ltd. Guanghua Yang - China Nuclear Power Engineering Co., Ltd.

SIMPLIFIED METHOD OF THE FIRE PRA MODEL AT THE PRELIMINARY DESIGN STAGE

Technical Paper Publication: ICONE32-0463

Meiru LIU - China Nuclear Power Engineering Co., LTD Fengjun LI - China Nuclear Power Engineering Co., LTD Qingqing XU - China Nuclear Power Engineering Co., LTD Jian YANG - China Nuclear Power Engineering Co., LTD Churan FENG - China Nuclear Power Engineering Co., LTD Rui ZHANG - China Nuclear Power Engineering Co., LTD

### ANALYSIS OF EVACUATION TIME OF MAIN CONTROL ROOM IN NUCLEAR POWER PLANT UNDER FIRE CONDITION

Technical Paper Publication: ICONE32-0935

Lu Zhang - China Nuclear Power Engineering Co., Ltd.
Lan Liu - China Nuclear Power Engineering Co., Ltd.
Yue Liu - China Nuclear Power Engineering Co., Ltd.
Yanli Li - China Nuclear Power Engineering Co., Ltd.

Track13-4 Hazard PSA-II

10:30 am – 12 pm, C-109B

Session Chair:

Session Co-Chair:

Research on the Application of hazard Probability Safety Analysis in the design of nuclear power plant Technical Paper Publication: ICONE32-0017

Jian Yang - china nuclear power engineering co. ltd

Mei Ru Liu - china nuclear power engineering co. ltd Ling Zhi Li - china nuclear power engineering co. ltd

## RESEARCH ON SEISMIC REQUIREMENTS OF SSCS UNDER DEC-A OPERATING CONDITIONS IN NUCLEAR POWER PLANTS

Technical Paper Publication: ICONE32-0274

Lingzhi Li - China Nuclear Power Engineering Co., LTD churan feng - China Nuclear Power Engineering Co., LTD jian yang - China Nuclear Power Engineering Co., LTD lin yan - China Nuclear Power Engineering Co., LTD wei deng - China Nuclear Power Engineering Co., LTD

Research on Correlation Analysis Methods for Equipment Seismic Failure in Seismic PSA

Technical Paper Publication: ICONE32-0404

Jianfeng Yang - Suzhou Nuclear Power Research Institute Qian Huang - Suzhou Nuclear Power Research Institute Long Li - Suzhou Nuclear Power Research Institute Xipeng Yu - Suzhou Nuclear Power Research Institute

Research on the Method of Internal Flooding Safety Assessment for Small Modular Reactor

Technical Paper Publication: ICONE32-0426

Bo Liang - CGN Clear Energy Technology (Shanghai) Co., Ltd Fuyu Wu - CGN Clear Energy Technology (Shanghai) Co., Ltd

Quantitative method for seismic PSA optimization based on binary decision diagrams

Technical Paper Publication: ICONE32-1479

Jiayu Yan - Chinergy Zhuo Zhang - Chinergy Jinyang Song - Chinergy Qi Shi - Chinergy Bin Qu - Huaneng Shandong Shidao Bay Nuclear Power Co.,Ltd. Track15-2 Public Acceptance

10:30 am – 12 pm, C-112



#### Session Chair:

Session Co-Chair:

Research on Social Stability Risk Identification and Response Based on Public Communication of New Nuclear Power Projects

Technical Paper Publication: ICONE32-1161

Rongxu Zhu - Suzhou Nuclear Power Research Institute Co.,Ltd Feng Zhao - Suzhou Nuclear Power Research Institute Co.,Ltd Xiaofeng Zhang - Suzhou Nuclear Power Research Institute Co.,Ltd

Ye Yang - Suzhou Nuclear Power Research Institute Co.,Ltd

Study on Social Stability Risk Grade of Nuclear Power Project

Technical Paper Publication: ICONE32-1235

**Rongxu Zhu -** Suzhou Nuclear Power Research Institute Co.,Ltd.

Qunyong Peng - CGN Huizhou Nuclear Power Co., Ltd.

Feng Zhao - Suzhou Nuclear Power Research Institute Co.,Ltd.

Xiaofeng Zhang - Suzhou Nuclear Power Research Institute Co.,Ltd.

Ye Yang - Suzhou Nuclear Power Research Institute Co.,Ltd.

A Review on Nuclear Power Policy in Major Nuclear Power Countries over the Past Five Years

Technical Paper Publication: ICONE32-1542

Lifeng Deng - Sun Yat-sen University

Suoni Qi - China Nuclear Power Engineering Co., Ltd.

Yiwen Zhang - Sun Yat-sen University

.....

Research on public communication strategies before local government approval phase of new nuclear power projects

Technical Paper Publication: ICONE32-1545

**Bo Lan -** China General Nuclear Power Corporation **Pengfei Cai -** Yangjiang Nuclear Power Co., Ltd. Exploring into the Antecedents and Cultivation of Social Trust in Nuclear Power Public Communication in China Technical Paper Publication: ICONE32-1547

Lifeng Deng - Sun Yat-sen University Suoni Qi - China Nuclear Power Engineering Co., Ltd. Xin Wang - Sun Yat-sen University

.....

## NUCLEAR PUBLIC ACCEPTANCE ACTIVITIES AND BATTERIES EVALUATION RESEARCH IN FUKUSHIMA REVITALIZICS FOR NUCLEAR DECOMMISSIONING

Technical Paper Publication: ICONE32-1762

Weichen Zhang - Laboratory for Zero-Carbon Energy, Institute of Integrated Research, Institute of Science Tokyo

Yutaka Tamaura - Tamaura Labo

Tadashi Kawamoto - Tamaura Labo

Hiroshige Kikura - Laboratory for Zero-Carbon Energy,

Institute of Integrated Research, Institute of Science Tokyo

Hideharu Takahashi - Department of Mechanical Engineering, School of Engineering, Institute of Science Tokyo

Track6-2 International Standardization Research 10:30 am – 12 pm, C-113

Session Chair:

Session Co-Chair:

A Comparison Study on the Failure Probability of Nuclear Graphite Based on Tensile Tests by KTA 3232, ASME 2015, and ASME 2023

Technical Paper Publication: ICONE32-0039

**Teng SHENG -** China Nuclear Power Engineering Co., Ltd **Tianyou Feng -** China Nuclear Power Engineering Co., Ltd

Research on International Standardization Cooperation Analysis on Nuclear Field, Taking the U.S. and France as Examples

Technical Paper Publication: ICONE32-0884



Shangyuan LIU - China Institute of Nuclear Industry StrategyJiang LI - China Institute of Nuclear Industry StrategyRanxu WANG - China Institute of Nuclear Industry Strategy

Research on the regulation-standard system and regulatory mechanism of the nuclear energy field in Japan

Technical Paper Publication: ICONE32-0886

Shangyuan LIU - China Institute of Nuclear Industry StrategyRuiyuan DENG - China Institute of Nuclear Industry StrategyRuilin DONG - China Institute of Nuclear Industry Strategy

A brief analysis on the inspiration of the United States government national standards strategy on the standardization development of developing country's nuclear industry

Technical Paper Publication: ICONE32-1400

Jiang Li - China Institute of Nuclear Industry Strategy Shangyuan Liu - China Institute of Nuclear Industry Strategy Ranxu Wang - China Institute of Nuclear Industry Strategy Xueting Ni - China Institute of Nuclear Industry Strategy Shaolin Zhang - China Institute of Nuclear Industry Strategy

The Competition of International Technical Standards: Causes, Policies and Reflections on International Standardization in the Nuclear Field

Technical Paper Publication: ICONE32-1515

Ranxu Wang - China Institute of Nuclear Industry Strategy
Zhenbang Dong - China Institute of Nuclear Industry Strategy
Jing Li - China Institute of Nuclear Industry Strategy
Yun Liang - China Institute of Nuclear Industry Strategy
Feifei Wu - China Institute of Nuclear Industry Strategy
Shangyuan Liu - China Institute of Nuclear Industry Strategy

# PROGRESS ON BREE ISSUES AND STRUCTURAL SUITABILITY STUDIES OF ASME CODE TEST B-1

Technical Paper Publication: ICONE32-1556

Xu Wang - Tsinghua University

Haitao Wang - Tsinghua University

Fuhai Gao - China Institute of Atomic Energy Science and Technology

Lubo Wang - China Institute of Atomic Energy Science and Technology

## .....

## Track6-5 Research on Standardization Theory

10:30 am – 12 pm, C-114

#### Session Chair:

Session Co-Chair:

## China's Utility Requirements Document for Advanced PWR

Technical Paper Publication: ICONE32-0047

Guo-cai CHEN, Sanmen Nuclear Power Co., Ltd, China Jiejuan TONG - Tsinghua University

## STUDY ON THE APPLICABILITY OF COMMERCIAL GRADE DEDICATION REGULATIONS AND STANDARDS

.....

Technical Paper Publication: ICONE32-0762

xun liu - China Nuclear Power Engineering Co., Ltd
tingru yin - China Nuclear Power Engineering Co., Ltd
xichen li - China Nuclear Power Engineering Co., Ltd
pengfei hao - China Nuclear Power Engineering Co., Ltd
tao yu - China Nuclear Power Engineering Co., Ltd
yufeng zhang - China Nuclear Power Engineering Co., Ltd
shaochuang song - China Nuclear Power Engineering Co., Ltd
duo dong - China Nuclear Power Engineering Co., Ltd

Feasibility study on international standard proposals based on fuzzy comprehensive evaluation method Technical Paper Publication: ICONE32-1250

Jiang Li - China Institute of Nuclear Industry Strategy Shangyuan Liu - China Institute of Nuclear Industry Strategy Wei Wei - China National Nuclear Corporation Zhenbang Dong - China Institute of Nuclear Industry Strategy Ruilin Dong - China Institute of Nuclear Industry Strategy

**Research on standard system of nuclear robots** Technical Paper Publication: ICONE32-1990



Fugui Liu - Harbin Engineering University

Lipo Liu - China Institute of Nuclear Industry Strategy Co., Ltd. Fangfang Dong - China Institute of Nuclear Industry Strategy Co., Ltd.

Jijia Zheng - China Institute of Nuclear Industry Strategy Co., Ltd.Liqiang Jin - China Institute of Nuclear Industry Strategy Co., Ltd.Meng Zhang - Harbin Engineering University

.....

APPLICATION OF DESIGN LIFE CONCEPT IN LICENSING AND LIFE EXTENSION OF CANDU REACTORS

Technical Paper Publication: ICONE32-2236

Nick Brekel - Kinectrics Steven Xu - Kinectrics Doug Scarth - Kinectrics

Tanya Hunt - Kinectrics

Track1-3 Vibration and Structural Mechanics 3:30 pm –5:00 pm, C-101AB

Session Chair:

Session Co-Chair:

# THE RESEARCH ON THE CAUSE OF GSS PUMP VIBRATION IN UNCLEAR POWER STATION

Technical Paper Publication: ICONE32-0191

LingYi You - CGN liaoning hongyanhe nuclear power rco.,ltd, Lei Lin - CGN Suzhou nuclear power research institute co.,ltd Decheng Xu - CGN Suzhou nuclear power research institute co.,ltd Hongbo Gao - CGN Suzhou nuclear power research institute co.,ltd Qian Wu - CGN Suzhou nuclear power research institute co.,ltd Shuai zhou - CGN Suzhou nuclear power research institute co.,ltd

Analysis on the oscillation causes and modifications of a globe control valve in a nuclear power plant

Technical Paper Publication: ICONE32-0325

Yinli LIU - Suzhou Nuclear Power Research Institute Co., Ltd Shuai ZHOU - Suzhou Nuclear Power Research Institute Co., Ltd Hongke WANG - Suzhou Nuclear Power Research Institute Co., Ltd Lei LIN - Suzhou Nuclear Power Research Institute Co., Ltd Changning LI - Suzhou Nuclear Power Research Institute Co., Ltd Jianlong KANG - Taishan Nuclear Power Joint Venture Co., Ltd Meng GAN - Taishan Nuclear Power Joint Venture Co., Ltd

\_\_\_\_\_

ANALYSIS OF THE INFLUENCE OF THE RIGID SUPPORT STRUCTURE OF THE MAIN STEAM PIPELINE IN NUCLEAR POWER PLANTS ON THE PIPING STRESS

Technical Paper Publication: ICONE32-1695

**BO ZHAO -** Xi'an Thermal Power Research Institute Co., Ltd. **XIANYUAN DAI -** Fujian Fuqing Nuclear Power Co., Ltd. **DAN ZHAO -** CNNP Operation Maintenance Technology Co.,Ltd

WENCHAO LIU - Jiangsu Nuclear Power Co., Ltd.

**BOYUAN WANG -** Xi'an Thermal Power Research Institute Co., Ltd.

**DAWEI WEI -** Xi'an Thermal Power Research Institute Co., Ltd. **DAN WANG -** Xi'an Thermal Power Research Institute Co., Ltd.

**PEIYAO QI -** Xi'an Thermal Power Research Institute Co., Ltd. **TONG WANG -** Xi'an Thermal Power Research Institute Co., Ltd.

.....

A New Heat Transfer Tube Stabilizer For Steam Generator Based on Shape Memory Alloy

Technical Paper Publication: ICONE32-1766

Mengke Chao - Shanghai Nuclear Engineering Research & Design Institute Co.,LTD

Quan Zhou - Shanghai Nuclear Engineering Research & Design Institute Co.,LTD

**Qiming Men -** Shanghai Nuclear Engineering Research & Design Institute Co.,LTD

**Zhenxin Gong -** Shanghai Nuclear Engineering Research & Design Institute Co.,LTD

.....

## RESEARCH ON VISUAL-TESTING PIPELINE FOR VIBRATION EXTRACTION AND CHARACTERIZATION TECHNOLOGY

Technical Paper Publication: ICONE32-1828

Shuai Liu - The nuclear power institute of china



Wanyou Li - Harbin Engineering University
Furui Xiong - The nuclear power institute of china
Yixiong Zhang - The nuclear power institute of china
Xiaoming Bai - The nuclear power institute of china
Xuan Huang - The nuclear power institute of china
Zhipeng Feng - The nuclear power institute of china

Study on Vibration Reduction Characteristics of Power Plant Pipelines Using Nonlinear shock absorber

Technical Paper Publication: ICONE32-2076

Xinhui yang - Huaneng Hainan Changjiang Nuclear Power Co., Ltd Chuanlong Tao - Huaneng Shandong Shidao Bay Nuclear Power Co., Ltd

**Bo Zhao -** XI'AN THERMAL POWER RESEARCH INSTITUTE CO..LTD

**Xudong Chen -** XI'AN THERMAL POWER RESEARCH INSTITUTE CO..LTD

**Dawei Wei -** XI'AN THERMAL POWER RESEARCH INSTITUTE CO..LTD

**Dan Wang -** XI'AN THERMAL POWER RESEARCH INSTITUTE CO..LTD

**Boyuan Wang -** XI'AN THERMAL POWER RESEARCH INSTITUTE CO..LTD

Heng Zhang - XI'AN THERMAL POWER RESEARCH INSTITUTE CO..LTD

**Qilong Hu** - XI'AN THERMAL POWER RESEARCH INSTITUTE CO..LTD

**Peiyao Qi -** XI'AN THERMAL POWER RESEARCH INSTITUTE CO..LTD

Track2-3 Nuclear Fuel and Claddings (II) 3:30 pm –5:00 pm, C-102

#### Session Chair:

Session Co-Chair:

Study of corrosion resistance of CZ2 alloy cladding in deaeration and dissolved oxygen environment

Technical Paper Publication: ICONE32-1442

Jianyu HUANG - China Nuclear Power Technology Research

Institute

Guoliang ZHANG -	China	Nuclear	Power	Technology	Research
Institute					

Changyuan GAO - China Nuclear Power Technology Research Institute

Liutao CHEN - China Nuclear Power Technology Research Institute

**Xinger Weng -** China Nuclear Power Technology Research Institute

Xu Wang - China Nuclear Power Technology Research Institute
 Lin SHI - China Nuclear Power Technology Research Institute
 Yang XU - China Nuclear Power Technology Research Institute

.....

The Effect of Ion Irradiation on the Microstructure and Hydrogen Permeation Properties of FeAl-Al2O3 Coating Technical Paper Publication: ICONE32-1553

Changzheng Li - China Nuclear Power Technology Research Institute

Rui Shu - China Nuclear Power Technology Research Institute

Yinghong Li - China Nuclear Power Technology Research Institute

**Guoliang Zhang -** China Nuclear Power Technology Research Institute

Long Wang - Southwest Institute of Physics

Xiang Liu - Zhejiang University

**Qisen Ren -** China Nuclear Power Technology Research Institute **Lihong Nie -** China Nuclear Power Technology Research Institute

Shaohong Zhang - Zhejiang University

The Primary Analysis of Flow Blockage Accident of Irradiation Device in Research Reactor

Technical Paper Publication: ICONE32-1619

Xuanting Xie - Institute of Nuclear Physics and Chemistry
Yuchuan Guo - Institute of Nuclear Physics and Chemistry
Xiaoyu Guo - Institute of Nuclear Physics and Chemistry
Guanbo Wang - Institute of Nuclear Physics and Chemistry
Simao Guo - Institute of Nuclear Physics and Chemistry
Jie Fan - Institute of Nuclear Physics and Chemistry



Yan Yang - Institute of Nuclear Physics and Chemistry Zhenpeng Wang - Institute of Nuclear Physics and Chemistry Bin Tang - Institute of Nuclear Physics and Chemistry

Study on abrasion damage behavior of fuel element rod bundle in pressurized water reactor

Technical Paper Publication: ICONE32-1620

Ze Li - Xi'an Jiaotong University Jing Zhang - Xi'an Jiaotong University

Yingwei Wu - Xi'an Jiaotong University Yanan He - Xi'an Jiaotong University Wenxi Tian - Xi'an Jiaotong University Suizheng Qiu - Xi'an Jiaotong University Guanghui Su - Xi'an Jiaotong University

#### STUDY ON DEPOSITION BEHAVIOR OF SURFACE CORROSION PRODUCTS OF DIFFERENT FUEL CLADDING WITH ZINC INJECTION

Technical Paper Publication: ICONE32-1625

Yalun YAN - China Nuclear Power Technology Research Institute

Wei YAO - China Nuclear Power Technology Research Institute Deying ZHANG - China Nuclear Power Technology Research Institute

Jie YE - China Nuclear Power Technology Research Institute

**Xuefeng FU -** China Nuclear Power Technology Research Institute

Zhenxun PENG - China Nuclear Power Technology Research Institute

.....

Phase-Field Simulation of Recrystallization in High Burnup UO,

Technical Paper Publication: ICONE32-1645

Xingyu Chen - Harbin Engineering University Qingyu Wang - Harbin Engineering University Tian Zhang - Harbin Engineering University Daqing Wei - Harbin Engineering University Yongchang Li - Harbin Engineering University

## EFFECT OF SURFACE CONDITION ON THE GENERAL CORROSION RESISTANCE OF SEVERAL CANDIDATE CLADDING MATERIALS

Technical Paper Publication: ICONE32-2062

Zhu Liu - HUANENG Nuclear Energy Technology Research Institute Wei Liu - HUANENG Nuclear Energy Technology Research Institute Jin Shi - HUANENG Nuclear Energy Technology Research Institute Xianglong Guo - Shanghai Jiao Tong University Lefu Zhang - Shanghai Jiao Tong University

Track 7-3 Thermal-hydraulic experiments and measurement methods (III)

3:30 pm -5:00 pm, C-103

#### Session Chair:

Session Co-Chair:

### EXPERIMENTAL STUDY ON LIQUID-PHASE TURBULENCE IN AIR-WATER TWO-PHASE BUBBLY FLOW IN A VERTICAL ROD BUNDLE CHANNEL

Technical Paper Publication: ICONE32-0744

Jiaxing Ren - Harbin Engineering University Shouxu Qiao - Harbin Engineering University Shiwei Guo - Huaneng Shandong Shidaobay Nuclear Power Co., Ltd Hao Zhang - Huaneng Shandong Shidaobay Nuclear Power Co., Ltd Sichao Tan - Harbin Engineering University Hongyang Wei - Harbin Engineering University Ruifeng Tian - Harbin Engineering University Puzhen Gao - Harbin Engineering University

## A Deep Learning Modeling Approach For The Reconstruction Of Flow Field Parameter Distributions Towards Piv Fine Measurements

Technical Paper Publication: ICONE32-0836

Biao Liang - Harbin Engineering University Sichao Tan - Harbin Engineering University Jiangkuan Li - Harbin Engineering University Zhen Liu - Harbin Engineering University

**32**<sup>nd</sup> International Conference on Nuclear Engineering

Shouxu Qiao - Harbin Engineering University Ruifeng Tian - Harbin Engineering University

.....

#### EXPERIMENTAL INVESTIGATION ON HIGH-PRESSURE SUBCOOLED WATER INJECTING INTO HIGH-TEMPERATURE THERMAL OIL

Technical Paper Publication: ICONE32-0923

Shuhua Zhou - Beijing University of Chemical Technology
Ruizhi Hao - Beijing University of Chemical Technology
Wenshu Jiang - Beijing University of Chemical Technology
Shuo Wang - Beijing University of Chemical Technology
Tao Lu - Beijing University of Chemical Technology

#### RPV DEFORMATION INFLUENCE ON ERVC FLOW CHANNEL NATURAL CIRCULATION AND CHF EXPERIMENTAL STUDY

Technical Paper Publication: ICONE32-0926

xu junying - China Nuclear Power Technology Research Institute
 wei dongshan - China Nuclear Power Technology Research Institute
 yun xiangyu - China Nuclear Power Technology Research Institute
 zhang lei - China Nuclear Power Technology Research Institute
 zhang huiyong - China Nuclear Power Technology Research Institute

### THE EXPERIMENTAL STUDY ON CHF ENHANCEMENT OF RPV OUTER SURFACE

Technical Paper Publication: ICONE32-0940

yun xiangyu - China Nuclear Power Technology Research Institute xu junying - China Nuclear Power Technology Research Institute lin bo - China Nuclear Power Technology Research Institute zhang lei - China Nuclear Power Technology Research Institute zhang huiyong - China Nuclear Power Technology Research Institute wei dongshan - China Nuclear Power Technology Research Institute

**Experiments to Investigate Thermal Stratification with Different Boundary Conditions at a Pipeline-elbow** Technical Paper Publication: ICONE32-0973

Zhongkang Ma - North China Electric Power UniversityMi Zhou - North China Electric Power UniversityNaiqiang Zhang - North China Electric Power University

# Track 8-3 Heat Transfer Characteristics Analysis (I) 3:30 pm –5:00 pm, C-104A

#### Session Chair:

Session Co-Chair:

Temperature Characteristics of Irradiation Facility Based on Heat Pipe Regulation Technical Paper Publication: ICONE32-0121

Yinyuan Tang - Harbin Engineering University
Xiaobo Zeng - Harbin Engineering University
Guangming Fan - Harbin Engineering University
Haiyang Yang - Harbin Engineering University
Zhanming Zhou - Harbin Engineering University

#### NUMERICAL SIMULATION OF THE EFFECT OF PELLET BIAS ON ANNULAR FUEL HEAT TRANSFER PERFORMANCE

Technical Paper Publication: ICONE32-0526

Songtao Ji - China Institute of Atomic Energy Aimin Zhang - China Institute of Atomic Energy Zhijie Han - China Institute of Atomic Energy Tian Xing - China Institute of Atomic Energy Baolei Shi - China Institute of Atomic Energy Chanjuan Tang - China Institute of Atomic Energy

Sinda/Fluint-based thermal analysis of heat pipe reactors

Technical Paper Publication: ICONE32-1338

Peng Liu - China Institute of Atomic Energy Xingmin Liu - China Institute of Atomic Energy Chunqiu Guo - China Institute of Atomic Energy Jinlu Huang - Xi'an Jiaotong University Weihan Li - China Institute of Atomic Energy

Three-Dimensional CFD Simulation on PRACS Decay Heat Removal Capability under Natural Circulation Based on PLANDTL Facility

Technical Paper Publication: ICONE32-1428



Yue Liu - North China Electric Power University
Xinyue Luo - China Nuclear Power Engineering Co., Ltd. China
Ruoyu Liu - North China Electric Power University
Guodong Li - North China Electric Power University
Haijie Song - North China Electric Power University
Yuhao Zhang - North China Electric Power University
Daogang Lu - North China Electric Power University

#### INVESTIGATION OF THE INFLUENCE OF COMPOSITE CORRUGATION PROFILE ON CONVECTIVE HEAT TRANSFER PERFORMANCE OF MODIFIED PIPES

Technical Paper Publication: ICONE32-1448

**Samuel Oke -** College of Nuclear Science and Technology, Harbin Engineering University, China

**Puzhen Gao -** College of Nuclear Science and Technology, Harbin Engineering University, China

Nan Zhang - College of Nuclear Science and Technology, Harbin Engineering University, China

Olatomide Fadodun - Centre for Energy Research and Development, Obafemi Awolowo University, Ile-Ife, Nigeria

Track 9-3 Radioactive Waste Treatment Technology (III) -Liquid Waste Treatment

3:30 pm -5:00 pm, C-104B

Session Chair:

Session Co-Chair:

#### SYNTHESIS OF COVALENT ORGANIC FRAMEWORK (COF-HSO3) BY GAMMA-IRRADIATION METHOD FOR URANIUM ADSORPTION FROM WASTE WATER

Technical Paper Publication: ICONE32-0373

Abdullah - Harbin Engineering University, China
Li Zhigang - Harbin Engineering University, China
Li Zhigang - Heilongjiang Institute of Atomic Energy,
Heilongjiang Academy of Sciences, China

Ma Fuqiu - Harbin Engineering University, China.

**Ma Fuqiu -** Yantai Research Institute of Harbin Engineering University, China

Research and Design of an Automatic Welding Equipment for a New type High-level Radioactive Solid Waste Container

Technical Paper Publication: ICONE32-0378

XUE ZHANG - China Nuclear Power Engineering Co.,LTD

KAI CUI - China Nuclear Power Engineering Co.,LTD

Yinan Xie - China Nuclear Power Engineering Co.,LTD

Xiwen Hu - China Nuclear Power Engineering Co.,LTD

ZHENG LI - China Nuclear Power Engineering Co., LTD

Zhongbin Xu - China Nuclear Power Engineering Co., LTD

**TIANHAO WANG -** China Nuclear Power Engineering Co.,LTD

ZHEN JIANG - Beijing Institute of Petrochemical Technology

Analysis on the Current Status of Radioactive Chemical Decontamination System Design of Pressurized Water Reactor Nuclear Power Plant

Technical Paper Publication: ICONE32-0419

Haicheng GU - Yangjiang Nuclear Power Co., Ltd, China Weilun LIANG - Shenzhen China Nuclear Power Design Co., Ltd Zhennan ZHANG - Shenzhen China Nuclear Power Design Co., Ltd

**Guocai XI -** Yangjiang Nuclear Power Co., Ltd, China **Zhili ZOU -** Yangjiang Nuclear Power Co., Ltd, China

Ming HUO - Shenzhen China Nuclear Power Design Co., Ltd

#### STUDY ON THE DESIGN OF EVAPORATION AND CONCENTRATION TREATMENT PROCESS FOR RADIOACTIVE WASTEWATER

Technical Paper Publication: ICONE32-0910

Xiaomin Ma - CNNC NO.7 Research and Design Institute Co.LTD

Haitao Ma - CNNC NO.7 Research and Design Institute Co.LTD

**Fenglin Zhao -** CNNC NO.7 Research and Design Institute Co.LTD

Xutao Pei - CNNC NO.7 Research and Design Institute Co.LTD

-38-



# URANYL ION (UO22+) AND PERRHENATE ION (ReO4-) IN SOLUTION WERE CO-CRYSTALLIZED BY SUPRAMOLECULAR PSEUDOROTAXANE LIGANDS

Technical Paper Publication: ICONE32-0991

yuanyuan liang - Nuclear Power Institute of China

**yang liu -** Laboratory of Nuclear Energy Chemistry, Institute of High Energy Physics, Chinese Academy of Sciences

**lei mei -** Laboratory of Nuclear Energy Chemistry, Institute of High Energy Physics, Chinese Academy of Sciences

xuefei luan - National Nuclear Emergency Response Technical Assistance Center

feng zhao - Nuclear Power Institute of China

Effects of ultra-fast high-temperature sintering on the densification and leaching resistance of hollandite

.....

Technical Paper Publication: ICONE32-1569

**Mingyang Zhao -** School of Nuclear Science and Engineering, North China Electric Power University

Xiao Chen - School of Nuclear Science and Engineering, North China Electric Power University

**Tao Hong -** School of Materials Science and Engineering, Hefei University of Technology

**Zhenfeng Tong -** School of Nuclear Science and Engineering, North China Electric Power University

Track1-12 Chemistry and Water Quality Control (Secondary) II

3:30 pm -5:00 pm, C-105A

Session Chair:

ceramics

Session Co-Chair:

Research on the maintenance effect of steam generator under different chemical conditions of nuclear power plant

Technical Paper Publication: ICONE32-0089

Qiliang Sun - Daya Bay Nuclear Power Operation and

Management Co., Ltd.

Yan Xiao - Suzhou Nuclear Power Research Institute Co., Ltd.
Zhaohui Tian - Suzhou Nuclear Power Research Institute Co., Ltd.
Chuanjun Lv - Daya Bay Nuclear Power Operation and Management Co., Ltd.

Yun Sun - Suzhou Nuclear Power Research Institute Co., Ltd. Hualin Li - Daya Bay Nuclear Power Operation and Management Co., Ltd.

Canshuai Liu - Suzhou Nuclear Power Research Institute Co., Ltd. Hao Wang - Suzhou Nuclear Power Research Institute Co., Ltd.

Adsorption Behavior of Film-forming Amines on Surface of Condenser Main Tubes of Pressurized Water Reactors based on Molecular Simulation

Technical Paper Publication: ICONE32-0475

Canshuai LIU - Suzhou Nuclear Power Research Institute Co., Ltd. Yan XIAO - Suzhou Nuclear Power Research Institute Co., Ltd. Zhaohui TIAN - Suzhou Nuclear Power Research Institute Co., Ltd. Yun SUN - Suzhou Nuclear Power Research Institute Co., Ltd.

.....

Research on water vapor quality control method of Direct flow evaporator nuclear power unit

Technical Paper Publication: ICONE32-1126

**ruixiang zhang -** Xi'an Thermal Engineering Research Institute Co., Ltd

yan yu - Xi'an Thermal Engineering Research Institute Co., Ltd
Feng Liu - Xi'an Thermal Engineering Research Institute Co., Ltd
Yang Hu - Xi'an Thermal Engineering Research Institute Co., Ltd
Tongtong Ling - Xi'an Thermal Engineering Research Institute
Co., Ltd

Yao Yao - Xi'an Thermal Engineering Research Institute Co., Ltd changhai li - Xi'an Thermal Engineering Research Institute Co., Ltd

Research And Application Of High Sensitivity On-Line Sipping Test Equipment

Technical Paper Publication: ICONE32-1552

Gao Zhongyu - Suzhou Nuclear Power Research Institute Co.,Itd Cui Meng - Liaoning Hongyanhe Nuclear Power Co.,Ltd Zhou Fuzhi - Suzhou Nuclear Power Research Institute Co.,Itd



**Zhu Bisheng -** Suzhou Nuclear Power Research Institute Co.,Itd **Tian Zhaohui -** Suzhou Nuclear Power Research Institute Co.,Itd

Sun Yun - Suzhou Nuclear Power Research Institute Co.,Itd

#### RESEARCH ON THE SCALING BEHAVIOR OF CONCENTRATED SEAWATER IN THE RECIRCULATING COOLING SYSTEM

.....

Technical Paper Publication: ICONE32-1739

Rui Zhang - China Nuclear Power Engineering Co., Ltd., China Rui Wang - China Nuclear Power Engineering Co., Ltd., China Kechen Xu - China Nuclear Power Engineering Co., Ltd., China Ningsha Hu - China Nuclear Power Engineering Co., Ltd., China Wei Bai - China Nuclear Power Engineering Co., Ltd., China Jing Li - China Nuclear Power Engineering Co., Ltd., China

Study on the influence of feed water flow rate and PH value on the deposition of throttling hole of steam generator in high temperature gas cooled reactor Technical Paper Publication: ICONE32-2053

Wei Wang - China Huaneng Group Co.,LTD
Ping liu - China Huaneng Group Co.,LTD
Qiangqiang Yang - China Huaneng Group Co.,LTD
Guiquan Zhang - Xi'an Thermal Power Research Institute Co., Ltd.
Jiantao Yao - Xi'an Thermal Power Research Institute Co., Ltd.

.....

Track2-12 Accident Tolerant Fuel 3:30 pm –5:00 pm, C-105B

Session Chair:

Session Co-Chair:

#### THE INFLUENCE OF IMPURITY IONS ON THE CRUD BEHAVIOR OF CR COATING AND ZR ALLOY CLADDINGS

Technical Paper Publication: ICONE32-0111

Tao Huang - Shanghai Jiao Tong University
Fujie Zhou - Shanghai Jiao Tong University
Shixin Gao - Nuclear Power Institute of China
Huifang Yue - Nuclear Power Institute of China

Kun Zhang - Nuclear Power Institute of ChinaKai Chen - Shanghai Jiao Tong UniversityHua Pang - Nuclear Power Institute of China

Lefu Zhang - Shanghai Jiao Tong University

Impact of ATF cladding material on CR worth and coefficients of reactivity

Technical Paper Publication: ICONE32-0615

Khurrum Saleem Chaudri - Khalifa University of Science and Technology/ Technology Innovation Institute

**Mohammed Lahdour -** Khalifa University of Science and Technology

Mohammad Alrwashdeh - Khalifa University of Science and Technology

**Saeed A. Alameri -** Khalifa University of Science and Technology

Preliminary economic analysis of accident tolerant fuel based on SiC cladding and high uranium density pellets

Technical Paper Publication: ICONE32-1168

Ling Ye - China Nuclear Power Technology Research Institute Co., Ltd.

**Yuxiang Zhu -** China Nuclear Power Technology Research Institute Co., Ltd.

Qingyu Gao - China Nuclear Power Technology Research Institute Co., Ltd.

**Jiaqi Wang -** China Nuclear Power Technology Research Institute Co., Ltd.

**Tianze Jiang -** China Nuclear Power Technology Research Institute Co., Ltd.

Jinfeng Wei - China Nuclear Power Technology Research Institute Co., Ltd.

**Dechang Cai** - China Nuclear Power Technology Research Institute Co., Ltd.

**Changyou Zhao -** China Nuclear Power Technology Research Institute Co., Ltd.

**Xuefeng Fu** - China Nuclear Power Technology Research Institute Co., Ltd.

**Changheng Xu** - China Nuclear Power Technology Research Institute Co., Ltd.



#### **CR-COATED ZIRCALOY CLADDING MODELING UNDER LOCA CONDITION WITH OFFBEAT**

Technical Paper Publication: ICONE32-1450

Junhao Xie - Harbin Engineering University

Tian Zhang - Harbin Engineering University

Qingyu Wang - Harbin Engineering University Alessandro Scolaro - EPFL

Jiaxuan Liu - Harbin Engineering University

Antonio Cammi - Politecnico di Milano

#### ESTIMATION OF EFFECTIVE THERMAL CONDUCTIVITY IN U3SI2-AL DISPERSION FUELS WITH FISSION GAS BUBBLES

Technical Paper Publication: ICONE32-1807

Li Yong - China Nuclear Power Technology Research Institute Co., Ltd

**Cao Zhiwei -** China Nuclear Power Technology Research Institute Co., Ltd

**Xu Miaomiao -** China Nuclear Power Technology Research Institute Co., Ltd

Li Qiang - China Nuclear Power Technology Research Institute Co., Ltd

Wang Gang - China Nuclear Power Technology Research Institute Co., Ltd

Lin Zhikang - China Nuclear Power Technology Research Institute Co., Ltd

Ballooning and Burst Behavior of Cr-coated Zr Alloy Cladding under LOCA conditions

Technical Paper Publication: ICONE32-1840

Ruhao Zhong - China Nuclear Power Technology Research Institute

Haode Xu - China Nuclear Power Technology Research Institute Dong Wang - Xi'an Jiaotong University

Yapei Zhang - Xi'an Jiaotong University

Chao Guo - China Nuclear Power Technology Research Institute Xuefeng Fu - China Nuclear Power Technology Research Institute Yueyang Hou - University of Science and Technology of China

### Track 8-12 Data-Driven Method and Machine Leaening 3:30 pm –5:00 pm, C-106A

Session Chair:

Session Co-Chair:

# INTEGRATING PARTICLE METHOD SIMULATIONS AND MACHINE LEARNING FOR PREDICTING CORE MELT FLOW PATTERN

Technical Paper Publication: ICONE32-0052

Yicong Lan - Xi'an Jiaotong University

Shihao Wu - Xi'an Jiaotong University

Yapei Zhang - Xi'an Jiaotong University

Xingyu Wang - Xi'an Jiaotong University

Wenxi Tian - Xi'an Jiaotong University

G.H. Su - Xi'an Jiaotong University

Suizheng Qiu - Xi'an Jiaotong University

A GPU-Accelerated Weakly Compressible LSMPS Simulation with Phase Transition

Technical Paper Publication: ICONE32-0831

Sheng Cao - Xi 'an Jiaotong University

Qianyong Ren - Xi 'an Jiaotong University

Wenpeng Wang - Xi 'an Jiaotong University

Bin Zhang - Xi 'an Jiaotong University

Accelerated Calculation of Three-Dimensional Two-Phase Flow Field in Steam Generators Based on Reduced-Order Model

Technical Paper Publication: ICONE32-0897

Qing Yang - Shanghai Nuclear Engineering & Design Institute Co., Ltd

Jie Liu - Yuansuan Ltd.

Xingliang Zhang - Shanghai Nuclear Engineering & Design Institute Co., Ltd

Liu Chang - Shanghai Nuclear Engineering & Design Institute Co., Ltd

Yicheng Zhang - Shanghai Nuclear Engineering & Design



# Institute Co., Ltd Ke Wang - Yuansuan Ltd. Lu Zhou - Yuansuan Ltd. Jiesheng Min - Yuansuan Ltd.

#### Data-Driven and Physics-Informed: A Hybrid CFD-Neural Network Methodology for Critical Heat Flux Prediction

Technical Paper Publication: ICONE32-1374

Shihao Yang - Beijing Jiaotong University Lixin Yang - Beijing Jiaotong University

Hongyuan Di - Beijing Jiaotong University

#### Data-Driven Reduced-Order Analysis of Flow Field in 3 x 3 Fuel Rod Bundle with Spacer Grid

Technical Paper Publication: ICONE32-1831

Jixin Liu - Harbin Engineering University

Hongyang Wei - Harbin Engineering University
Zhenyang Sun - Harbin Engineering University
Sichao Tan - Harbin Engineering University
Puzhen Gao - Harbin Engineering University

Neural Network-Based Optimization of RANS Simulations for Flow Field in Rod Bundle Channels

Technical Paper Publication: ICONE32-1850

Wei Xu - Shanghai Jiao Tong University Xiaojing Liu - Shanghai Jiao Tong University

Qishi Yin - Shanghai Jiao Tong University

Hui He - Shanghai Jiao Tong University

**Denggao Chen -** National Key Laboratory of Nuclear Reactor Technology, Nuclear Power Institute of China

Track 7-12 Nuclear reactor safety analysis (IV) 3:30 pm –5:00 pm, C-106B

#### Session Chair:

Session Co-Chair:

NUMERICAL SIMULATION OF AHPR1000'S

#### THERMAL-HYDRAULIC MODEL BASED ON CITHARA CODE

Technical Paper Publication: ICONE32-0079

Yiwa Geng - China Nuclear Power Engineering Co., Ltd.
Mingjie Ma - Shanghai Jiao Tong University
Jun Fang - China Nuclear Power Engineering Co., Ltd.
Jiatai Liu - China Nuclear Power Engineering Co., Ltd.

Analysis on the erosion and mixing of stable helium stratification by vertical air jet on CABLE facility using GOTHIC 3D model

Technical Paper Publication: ICONE32-0467

NINGXI JIA - China Nuclear Power Engineering Co.,Ltd. XIAOCHUAN WANG - China Nuclear Power Engineering Co.,Ltd.

ZHUO LIU - China Nuclear Power Engineering Co.,Ltd.MINGRUI YU - China Nuclear Power Engineering Co.,Ltd.YIDAN YUAN - China Nuclear Power Engineering Co.,Ltd.

Development of a 3D Thermal-hydraulic Analysis Code for Aqueous Homogeneous Reactor Based on GeN-Foam Technical Paper Publication: ICONE32-0516

Zhenyu Feng - Xi'an Jiaotong University
Dalin Zhang - Xi'an Jiaotong University
Wenqiang Wu - Xi'an Jiaotong University
Lei Zhou - Xi'an Jiaotong University
Wenxi Tian - Xi'an Jiaotong University
Suizheng Qiu - Xi'an Jiaotong University
Guanghui Su - Xi'an Jiaotong University

Numerical Study of Thermo-Hydraulics of Advanced Nuclear Power Plant Containment ATHROC Programme Technical Paper Publication: ICONE32-0871

Lanyu Zhou - Nuclear Power Engineering Co. China Yanyu Sun - Nuclear Power Engineering Co. China Shuliang Huang - Nuclear Power Engineering Co. China Yanfang Xue - Nuclear Power Engineering Co. China

Research on Modeling and Simulation of the Thermal

-42-



System in the Secondary Loop of a Pressurized Water Reactor Nuclear Power Plant

Technical Paper Publication: ICONE32-1228

Shuhang Yan - China Nuclear Power Operation Technology Corporation LTD

Kaili Xu - China Nuclear Power Operation Technology Corporation LTD

Chang Gao - China Nuclear Power Operation Technology Corporation LTD

**Tianqi He -** China Nuclear Power Operation Technology Corporation LTD

Yong Wang - China Nuclear Power Operation Technology Corporation LTD

Yizhou Zhang - China Nuclear Power Operation Technology Corporation LTD

.....

#### VALIDATION OF GOTHIC SYSTEM CODE AGAINST EXPERIMENTAL DATA ON TWO-PHASE FLOW FROM HWAT LOOP FACILITY

Technical Paper Publication: ICONE32-1998

Aleksander Kipiela - KTH Royal Insititue of Technology Dmitry Grishchenko - KTH Royal Insititue of Technology Pavel Kudinov - KTH Royal Insititue of Technology Haipeng Li - KTH Royal Insititue of Technology

.....

#### **Track 9-13 Others**

3:30 pm -5:00 pm, C-107A

#### Session Chair:

Session Co-Chair:

Preliminary Study on Coolant Radiolysis of Coolant in High Flux Research Reactors

Technical Paper Publication: ICONE32-0144

.....

Xinhe Qu - Tsinghua University Yi Huang - Tsinghua University Wei Peng - Tsinghua University Heng Xie - Tsinghua University

# Research in dose measurement of complex radiation fields using single crystal CVD diamond

Technical Paper Publication: ICONE32-0293

Jiutao Chen - Harbin Engineering University
Yushou Song - Harbin Engineering University
Jichao Tang - Harbin Engineering University
Sen Yang - Harbin Engineering University
Feng Xu - Harbin Engineering University
Size Chen - Institute of Nuclear Energy Safety Technology
Dan Xiao - Institute of Nuclear Energy Safety Technology

••••••

#### ADDITIVE ENGINEERING OF MAPBBR PEROVSKITE SINGLE CRYSTALS FOR DIRECT X-RAY DETECTORS

Technical Paper Publication: ICONE32-0470

Yue Zhang - Harbin Engineering University

Yuanjie Sun - Harbin Engineering University

Zhe Liu - Heilongjiang Institute of Atomic Energy

Hongtao Zhao - Harbin Engineering University

Zhigang Li - Harbin Engineering University

.....

#### RADIONUCLIDE AEROSOL CAPTURE USING ELECTROSTATIC PRECIPITATION SYSTEM IN NUCLEAR DECOMMISSIONING

Technical Paper Publication: ICONE32-0623

Anamika Das Puja - Ontario Tech University Glenn Harvel - Ontario Tech University

#### STUDY ON THE RELEASE RATE OF SOLUBLE CORROSION PRODUCTS IN THE PRIMARY CIRCUIT OF PRESSURIZED WATER REACTOR

Technical Paper Publication: ICONE32-0689

Feng Yi - Nuclear Power Operations Research Institute
Yuan Shen - Nuclear Power Operations Research Institute
Bing Dong - Nuclear Power Operations Research Institute
Enwei Shen - Nuclear Power Operations Research Institute
Weimin Liang - Nuclear Power Operations Research Institute
Yikun Zang - Nuclear Power Operations Research Institute



Kouhong Xiong - Nuclear Power Operations Research Institute

**High Flux Neutron Reactor 14C Production Assessment** Technical Paper Publication: ICONE32-1554

shengqiu huang - Beijing Nuclear Industry Hospital
binhe hu - China Institute of Atomic Energy
shixi wang - China Institute of Atomic Energy
mingyu wu - China Institute of Atomic Energy

**Research on Axial Neutron and Photon Source and Heat Distribution Distribution of AFA-3G Spent Fuel Assembly** Technical Paper Publication: ICONE32-1693

Qiujuan Zhao - China Nuclear Power Engineering Co.,Ltd Siyang Xie - China Nuclear Power Engineering Co.,Ltd Zonghuan Chen - China Nuclear Power Engineering Co.,Ltd Lin Yao - China Nuclear Power Engineering Co.,Ltd Bingheng Wang - China Nuclear Power Engineering Co.,Ltd

Track 16-5 Advanced Nuclear Technologies 3:30 pm –5:00 pm, C-107B

#### Session Chair:

Session Co-Chair:

Autonomous Anomaly Response to Enhance Nuclear Safety in Nuclear Power Plants

Technical Paper Publication: ICONE32-0202

Feiyan Dong - The University of Tokyo Kazuyuki Demachi - The University of Tokyo Masanori Yoshikawa - Japan Atomic Energy Agency Shigeru Takaya - Japan Atomic Energy Agency

### A REVIEW ON EPOXY RESIN COMPOSITE AND SPENT COFFEE GROUND VALORIZATION FOR RADIATION SHIELDING

Technical Paper Publication: ICONE32-0358

Jia Xuan Tang - Universiti Teknologi Malaysia Muhammad Arif Sazali - Universiti Teknologi Malaysia Siti Madiha Muhammad Amir - Malaysian Nuclear Agency Asyraf Arif Abu Bakar - Malaysian Nuclear Agency Ahmad Hambali Ismail - Malaysian Nuclear Agency Nur Syazwani Mohd Ali - Universiti Teknologi Malaysia Muhammad Syahir Sarkawi - Universiti Teknologi Malaysia Khairulnadzmi Jamaluddin - Universiti Teknologi Malaysia

**Data Assimilation with Process Information from Plant Simulator Experiment for Estimation of PIF Impact** Technical Paper Publication: ICONE32-0843

Tomonori Sakamaki - The University of Osaka Satoshi Takeda - The University of Osaka Takanori Kitada - The University of Osaka

Research on Real-Time Measurement Method of Gamma Energy spectrum for Primary Loop Cooling Water of Nuclear Reactor

Technical Paper Publication: ICONE32-0944

Bin Liu - Chongqing University Zhiwen Peng - Chongqing University Shuo Li - Chongqing University Liangming Pan - Chongqing University Zaiyong Ma - Chongqing University Luteng Zhang - Chongqing University

Design and Optimization of a Beam Shaping Assembly for Accelerator-Based Boron Neutron Capture Therapy with Adjustable Energy Spectrum

Technical Paper Publication: ICONE32-1426

**Terence Munyense Kashiba -** Harbin Engineering University/ Fundamental Science on Nuclear Safety and Simulation Technology Laboratory

**Song Yushou -** Harbin Engineering University/Fundamental Science on Nuclear Safety and Simulation Technology Laboratory

Li Ziming - Harbin Engineering University/Fundamental Science on Nuclear Safety and Simulation Technology Laboratory

•••••

#### BASIC RESEARCH ON ULTRASONIC PULSE RECEPTION USING LIGHT DEFLECTION PHENOMENA

Technical Paper Publication: ICONE32-1867

-44-

ne 32<sup>nd</sup> International Conference on Nuclear Engineering

Shuntaro Kozaka - Institute of Science Tokyo

Track 3-3 Control Strategy and Operation Optimization 3:30 pm –5:00 pm, C-108A

.....

#### Session Chair:

Session Co-Chair:

Research and Application of Control Strategy of HVAC System in HPR1000

Technical Paper Publication: ICONE32-0173

Renyan Zhang - China Nuclear Power Engineering Co.,Ltd Menyue Wang - China Nuclear Power Engineering Co.,Ltd Chuangxin Zhou - China Nuclear Power Engineering Co.,Ltd

Time Delay Active Disturbance Rejection Control Of Pressurizer in Nuclear Reactor With Delay Robustness and Simplified Tuning

Technical Paper Publication: ICONE32-1001

Yunze He - Southeast University Tianyang Xing - Southeast University Mudi Jiang - Southeast University Mengmeng Ji - Southeast University Xinfei Yang - Southeast University Yuxiang Ma - Southeast University Xiaoliang Zhu - Southeast University

A Control Strategy for Control Rods in High-Temperature Gas-Cooled Reactors

.....

Technical Paper Publication: ICONE32-1111

feng jiang - Huaneng Shandong Shidao Bay Nuclear Power
chen wang - Huaneng Shandong Shidao Bay Nuclear Power
yan liu - CNNP ShanDong Nuclear Energy Co.
zhongshu zhang - Huaneng Shandong Shidao Bay Nuclear Power
xuanqing zhou - Huaneng Shandong Shidao Bay Nuclear Power
feng wang - Huaneng Shandong Shidao Bay Nuclear Power
xiaotao xing - Huaneng Shandong Shidao Bay Nuclear Power
xuating zou - Huaneng Shandong Shidao Bay Nuclear Power

hai long - Huaneng Shandong Shidao Bay Nuclear Power

# GUARANTEED COST CONTROL FOR PRESSURIZED WATER NUCLEAR REACTOR BASED ON THE CUBATURE KALMAN FILTER

.....

Technical Paper Publication: ICONE32-1270

Yuheng Zhang - Harbin Engineering University, College of Nuclear Science and Technology

**Junling Wang -** Harbin Engineering University, College of Nuclear Science and Technology

**Hetao Sun** - Harbin Engineering University, College of Nuclear Science and Technology

Jiayu Mu - Harbin Engineering University, College of Nuclear Science and Technology

Xiuchun Luan - Harbin Engineering University, College of Nuclear Science and Technology

.....

#### DESIGN OF A SAFE OPERATION CONTROL STRATEGY FOR NUCLEAR POWER PLANTS PRODUCING OVERHEATED STEAM

Technical Paper Publication: ICONE32-1618

Henglong Lin - Tsinghua University Bowen Li - Tsinghua University

Zeguang Li - Tsinghua University

Huifu Wang - Tsinghua University

.....

Study on improving transient margins regarding protection thresholds in stretch out operation Technical Paper Publication: ICONE32-1686

Danjing Wei - China Nuclear Power Engineering Co., Ltd.Yanhua Cheng - China Nuclear Power Engineering Co., Ltd.Fangqing Yang - China Nuclear Power Engineering Co., Ltd.

.....

Track 16-6 Thermal-Hydraulics and Reactor System II 3:30 pm –5:00 pm, C-108B

Session Chair:

Session Co-Chair:

Evaluation and Development of Heat Transfer and

-45-



Friction Factor Correlations for Zigzag Printed Circuit Heat Exchangers

Technical Paper Publication: ICONE32-0153

Zhe Li - ShanghaiTech University

**Sheng Zhang -** Shanghai Institute of Applied Physics, Chinese Academy of Sciences

Xiaohong Yang - Shanghai Institute of Applied Physics, Chinese Academy of Sciences

RESEARCH ON THE PRANDTL NUMBER MODEL FOR TURBULENT THERMAL STRATIFICATION OF LIQUID SODIUM IN LARGE DOMAIN OF FAST REACTOR

Technical Paper Publication: ICONE32-0190

Jinchao Li - Harbin Engineering University Guangliang Chen - Harbin Engineering University Zhigang Zhang - Harbin Engineering University Hao Qian - Harbin Engineering University Hongwei Jiang - Harbin Engineering University Rui Li - Harbin Engineering University

Study on Transient Response of Reactor System for Floating Nuclear Power Plant under Large-Scale Fluctuations of Power Grid

Technical Paper Publication: ICONE32-0284

Guofeng Fan - Zhejiang University

Hanqing Li - Marine Design and Research Institute of China
Yuzeng Wu - Marine Design and Research Institute of China
Shengyu Shen - Zhejiang University
Chunhui Dai - Zhejiang University

Shaohong Zhang - Zhejiang University

.....

Dynamic Response Characteristics of Passive Residual Heat Removal Systems under Different Hot Standby States

Technical Paper Publication: ICONE32-1275

Ruiyang Tu - Shanghai Jiao Tong University Xuewu Cao - Shanghai Jiao Tong University Lily Tong - Shanghai Jiao Tong University

# RESEARCH ON MODEL PREDICTIVE CONTROL METHOD FOR PRIMARY-LOOP DISCHARGE FLOW TEMPERATURE

.....

Technical Paper Publication: ICONE32-1298

Longhao Xiao - Xi'an Jiaotong University Yizhen Wei - Xi'an Jiaotong University Peiwei Sun - Xi'an Jiaotong University Xinyu Wei - Xi'an Jiaotong University

Research on Time-Series Prediction of Key Parameters in Nuclear Power Plants Based on the Informer Model Technical Paper Publication: ICONE32-1414

Linfeng Li - Shenzhen University Anqi Xu - Shenzhen University Ting Wen - Shenzhen University Guoming Yin - Shenzhen University Ziwei Weng - Shenzhen University Zihan Zhou - Shenzhen University Ming Yang - Shenzhen University Xiaomeng Dong - Shenzhen University Yong Liu - Shenzhen University

Characterization of bubble motion in bottom submerged orifice under rolling conditions

Technical Paper Publication: ICONE32-1626

Shuaihe Wang - Xi'an Jiaotong University
Mingjun Wang - Xi'an Jiaotong University
Wenxi Tian - Xi'an Jiaotong University
Suizheng Qiu - Xi'an Jiaotong University
Guanghui Su - Xi'an Jiaotong University

Track13-5 Reliability and HRA

3:30 pm -5:00 pm, C-109A

.....

Session Chair:

Session Co-Chair:

-46-

a **32<sup>nd</sup> International Conference** on Nuclear Engineering

Reliability Data Analysis and Research of Emergency Diesel Generator Sets in Nuclear Power Plants Technical Paper Publication: ICONE32-0232

Li-hui CHEN - Suzhou Nuclear Power Research Institute Co.,Ltd. Yong ZHANG - Suzhou Nuclear Power Research Institute Co.,Ltd. Fen WANG - Suzhou Nuclear Power Research Institute Co.,Ltd. Shi-jun CHEN - Suzhou Nuclear Power Research Institute Co.,Ltd. Fei-fei TANG - Suzhou Nuclear Power Research Institute Co.,Ltd.

Reliability Analysis of the Safety Function of the Secondary Side Passive Residual Heat Removal System in HPR1000

#### Technical Paper Publication: ICONE32-0455

Zhenpeng Xiong - Hualong Nuclear Power Technology Co., Ltd Shi Chen - Hualong Nuclear Power Technology Co., Ltd Benlin Yang - Hualong Nuclear Power Technology Co., Ltd Xinyue Zhao - Hualong Nuclear Power Technology Co., Ltd Lingsheng Hu - Hualong Nuclear Power Technology Co., Ltd Guanghui Zhao - Hualong Nuclear Power Technology Co., Ltd Junming Zheng - Hualong Nuclear Power Technology Co., Ltd

# RESEARCH ON SYSTEM RELIABILITY ALLOCATION METHOD BASED ON CDF INDEX

Technical Paper Publication: ICONE32-0713

Rui Zhang - China Nuclear Power Engineering Co., LTD.
Qingqing Xu - China Nuclear Power Engineering Co., LTD.
Jian Yang - China Nuclear Power Engineering Co., LTD.
Jin An - China Nuclear Power Engineering Co., LTD.
Fangyu Dong - China Nuclear Power Engineering Co., LTD.

**Study of HRA data collection for nuclear power plants** Technical Paper Publication: ICONE32-0777

YONGPING QIU - SNERDI XIAO TAN - SNERDI WENJING LEI - SNERDI

YUCHENG ZHUO - SNERDI

Integrating Large Language Models with Retrieval-Augmented Generation for Decision Support in IDHEAS-

#### **ECA Applications**

Technical Paper Publication: ICONE32-0802

Xingyu Xiao - Tsinghua University Peng Chen - Chinese Academy of Sciences Jingang Liang - Tsinghua University Jiejuan Tong - Tsinghua University Haitao Wang - Tsinghua University

Reliability Analysis of Reactor Trip Circuit Breaker in Nuclear Power Plants

Technical Paper Publication: ICONE32-1373

Qingqing Wang - Suzhou Nuclear Power Research Institue Co.,Ltd. Hong Wei Dai - Suzhou Nuclear Power Research Institue Co.,Ltd. Dong Yuan Guo - Suzhou Nuclear Power Research Institue Co.,Ltd. Guodong Li - Suzhou Nuclear Power Research Institue Co.,Ltd. Dongxiong Feng - Suzhou Nuclear Power Research Institue Co.,Ltd.

Track13-6 Risk-informed application-I 3:30 pm –5:00 pm, C-109B

Session Chair:

Session Co-Chair:

# RESEARCH ON THE DEVELOPMENT METHOD OF RISK MANAGEMENT ACTIONS FOR RMTS

Technical Paper Publication: ICONE32-1477

Dongyuan Guo - Suzhou Nuclear Power Research Institute Co., Ltd Qingqing Wang - Suzhou Nuclear Power Research Institute Co., Ltd Qiongzhe Li - Suzhou Nuclear Power Research Institute Co., Ltd Xin Gu - Suzhou Nuclear Power Research Institute Co., Ltd Xiuchun Zhang - Suzhou Nuclear Power Research Institute Co., Ltd

Research and Application of Risk Analysis Method for Extending the Test Intervals of Containment Penetration Leakage Rate Tests in Nuclear Power Plant Technical Paper Publication: ICONE32-1492

Xiaoyu Liang - suzhou nuclear power research inistitute Handing Wang - suzhou nuclear power research inistitute



Songying Gu - suzhou nuclear power research inistitute Bingchen Feng - suzhou nuclear power research inistitute

Research on the application of risk-informed safety classification in the field of repair-replacement

Technical Paper Publication: ICONE32-1782

Long Li - Nuclear Power Research Institute Co., Ltd. Jianfeng Yang - Nuclear Power Research Institute Co., Ltd. Zefeng Zhang - Nuclear Power Research Institute Co., Ltd. Zhi Yang - Nuclear Power Research Institute Co., Ltd. Jiajia Sun - Nuclear Power Research Institute Co., Ltd. Kui Geng - Nuclear Power Research Institute Co., Ltd.

Application of Risk-Informed in the RPR Surveillance Test Interval Optimization of Nuclear Power Plant Technical Paper Publication: ICONE32-1858

Zhi YANG - Suzhou Nuclear Power Research InstituteKui Geng - Suzhou Nuclear Power Research InstituteJiajia Sun - Suzhou Nuclear Power Research InstituteLong Li - Suzhou Nuclear Power Research Institute

Supervise Requirement SR3.0.3 Enforcement Programme Study in nuclear power plant

Technical Paper Publication: ICONE32-1877

**Changsheng Cheng -** Suzhou Nuclear Power Research Institute Co., Ltd. ,National Engineering Research Center for Nuclear Power Plant Safety & Reliability, Suzhou, China

Qingqing Wang - Suzhou Nuclear Power Research Institute Co., Ltd. Shijun Chen - Suzhou Nuclear Power Research Institute Co., Ltd.

STUDY ON RISK ASSESSMENT FOR THE EXTENSION

# OF CONTAINMENT INTEGRATED LEAKAGE RATE TEST INTERVAL OF CPR1000 UNIT

Technical Paper Publication: ICONE32-1885

Bingchen Feng - Suzhou Nuclear Power Research Institute Weijin Wang - Suzhou Nuclear Power Research Institute Xiaoyu Liang - Suzhou Nuclear Power Research Institute

Track13-7 Risk-informed application-II

#### 3:30 pm -5:00 pm, C-112

Session Chair:

Session Co-Chair:

Methods for calculating the safety significance of nuclear power plant functions based on risk-informed approach Technical Paper Publication: ICONE32-0062

XIaofan Wang - CNNC Nuclear Power Operation Research Institute

Wei Gao - CNNC Nuclear Power Operation Research Institute Xiaochun Peng - CNNC Nuclear Power Operation Research Institute

Zhen Yan - CNNC Nuclear Power Operation Research Institute Wensheng Wang - CNNC Nuclear Power Operation Research Institute

.....

ALARP Application in HPR1000 Hazards Protection Design

Technical Paper Publication: ICONE32-0180

Jinkai Wang - China Nuclear Power Design Company Xuelong Li - China Nuclear Power Design Company Peng Xu - China Nuclear Energy Association Jinhui Li - China Nuclear Power Design Company

# STUDY ON THE IDENTIFICATION OF SIGNIFICANT RISK INDICATORS FOR RISK-INFORMED ILRT INTERVALS EXTENSION

Technical Paper Publication: ICONE32-0652

Yu Liu - China Nuclear Power Engineering Co., Ltd.
Wenjing Li - China Nuclear Power Engineering Co., Ltd.
Xinli Yu - China Nuclear Power Engineering Co., Ltd.
Jing Liu - China Nuclear Power Engineering Co., Ltd.
Cong Wang - China Nuclear Power Engineering Co., Ltd.
Shipeng Niu - China Nuclear Power Engineering Co., Ltd.

Research on safety classification of implicitly modeled SSC based on risk-informed method Technical Paper Publication: ICONE32-0781

-48-



Kui Geng - Suzhou Nuclear Power Research Institute Co., Itd. Shijian WU - China Nuclear Power Engineering Co., Ltd Zhi Yang - Suzhou Nuclear Power Research Institute Co., Itd. Xingang LI - Ling Dong Nuclear Power Co. Ltd Zefeng Zhang - Suzhou Nuclear Power Research Institute ZhiCheng LU - China Nuclear Power Engineering Co., Ltd Co.,Itd. BingChi LIN - China Nuclear Power Engineering Co., Ltd Jiajia Sun - Suzhou Nuclear Power Research Institute Co., Itd. Research on Code Case of Evaluation Specification for Long Li - Suzhou Nuclear Power Research Institute Co., Itd. Hydraulic Tube Expansion Process of Tubes and Tube Plates in Steam Generators OF CAP1400 Site Evaluation of Inland Nuclear Power Plant Locations **Based on Risk-Informed** Technical Paper Publication: ICONE32-0640 Technical Paper Publication: ICONE32-1048 Yalan Yuan - Shanghai Electric Nuclear Power Equipment Co., Ltd Hao Yu - SNERDI Zhijie Tian - China Institute for Radiation Protection, Taiyuan, China Ming Jiao - SNERDI Youying Cheng - National Nuclear Emergency Response Cailin Jiang - Shanghai Electric Nuclear Power Group Technical Assistance Center, China Minghua Lyu - China Institute for Radiation Protection, Xinxin Wu - Tsinghua University Wuxi Luo - Shanghai Electric Nuclear Power Equipment Co., Ltd Taiyuan, China ..... Xinjian Liu - National Nuclear Emergency Response Technical **Research on the Development of Load-Controlled** Assistance Center, China Stress Limit Criteria for China-Specific Class 1 High-Qingjian Yang - Nanjing University of Information Science **Temperature Component Design Codes** &Technology Technical Paper Publication: ICONE32-1011 Construction cost risk management of nuclear power Tao LUO - China Institute of Atomic Energy projects based on the TCM framework Fuhai GAO - China Institute of Atomic Energy Technical Paper Publication: ICONE32-1951 Yafei MO - China Institute of Atomic Energy Lubo WANG - China Institute of Atomic Energy Yi Li - China Nuclear Power Engineering Co., Ltd.; University of ..... International Business and Economics **Evaluation Method for Defects in Cast Austenitic** Peng Liu - China Nuclear Power Engineering Co.,Ltd. Stainless Steel Pipes Based on Probabilistic Fracture ..... Mechanics Track6-3 Research on Mechanical Design Related Technical Paper Publication: ICONE32-1078 **Standards** 3:30 pm -5:00 pm, C-113 Jun Pan - China Productivity Center for Machinery Co., Ltd

Co., Ltd

Session Chair:

Session Co-Chair:

Brief Introduction and Analysis of Damping Values in Seismic Analysis of for Nuclear Power Plants Technical Paper Publication: ICONE32-0515

Zhaoyu NIE - China Nuclear Power Engineering Co., Ltd Xiao XU - China Nuclear Power Engineering Co., Ltd

Xiaomin Tan - Nuclear Power Operations Research Institute

Yuhan Wang - Nuclear Power Operations Research Institute Zhangxing Chen - China Productivity Center for Machinery

Yingke Li - China Productivity Center for Machinery Co., Ltd

Chang Liu - China Productivity Center for Machinery Co., Ltd

**Research on the Standard Framework of Smart** 

Xihui Su - China Productivity Center for Machinery Co., Ltd



#### Manufacturing for Nuclear Instrumentation and Control Equipment Manufacturing Enterprises

Technical Paper Publication: ICONE32-1141

LI LI - China Nuclear Control System Engineering Co.,Ltd Bing Zhao - China Nuclear Control System Engineering Co.,Ltd Zepeng Cui - China Nuclear Control System Engineering Co.,Ltd Wen Cai - China Nuclear Control System Engineering Co.,Ltd

#### APPLICATIONS OF CSA STANDARD N285.8 TO EVALUATE STRUCTURAL INTEGRITY OF CANDU REACTOR ZR-2.5NB PRESSURE TUBES

Technical Paper Publication: ICONE32-2230

Steven Xu - Kinectrics

Doug Scarth - Kinectrics

Tanya Hunt - Kinectrics

••••••

Track 3-4 Advanced Control Strategies 3:30 pm –5:00 pm, C-114

Session Chair:

Session Co-Chair:

#### DYNAMIC MODELING OF ONCE THROUHH STEAM GENERATORS FOR OPERATIONAL CONTROL

Technical Paper Publication: ICONE32-0138

Bowen Li - Tsinghua University Henglong Lin - Tsinghua University Zeguang Li - Tsinghua University Huifu Wang - Tsinghua University

initia viang Tomphuu Omversity

Research on autonomous control technology for nuclearpowered spacecraft

Technical Paper Publication: ICONE32-0156

jiayi ye - China institute of atomic energy yuwen jia - China institute of atomic energy

Adaptive Compensation Control of Steam Generator Water Level Based on Deep Reinforcement Learning

Technical Paper Publication: ICONE32-0172

Yihu Zhu - Harbin Engineering University
Hong Xia - Harbin Engineering University
Jiyu Zhang - Harbin Engineering University
Jinxu Pang - Harbin Engineering University
Peiqi Jiang - Harbin Engineering University

# VARIABLE UNIVERSE FUZZY CONTROL FOR PWR NUCLEAR REACTORS BASED ON THE NONLINEAR FRACTIONAL NEUTRON POINT KINETICS MODEL.

Technical Paper Publication: ICONE32-0874

Hetao Sun - Harbin Engineering University
Yuheng Zhang - Harbin Engineering University
Hailemichael G. Mengsitu - Harbin Engineering University
Xiuchun Luan - Harbin Engineering University

### RESEARCHES ON THE CONTROL STARTEGIES OF MHTGR COGENERATION UNIT UNDER ABNORMAL WORKING CONDITIONS

Technical Paper Publication: ICONE32-0887

Congcong Li - Tsinghua University Zhonghua Cheng - Tsinghua University Zhe Dong - Tsinghua University Xiaojin Huang - Tsinghua University

.....

Research on Asymptotic Method-Based Multivariate Model Predictive Control with A Reference Trajectory for Large-Scale PWR

Technical Paper Publication: ICONE32-1417

Jinhong Mo - Xi'an Jiaotong University Peiwei Sun - Xi'an Jiaotong University Xinyu Wei - Xi'an Jiaotong University



#### Wednesday, June 25th

Track1-4 Power Uprating and Thermal-Hydraulic 8:30 am – 10 am, C-101AB

Session Chair:

Session Co-Chair:

#### RESEARCH ON OPTIMIZATION OF PRESSURIZER BUBBLE COLLAPSE IN PRIMARY LOOP OF NUCLEAR POWER PLANT

Technical Paper Publication: ICONE32-0322

Zhuangzhuang Yu - China Nuclear Power Engineering Co., Ltd.
Ke Fan - CGN Huizhou Nuclear Power Co., Ltd.
Xiao Lin - China Nuclear Power Engineering Co., Ltd.
Xin Zhang - China Nuclear Power Engineering Co., Ltd.
Zongqiang Yang - China Nuclear Power Engineering Co., Ltd.

MODELING AND ANALYSIS APPLICATION OF THE SECONDARY THERMAL SYSTEM OF NUCLEAR POWER UNITS

Technical Paper Publication: ICONE32-0457

Kaili Xu - CNPO

Chang Gao - CNPO

Tianqi He - CNPO

Shuhang Yan - CNPO

The Research of Nuclear Power Plants Power Uprate Methods and Application in China

.....

Technical Paper Publication: ICONE32-0915

Sheng Zhu - Nuclear Power Operations Research Institute
Pengcheng Zhang - Nuclear Power Operations Research Institute
Liwen He - Nuclear Power Operations Research Institute
Qianwen Qin - Nuclear Power Operations Research Institute
Ziyi Xu - Nuclear Power Operations Research Institute

OPTIMIZATION OF EMERGENCY SHUTDOWN PLAN FOR STEAM AND POWER CONVERSION SYSTEM IN A NUCLEAR POWER PLANT

Technical Paper Publication: ICONE32-1016

huiyun ma - China Nuclear Power Engineering Co., LTD
yijun yao - China Nuclear Power Engineering Co., LTD
yanlin chen - China Nuclear Power Engineering Co., LTD
ting hou - China Nuclear Power Engineering Co., LTD

# ANALYSIS OF EMERGENCY BORON INJECTION TANK THERMAL STRATIFICATION AND DESIGN OPTIMIZATION OF THE EQUIPMENT

Technical Paper Publication: ICONE32-1822

Ting Hou - China Nuclear Power Engineering CO.,LTD.
Yijun Yao - China Nuclear Power Engineering CO.,LTD.
Mengji Zhang - China Nuclear Power Engineering CO.,LTD.
Huiyun Ma - China Nuclear Power Engineering CO.,LTD.
Yanlin Chen - China Nuclear Power Engineering CO.,LTD.

Numerical simulations of temperature fluctuation due to penetration flow into a branch pipe of mixing tee Technical Paper Publication: ICONE32-1844

Yoichi Utanohara - Komatsu University

Koji Miyoshi - Institute of Nuclear Safety System, Inc.

.....

Track2-4 Nuclear Fuel and Claddings (III) 8:30 am – 10 am, C-102

Session Chair:

Session Co-Chair:

effects of oxygen concentration on corrosion kinetics of Fe-Cr alloys in lead bismuth eutectic: a phase-field simulation

Technical Paper Publication: ICONE32-0270

Xuxi Liu - Xi'an Jiaotong University

Shisen Gao - Xi'an Jiaotong University

Wenbo Liu - Xi'an Jiaotong University

#### STUDY ON LI CONCENTRATION AND PH VALUE LIMIT OF CZ ZIRCONIUM ALLOY

Technical Paper Publication: ICONE32-1239

Xin Feng Wu - China Nuclear Power Technology Research



Institute Co., Ltd

.....

Liu Tao Chen - China Nuclear Power Technology Research Institute Co., Ltd Xu Wang - China Nuclear Power Technology Research Institute Co., Ltd Lin Shi - China Nuclear Power Technology Research Institute Co., Ltd

**Guo Liang Zhang -** China Nuclear Power Technology Research Institute Co., Ltd

.....

**Influence of power history for PWR reload analysis** Technical Paper Publication: ICONE32-1243

Zhuoting Shi - China Nuclear Power Technology Research Institute

Yuxiang Zhu - China Nuclear Power Technology Research Institute

Bo Liu - China Nuclear Power Technology Research Institute

Ruoqi Liu - China Nuclear Power Technology Research Institute Jinfeng Wei - China Nuclear Power Technology Research Institute

Changyou Zhao - China Nuclear Power Technology Research Institute

Zhijun Li - China Nuclear Power Technology Research Institute

#### THE INFLUENCE OF TEMPERATURE ON THE DEFORMATION MECHANISM OF CZ1 ALLOY INVESTIGATED BY IN-SITU EBSD TECHNIQUE

Technical Paper Publication: ICONE32-1265

Qingyang Lv - China Nuclear Power Technology Research Institute

Weitong Lin - China Nuclear Power Technology Research

Haixiang Hu - China Nuclear Power Technology Research Institute

Liutao Chen - China Nuclear Power Technology Research Institute

Jing Hu - China Nuclear Power Technology Research Institute

# BAYESIAN UNCERTAINTY QUANTIFICATION AND SENSITIVITY ANALYSIS APPLIED TO HNGD MODEL ON THE PREDICTION OF HYDROGEN DIFFUSION AND PRECIPITATION IN ZIRCALOY CLADDING

Technical Paper Publication: ICONE32-1405

Meiqing Gan - South China University of Technology

Rong Liu - South China University of Technology

.....

#### STUDY ON THE STRESS RELAXATION ANALYSIS METHOD OF THE INCONEL 718 ALLOY GRID SPRING

Technical Paper Publication: ICONE32-1435

**Yingzhuo TANG -** Shanghai Nuclear Engineering Research & Design Institute

**Shufeng ZHAO -** Shanghai Nuclear Engineering Research & Design Institute

Jingya SUN - Shanghai Nuclear Engineering Research & Design Institute

**Zhenxing WANG -** State Nuclear Uranium Resource Development Co., Ltd

**Jingjing ZHAO -** Shanghai Nuclear Engineering Research & Design Institute

Fujun GAN - Shanghai Nuclear Engineering Research & Design Institute

••••••

Fuel Washout from Defective Fuel Rod in PWR

Technical Paper Publication: ICONE32-1866

**Pengtao Fu -** China Nuclear Power Technology Research Institute Co., Ltd.

**Mingliang Dai -** China Nuclear Power Technology Research Institute Co., Ltd.

**Zhijun Li -** China Nuclear Power Technology Research Institute Co., Ltd.

Xiaoqian Zhang - China Nuclear Power Technology Research

Institute Co., Ltd.

Track 7-4 Thermal-hydraulic experiments and measurement methods (IV)

8:30 am - 10 am, C-103

-52-

e 32<sup>nd</sup> International Conference on Nuclear Engineering

#### Session Chair:

Session Co-Chair:

#### NATURAL CIRCULATION CHARACTERISTICS ANALYSIS BASED ON THE INTEGRATED TEST FACILITY

Technical Paper Publication: ICONE32-0374

Yiwa Geng - China Nuclear Power Engineering Co., Ltd.
Jiatai Liu - China Nuclear Power Engineering Co., Ltd.
Changjiang Yang - China Nuclear Power Engineering Co., Ltd.
Jingxiang Zhan - China Nuclear Power Engineering Co., Ltd.

#### Experimental Study on Hydrodynamic Force of Different Types of Trash Nets

Technical Paper Publication: ICONE32-0398

Wei Bai - China Nuclear Power Engineering Co.,Ltd.
Fang Lin - China Nuclear Power Engineering Co.,Ltd.
Yu Zhang - Hainan Nuclear Power Co., Ltd
Xiaona Zhang - China Nuclear Power Engineering Co.,Ltd.
Jia Yang - China Nuclear Power Engineering Co.,Ltd.
Haitao Li - Hainan Nuclear Power Co., Ltd
Zixuan Zhu - China Nuclear Power Engineering Co.,Ltd.

#### TRANSIENT FLOW ANALYSIS OF NUCLEAR FACILITY PIPELINE SYSTEM WITH SURGE CHAMBER

Technical Paper Publication: ICONE32-0706

Linqing Yang - The 404 Company Limited, CNNC Xiang Yu - The 404 Company Limited, CNNC Bingzheng Ke - The 404 Company Limited, CNNC Caibing Liu - The 404 Company Limited, CNNC Jian Zhou - The 404 Company Limited, CNNC

# ENERGY ANALYSIS OF INERTIAL COMPONENT IN THE WATER HAMMER PROCESS

Technical Paper Publication: ICONE32-0707

Linqing Yang - The 404 Company Limited, CNNCXiang Yu - The 404 Company Limited, CNNCBingzheng Ke - The 404 Company Limited, CNNC

Caibing Liu - The 404 Company Limited, CNNC Jian Zhou - The 404 Company Limited, CNNC

# PRELIMINARY EXPERIMENTAL INVESTIGATION ON CHF BEHAVIOR IN REVECT-3D FACILITY

Technical Paper Publication: ICONE32-0723

Junming LIANG -China Nuclear Power Technology Research Institute, Guangdong Provincial Key Laboratory of Nuclear Power Safety, China

Lei ZHANG - China Nuclear Power Technology Research Institute, Guangdong Provincial Key Laboratory of Nuclear Power Safety, China

Xiangyu YUN - China Nuclear Power Technology Research Institute, Guangdong Provincial Key Laboratory of Nuclear Power Safety, China

**Dongshan WEI -** China Nuclear Power Technology Research Institute, Guangdong Provincial Key Laboratory of Nuclear Power Safety, China

**Junying XU -** China Nuclear Power Technology Research Institute, Guangdong Provincial Key Laboratory of Nuclear Power Safety, China

**Huiyong ZHANG -** China Nuclear Power Technology Research Institute, Guangdong Provincial Key Laboratory of Nuclear Power Safety, China

.....

# E X P E R I M E N T A L S T U D Y O N T H E CHARACTERISTICS OF STEAM LOW-VELOCITY JET UNDER SEAWATER CONDITIONS

Technical Paper Publication: ICONE32-0729

An Cao - Harbin Engineering University
Yongzhen Hua - China Nuclear Power Engineering Co., Ltd.
Xinxing Liu - Bohai Shipyard Co.,Ltd.
Jianfa Li - China Nuclear Power Engineering Co., Ltd.
Dao Zhang - Harbin Engineering University
Xin Nie - China Nuclear Power Engineering Co., Ltd.
Guangming Fan - Harbin Engineering University
Zhaoming Meng - Harbin Engineering University



#### Track 8-4 Heat Transfer Characteristics Analysis (II) 8:30 am – 10 am, C-104A

#### Session Chair:

Session Co-Chair:

Numerical simulation of Liquid Lithium-HeXe Coupled Heat Transfer in PCHE with Different Channel Structures

Technical Paper Publication: ICONE32-0073

Chenhao Zou - Shanghai University of Electric Power Dong Li - Shanghai University of Electric Power Cheng Peng - Shanghai University of Electric Power Licheng Gu - Shanghai University of Electric Power

TITLE OF PAPER: Numerical simulation study on coupling heat transfer characteristics of lead-bismuth and supercritical carbon dioxide in different microchannels of PCHE

Technical Paper Publication: ICONE32-0361

Dandan Gu - China institute of atomic energyHongyi Yang - China institute of atomic energyBin Hou - China institute of atomic energy

Changzhi Xiao - China institute of atomic energy

CFD simulation on flow blockage in zigzag printed circuit heat exchanger

Technical Paper Publication: ICONE32-1382

**Qiming Li** - Shanghai Institute of Applied Physics, Chinese Academy of Sciences

Yang Zou - Shanghai Institute of Applied Physics, Chinese Academy of Sciences

Xiaohong Yang - Shanghai Institute of Applied Physics, Chinese Academy of Sciences

**Ying Xu** - Shanghai Institute of Applied Physics, Chinese Academy of Sciences

.....

The heat transfer characteristics of a He-Xe cooled printed circuit plate heat exchanger based on CFD methodology

-54-

Technical Paper Publication: ICONE32-1473

rui zhang - Shanghai University of Electric Power
yushun lu - Shanghai University of Electric Power
hong peng - Shanghai University of Electric Power
jianquan liu - Shanghai University of Electric Power

Study on Thermal and hydraulic Characteristics of S-CO2 and Liquid Lead-bismuth Alloy for Fluid Heat Transfer in Z-type PCHE

Technical Paper Publication: ICONE32-1559

Jianxiang Yao - China institute of atomic energy Lina Zhu - China institute of atomic energy Yan Zhao - China institute of atomic energy YiChi Li - China institute of atomic energy

Numerical simulation of the S-CO2 performance in the Z-shaped printed circuit heat exchanger

.....

Technical Paper Publication: ICONE32-1929

Haochen Cai - Zhejiang University

Lihua Chen - Zhejiang University

Wei Liang - China Nuclear Power Design Co., Ltd

Qianyin Yang - Zhejiang University

track 9-4 Radioactive Waste Treatment Technology (IV) -Solidification Technology

8:30 am - 10 am, C-104B

#### Session Chair:

Session Co-Chair:

NITROGEN DOPED IONIC LIQUID COUPLED METAL ORGANIC FRAMEWORKS UNDER HIGH-TEMPERATURE INDUCED DEFECTS: A NOVEL IONIC LIQUID MOF COUPLING MATERIAL WITH EXCELLENT ADSORPTION CAPACITY FOR TcO4-

Technical Paper Publication: ICONE32-0060

Hongtao Zhao - Heilongjiang Institute of Atomic Energy Xingyu Tao - Harbin Engineering University



Advances in on Gas Migration in Buffer/Backfill Materials of High-Level Radioactive Waste Geological Repositories

Technical Paper Publication: ICONE32-0300

Weimin Ye - Tongji University

Zhenbei Yang - Tongji University Linyong Cui - The Hong Kong Polytechnic University

Study on the upper limit of  $\alpha$  nuclide residues in the Srand Cs-containing solid waste under the high-level liquid waste partitioning strategy

Technical Paper Publication: ICONE32-0508

meng wei - CNNC Long'an Co. Ltd.
shuai liu - CNNC Long'an Co. Ltd.
mengqi cai - China Nuclear Power Engineering
mingqing huo - CNNC Long'an Co. Ltd.

### A MONTE CARLO APPROACH TO THE RADIATION CHARACTERISTICS OF HIGH-LEVEL WASTE GLASS UNDER HIGH-LEVEL LIQUID WASTE PARTITIONING STRATEGY

Technical Paper Publication: ICONE32-0595

Juntao Hu - CNNC Long'an Co.,Ltd. Meng Wei - CNNC Long'an Co.,Ltd. Shuai Liu - CNNC Long'an Co.,Ltd.

Study on similar material ratio of clay rock in Tamusu preselected area of high-level radioactive waste disposal repository

Technical Paper Publication: ICONE32-1548

Haoran Zhu - Department of Nuclear Science and Technology, School of Energy and Power Engineering, Xi'an Jiaotong University, China

**Ziqi Cai** - Department of Nuclear Science and Technology, School of Energy and Power Engineering, Xi'an Jiaotong University, China

**Qingmin Zhang -** Department of Nuclear Science and Technology, School of Energy and Power Engineering, Xi'an Jiaotong University, China **Zhenchao Liu -** Department of Nuclear Science and Technology, School of Energy and Power Engineering, Xi'an Jiaotong University, China

••••••

Research on technical progress and standardization of remote handling devices for radioactive materials

Technical Paper Publication: ICONE32-1966

**Fugui Liu -** China Institute of Nuclear Industry Strategy Co., Ltd.

Lipo Liu - China Institute of Nuclear Industry Strategy Co., Ltd. Jijia Zheng - China Institute of Nuclear Industry Strategy Co., Ltd.

**Fangfang Dong -** China Institute of Nuclear Industry Strategy Co., Ltd.

Meng Zhang - Harbin Engineering University

Xinyu Wang - China Institute of Nuclear Industry Strategy Co., Ltd.

.....

Track1-13 Chemistry and Water Quality Control (Other) III

8:30 am - 10 am, C-105A

Session Chair:

Session Co-Chair:

Synthesis, characterization and engineering application of nuclear grade polyacrylic acid dispersants Technical Paper Publication: ICONE32-0186

Liu Pengfei - Yangjiang Nuclear Power Co., Ltd Qiao Hang - Suzhou Nuclear Power Research Institute Sun Yun - Suzhou Nuclear Power Research Institute Chen Liqing - Yangjiang Nuclear Power Co., Ltd Tan Jinshi - Yangjiang Nuclear Power Co., Ltd

.....

# EXPERIMENTAL STUDY ON THE PRINCIPLE OF ULTRASONIC DESCALING TECHNOLOGY

Technical Paper Publication: ICONE32-0740

Chang Gao - China Nuclear Power Operation Technology Corporation LTD



Yuan Gao - Fujian Fuqing Nuclear Power Co.,Ltd.

Kaili Xu - China Nuclear Power Operation Technology Corporation LTD

**Tianqi He -** China Nuclear Power Operation Technology Corporation LTD

Qinglei Jiang - China Nuclear Power Operation Technology Corporation LTD

Research on the adsorption of radionuclides from chemical decontamination effluents by uniform particle size cation resin

Technical Paper Publication: ICONE32-0950

Bin Liu - Suzhou Nuclear Power Research Institute Co., Ltd.
Biao Ai - Suzhou Nuclear Power Research Institute Co., Ltd.
FuHai Li - Suzhou Nuclear Power Research Institute Co., Ltd.
JiaJie Deng - Suzhou Nuclear Power Research Institute Co., Ltd.
CanShuai Liu - Suzhou Nuclear Power Research Institute Co., Ltd.
ZhaoHui Tian - Suzhou Nuclear Power Research Institute Co., Ltd.
Yun Sun - Suzhou Nuclear Power Research Institute Co., Ltd.

INVESTIGATION INTO THE EFFECT OF

DISSOLVED OXYGEN IN WATER ON CORROSION PRODUCT FORMATION IN AREAS OF ACCELERATED FLOW

Technical Paper Publication: ICONE32-1007

**Guiquan ZHANG -** Xi'an Thermal Power Research Insititute Co., Ltd.

Jiantao YAO - Xi'an Thermal Power Research Insititute Co., Ltd.

Wei WANG - Huaneng Nuclear Energy Technology Research Institute Co., Ltd.

**Zhijun WU -** Huaneng Nuclear Energy Technology Research Institute Co., Ltd.

.....

A Brief Analysis of HTR-PM Helium Purification System Regeneration Technology

Technical Paper Publication: ICONE32-1396

**Huang Jiangtao** -Huaneng Shandong Shidao Bay Nuclear Power CO.,LTD

Tong Liyun -Huaneng Shandong Shidao Bay Nuclear Power

#### CO.,LTD

Liu Shiyong -Huaneng Shandong Shidao Bay Nuclear Power CO.,LTD

Li Zhao -Huaneng Shandong Shidao Bay Nuclear Power CO..LTD

Liu Chao -Huaneng Shandong Shidao Bay Nuclear Power CO.,LTD

**Guo Xing -** Huaneng Shandong Shidao Bay Nuclear Power CO.LTD

Study on Passivation Temperature of the Primary Circuit in Pressurized Water Reactors

Technical Paper Publication: ICONE32-1847

Chao CHEN - China Nuclear Power Engineering Company Ltd.

Shengjie LI - China Nuclear Power Engineering Company Ltd. Zhengguang WANG - China Nuclear Power Engineering Company Ltd.

Xichao LIU - China Nuclear Power Engineering Company Ltd. Qionghui TANG - China Nuclear Power Engineering Company Ltd.

.....

Track2-13 Innovative Fuel and Technology (I) 8:30 am – 10 am, C-105B

Session Chair:

Session Co-Chair:

Neutronic-Thermal Coupling Calculation of U-50Zr Helical Cruciform Fuel Concepts based on openmc code and MOOSE framework

Technical Paper Publication: ICONE32-1327

Yiliang Dong - Institute of Nuclear Energy Technology Innovation, Chongqing University

**Qinglong Wen -** Institute of Nuclear Energy Technology Innovation, Chongqing University

.....

#### MYRRHA FAST REACTOR AM-BEARING FUEL PINS MODELLING USING OFFBEAT

Technical Paper Publication: ICONE32-1361

Xinhang Peng - Xi'an Jiaotong University

-56-



Tian Zhang - Harbin Engineering University Dalin Zhang - Xi'an Jiaotong University Wenxi Tian - Xi'an Jiaotong University Suizheng Qiu - Xi'an Jiaotong University Guanghui Su - Xi'an Jiaotong University

#### **RESEARCH ON SUB-CRITICAL REACTOR IN** CHINA INSTITUTE OF ATOMIC ENERGY

.....

Technical Paper Publication: ICONE32-1567

Kaijian Li - China Institute of Atomic Energy
Qingfu Zhu - China Institute of Atomic Energy
Qi Zhou - China Institute of Atomic Energy
Zhaodong Xia - China Institute of Atomic Energy
Shuhong Liang - China Institute of Atomic Energy
Jiachen Zhang - China Institute of Atomic Energy
Yisong He - China Institute of Atomic Energy

**Research progress of tritium target for neutron generator** Technical Paper Publication: ICONE32-1638

Siqi Liu - Northeast Normal University
Yingying Cao - Northeast Normal University
Pingwei Sun - Northeast Normal University
Shangrui Jiang - Northeast Normal University
Jiayu Li - Northeast Normal University
Sijia Zhou - Northeast Normal University
Jia Song - Northeast Normal University
Shengduo Liu - Northeast Normal University
Weiyang Zhang - Northeast Normal University
Zebin Li - Northeast Normal University
Yuxuan Gu - Northeast Normal University
Yue Sun - Northeast Normal University
Hailong Xu - Northeast Normal University

**Investigation of Hydrogen Diffusion and Deposition Behavior of Spiral Fuel in Pressurized Water Reactors** Technical Paper Publication: ICONE32-1738

Nan Chen - Xi'an Jiaotong University Yuzhe Ding - Xi'an Jiaotong University Fengrui Xiang - Xi'an Jiaotong University Yanan He - Xi'an Jiaotong University Jing Zhang - Xi'an Jiaotong University Yingwei Wu - Xi'an Jiaotong University Wenxi Tian - Xi'an Jiaotong University Guanghui Su - Xi'an Jiaotong University Suizheng Qiu - Xi'an Jiaotong University

Orderly grabbing and disassembly technology of automatic charging system for new fuel in high temperature gas cooled reactor development and practice Technical Paper Publication: ICONE32-2055

Weijun Lei - Huaneng Nuclear Energy Technology Research Institute Co., LTD

Xin Guan - China Machinery Productivity Promotion Center Co., LTD

**Jin Shi -** Huaneng Nuclear Energy Technology Research Institute Co., LTD

Lin Ye - Huaneng Nuclear Energy Technology Research Institute Co., LTD

**Ping Liu -** Huaneng Nuclear Energy Technology Research Institute Co., LTD

Shichun Zhang - Huaneng Nuclear Energy Technology Research Institute Co., LTD

.....

**Track 8-13 Safe Operation of Equipment** 

8:30 am - 10 am, C-106A

Session Chair:

Session Co-Chair:

### NUMERICAL SIMULATION OF FOREIGN OBJECT MOTION ON SECONDARY SIDE OF STEAM GENERATOR TUBE ZONE

Technical Paper Publication: ICONE32-0391

Lifan Zhao - Xi'an Jiaotong University Mingjun Wang - Xi'an Jiaotong University Wenxi Tian - Xi'an Jiaotong University Suizheng Qiu - Xi'an Jiaotong University



Guanghui Su - Xi'an Jiaotong University

# NUMERICAL SIMULATION OF HYDRODYNAMIC CHARACTERISTICS IN SUBMERGED INTAKE SYSTEMS FOR NUCLEAR POWER PLANTS

.....

Technical Paper Publication: ICONE32-0465

Xinshu Jiang - China Nuclear Power Engineering Co.,LTD Puyue Ma - China Nuclear Power Engineering Co.,LTD Zhen Zhang - China Nuclear Power Engineering Co.,LTD Li Dai - China Nuclear Power Engineering Co.,LTD Qi Li - China Nuclear Power Engineering Co.,LTD Rongyong Zhang - China Nuclear Power Engineering Co.,LTD

# Target cooling system design of intense D-T neutron generator for BNCT application

Technical Paper Publication: ICONE32-1502

Pingwei Sun - Northeast norman university

Hailong Xu - Northeast norman university

Shiwei Jing - Northeast norman university

Non-axisymmetric flow characteristics and its alleviation methods in a mixed flow pump

Technical Paper Publication: ICONE32-1832

Weixiang Ye - Tsinghua University Guihua Lai - Tsinghua University Hong Wang - Tsinghua University Xianwu Luo - Tsinghua University

### STUDY ON THE TRAJECTORY OF FOREIGN OBJECTS ON THE SECONDARY SIDE OF NUCLEAR POWER STEAM GENERATOR

Technical Paper Publication: ICONE32-1915

Jie Rong - Xi'an Jiaotong University Mingjun Wang - Xi'an Jiaotong University Wenxi Tian - Xi'an Jiaotong University Suizheng Qiu - Xi'an Jiaotong University Guanghui Su - Xi'an Jiaotong University

#### THE MIGRATION BEHAVIOR ANALYSIS OF MAIN NUCLIDES IN THE PRIMARY PIPELINE

Technical Paper Publication: ICONE32-1935

Zhao Zhang - Suzhou Nuclear Power Research Institute Co., Ltd.Feng Xue - Suzhou Nuclear Power Research Institute Co., Ltd.Ting Luo - Suzhou Nuclear Power Research Institute Co., Ltd.

Track 7-13 Severe accidents analysis (I)

8:30 am - 10 am, C-106B

Session Chair:

Session Co-Chair:

Study on Evolution Mechanism for Melting Accident of Plate Fuel

Technical Paper Publication: ICONE32-0958

Wenjie Ding - Institute of Nuclear Physics and Chemistry, ChinaHongwen Huang - Institute of Nuclear Physics and Chemistry, ChinaHaibing Guo - Institute of Nuclear Physics and Chemistry, China

Jiao Gao - Institute of Nuclear Physics and Chemistry, ChinaShaohua Wang - Institute of Nuclear Physics and Chemistry, ChinaJimin Ma - Institute of Nuclear Physics and Chemistry, China

Visualization research on the convective heat transfer behaviors of layered corium pools under oscillating conditions

Technical Paper Publication: ICONE32-1043

Simin Luo - China Nuclear Power Technology Research Institute Co. Ltd.

**Yong Ouyang -** China Nuclear Power Technology Research Institute Co. Ltd.

.....

### UNCERTAINTY AND SENSITIVITY ANALYSIS OF SOURCE TERM UNDER SEVERE ACCIDENT FOR THE SPENT FUEL POOL

Technical Paper Publication: ICONE32-1166

Yuan Chang - China Nuclear Power Engineering Co., LTD.Xu-hao Zhang - China Nuclear Power Engineering Co., LTD.

52<sup>nd</sup> International Conference on Nuclear Engineering

Xiao-hui Sun - China Nuclear Power Engineering Co., LTD.Jing Sun - China Nuclear Power Engineering Co., LTD.Sheng-sheng Lin - China Nuclear Power Engineering Co., LTD.

# SIMULATION STUDY OF ZIRCONIUM ALLOY CLADDING BALLOONING AND BURST BEHAVIOR UNDER LOSS-OF-COOLANT ACCIDENT CONDITIONS CONSIDERING ANISOTROPIC PLASTIC DEFORMATION

Technical Paper Publication: ICONE32-1436

Qiwen Chen - NPIC

Chuanbao Tang - NPIC Jian Deng - NPIC Yuejian Luo - NPIC Libo Oian - NPIC

EFFECT OF DEBRIS EJECTION MODE ON THE ACCIDENT PROGRESSION AND SOURCE TERM IN NORDIC BWRS

.....

Technical Paper Publication: ICONE32-1865

Govatsa Acharya - KTH Royal Institute of Technology Dmitry Grishchenko - KTH Royal Institute of Technology Pavel Kudinov - KTH Royal Institute of Technology

INVESTIGATION OF SEVERE ACCIDENT PROGRESSION IN INTEGRAL PWR SMRS

Technical Paper Publication: ICONE32-1958

Govatsa Acharya - KTH Royal Institute of Technology Dmitry Grishchenko - KTH Royal Institute of Technology Pavel Kudinov - KTH Royal Institute of Technology

.....

Track2-18 Nuclear fuel & claddings (V) 8:30 am – 10 am, C-107A

#### Session Chair:

Session Co-Chair:

UNLEASHING THE PHONON-MEDIATED INTRINSIC CARRIER TRANSPORT AND OPTICAL PROPERTIES OF URANIUM DINITRIDE (UN2) Technical Paper Publication: ICONE32-0072

Safdar Iqbal - Shandong University
Xinlei Duan - Shandong University
Hang Fan - Nuclear Power Institute of China
Kun Zhang - Nuclear Power Institute of China
Linhua Liu - Shandong University
Jia-Yue Yang - Shandong University

# PYRAZOLATE-BASED METAL-ORGANIC FRAMEWORK FOR EFFICIENT URANIUM ADSORPTION

Technical Paper Publication: ICONE32-0461

**Jinfeng Li** - Harbin Engineering University;Heilongjiang Institute of Atomic Energy

Qianwen Wang - Heilongjiang Institute of Atomic Energy

Haifeng Gu - Harbin Engineering University

Hongtao Zhao - Harbin Engineering University;Heilongjiang Institute of Atomic Energy

PHASE-FIELD SIMULATION OF FISSION GAS BUBBLES EVOLUTION IN THE γ1+γ2 PHASES OF U-10Zr METALLIC NUCLEAR FUEL

Technical Paper Publication: ICONE32-0576

Yongxiao La - Xi'an Jiaotong University Yanbo Jiang - Xi'an Jiaotong University Wenbo Liu - Xi'an Jiaotong University

### OVERVIEW OF THE MODELLING PROGRESS ON OXIDATION BEHAVIOR OF ACCIDENT TOLERANT CR-COATED ZR ALLOY CLADDING

Technical Paper Publication: ICONE32-0618

Dong Wang - Fuzhou University Shihao Wu - Xi'an Jiaotong University Kai Lu - Fuzhou University Yapei Zhang - Xi'an Jiaotong University G.H. Su - Xi'an Jiaotong University Xi Liu - Fuzhou University



Effects of recrystallization on fission gas behavior in U3Si2 fuel at LWR temperature: A combination of phasefield method and rate theory

Technical Paper Publication: ICONE32-1183

Zhenhong Ge - Xi'an Jiaotong University Xuxi Liu - Xi'an Jiaotong University

Di Yun - Xi'an Jiaotong University

Wenbo Liu - Xi'an Jiaotong University

.....

Multidimensional Thermomechanical Coupling Analysis of Multielement Redistribution in MOX Fuel Rods

Technical Paper Publication: ICONE32-1193

Jinkai Zhang - Xi'an Jiaotong University

.....

High-Temperature Electronic Structure and Transport Properties of Uranium Dioxide (UO2): Role of the Hubbard U Term

.....

Technical Paper Publication: ICONE32-1646

Xinlei Duan - Shandong university Linhua Liu - Shandong university Jia-Yue Yang - Shandong university

Track 4-1 Water Cooling SMR 8:30 am – 10 am, C-107B

#### Session Chair:

Session Co-Chair:

Research on Emergency Operating Procedure Strategies of SGTR in Small Pressurized Water Reactor Technical Paper Publication: ICONE32-0159

**Qian Sun -** China Nuclear Power Engineering Co.,Ltd **Tianqi Si -** China Nuclear Power Engineering Co. Ltd

# THE INFLUENCE ANALYSIS OF THE NUMBER OF ISOLATED MAIN HEAT EXCHANGERS ON IPWR

Technical Paper Publication: ICONE32-0502

Zhidong Yue - General Clean Energy Co. Ltd. Ting Wei - General Clean Energy Co. Ltd. Robust  $H\infty$  control of reactor power for the small pressurized water reactor

Technical Paper Publication: ICONE32-0670

Yan Shoujun - China Institute of Nuclear Industry Strategy
Zhou Lijie - China Institute of Nuclear Industry Strategy
Song Lifeng - China Institute of Nuclear Industry Strategy
Li Zhongjie - China Institute of Nuclear Industry Strategy

Research on oxygenation treatment methods of feedwater for fourth-generation nuclear power units

Technical Paper Publication: ICONE32-0893

YAO Yao - Xi'an Thermal Power Research Institute Co., Ltd.LIU Feng - Xi'an Thermal Power Research Institute Co., Ltd.MA Xiqiang - HuaNeng Shandong Shidao Bay Nuclear Power Co., Ltd.

HU Yang - Xi'an Thermal Power Research Institute Co., Ltd. HUANG Peng - HuaNeng Shandong Shidao Bay Nuclear Power Co., Ltd.

WANG Lei - HuaNeng Shandong Shidao Bay Nuclear Power Co., Ltd.

LI Changhai - Xi'an Thermal Power Research Institute Co., Ltd. ZHANG Ruixiang - Xi'an Thermal Power Research Institute Co., Ltd.

OPTIMIZATION DESIGN OF BORON-FREE SMALL PRESSURIZED WATER REACTOR WITH HELICAL-CRUCIFORM METALLIC FUEL CONSIDERING THE INFLUENCE OF CONTROL ROD COMPENSATION OPERATION HISTORY

Technical Paper Publication: ICONE32-1068

Ruixiang Wang - Shanghai Jiao Tong University
Hui Guo - Shanghai Jiao Tong University
Qufei Song - Shanghai Jiao Tong University
Kunfeng Ma - Shanghai Jiao Tong University
Yao Xiao - Shanghai Jiao Tong University
Hanyang Gu - Shanghai Jiao Tong University

-60-



# RESEARCH ON CORE DAMAGE ASSESSMENT OF ACP 100 COUPLED WITH ACCIDENT PROCESS AND MONITORING INSTRUMENT CHARACTERISTICS

Technical Paper Publication: ICONE32-1934

Yirui Wu - National Key Laboratory of NuclearReactor Technology Jian Deng - Nuclear Power Institute of China Zian Zhai - Nuclear Power Institute of China Tao Xu - Nuclear Power Institute of China MengMeng Xi - Nuclear Power Institute of China MingMing Xia - Nuclear Power Institute of China Junlong Wang - Nuclear Power Institute of China

# Track 3-5 I&C System, Platform and Simulation Technology

8:30 am - 10 am, C-108A

#### Session Chair:

Session Co-Chair:

# Exploration of the Application of Formal Methods in I&C of Nuclear Power Plants

Technical Paper Publication: ICONE32-0001

Quan Ma - Science and Technology on Reactor System Design
Technology Laboratory, Nuclear Power Institute of China
Yang Zhao - Science and Technology on Reactor System Design
Technology Laboratory, Nuclear Power Institute of China
MingXing Liu - Science and Technology on Reactor System
Design Technology Laboratory, Nuclear Power Institute of
ChinaScience and Technology on Reactor System Design
Technology Laboratory, Nuclear Power Institute of China
Yijie Qu - Science and Technology on Reactor System Design
Technology Laboratory, Nuclear Power Institute of China
Yijie Qu - Science and Technology on Reactor System Design
Technology Laboratory, Nuclear Power Institute of China
Yijie Qu - Science and Technology on Reactor System
YiFan Huang - Science and Technology on Reactor System

Design Technology Laboratory, Nuclear Power Institute of China GenHua Liang - Science and Technology on Reactor System Design Technology Laboratory, Nuclear Power Institute of China Nan Li - Science and Technology on Reactor System Design Technology Laboratory, Nuclear Power Institute of China

RongBin Hou - Science and Technology on Reactor System

Design Technology Laboratory, Nuclear Power Institute of China

Conceptual Design of Digital Twin-based Operational Control Platform for Lunar-based Nuclear Reactor Power Source

Technical Paper Publication: ICONE32-0101

Xiao Luo - Deep Space Exploration Laboratory
Yang Zhu - Deep Space Exploration Laboratory
Hongli Chen - Deep Space Exploration Laboratory
Xing Gao - Deep Space Exploration Laboratory
Wei Shi - City University of Hong Kong

Study on Design and Verification for Emulation Controller of Virtual DCS in Digital and Intelligent Nuclear Fuel Reprocessing Plant

Technical Paper Publication: ICONE32-0387

Xueqin CHU - China Nuclear Power Engineering CO.,LTD.Cong ZHANG - China Nuclear Control System Engineering Co.Ltd.Qinyu YANG - China Nuclear Power Engineering CO.,LTD.

Research on Time Synchronization Technology of Nonsafety DCS System Based on IEEE1588v2 Timing Protocol

Technical Paper Publication: ICONE32-0506

Yuchen Yang - China Nuclear Control System Engineering Co. Ltd.
Dong Wang - China Nuclear Control System Engineering Co. Ltd.
Leilei Liang - China Nuclear Control System Engineering Co. Ltd.
Yiwu Hu - China Nuclear Control System Engineering Co. Ltd.

Research and Practice on the Allocation Scheme of Hardware V&V Integrity Levels for Nuclear Instrumentation and Control System

Technical Paper Publication: ICONE32-0947

Lanlan Zhang - National Key Laboratory of Nuclear Reactor Technology, Nuclear Power Institute of China

**Xinyue Li** - National Key Laboratory of Nuclear Reactor Technology, Nuclear Power Institute of China

**Xianjian He -** National Key Laboratory of Nuclear Reactor Technology, Nuclear Power Institute of China



Qiying Li - National Key Laboratory of Nuclear Reactor Technology, Nuclear Power Institute of China
Yang Chen - National Key Laboratory of Nuclear Reactor Technology, Nuclear Power Institute of China
Xingchen Deng - National Key Laboratory of Nuclear Reactor Technology, Nuclear Power Institute of China

# PROPOSAL OF A NOVEL SAFETY DCS COMMUNICATION SYSTEM BASED ON ORTHOGONAL CODING IN NUCLEAR POWER PLANTS

Technical Paper Publication: ICONE32-1424

Naixin Zhang - National Key Laboratory of Nuclear Reactor Technology, Nuclear Power Institute of China

Yang Zhao - National Key Laboratory of Nuclear Reactor Technology, Nuclear Power Institute of China

**Qi Chen -** National Key Laboratory of Nuclear Reactor Technology, Nuclear Power Institute of China

**Jinyu He** - National Key Laboratory of Nuclear Reactor Technology, Nuclear Power Institute of China

Xi Ge - National Key Laboratory of Nuclear Reactor Technology, Nuclear Power Institute of China

.....

Track 3-7 Human factors and human performance 8:30 am – 10 am, C-108B

#### Session Chair:

Session Co-Chair:

RESEARCH AND APPLICATION OF HRA DEPENDENCY ANALYSIS

Technical Paper Publication: ICONE32-0542

KUNXIU LIU - CNNC China Nuclear Power Engineering Co., Ltd WENJING LI - CNNC China Nuclear Power Engineering Co., Ltd SHUJIE GUO - CNNC China Nuclear Power Engineering Co., Ltd TENGJIAO ZHENG - CNNC China Nuclear Power Engineering Co., Ltd

SHIGUANG DENG - CNNC China Nuclear Power Engineering Co., Ltd

#### YUNLONG XU - CNNC China Nuclear Power Engineering Co., Ltd

High-temperature gas-cooled reactor (HTGR) operator workload assessment—a pilot experiment

Technical Paper Publication: ICONE32-0812

Jiajuan Hang - Huaneng Nuclear Energy Technology Research Institute Co.,Ltd

Zhende Zhou - Huaneng Nuclear Energy Technology Research Institute Co..Ltd

Jifeng Han - Sichuan University

**Zhu Wang -** Huaneng Nuclear Energy Technology Research Institute Co.,Ltd

.....

Research on Human Error during the First Overhaul of Nuclear Power Plants

Technical Paper Publication: ICONE32-1110

yiyang Shi - Huaneng Shandong Shidaobay Nuclear Power Co.,Ltd Shiwei Guo - Huaneng Shandong Shidaobay Nuclear Power Co.,Ltd

.....

# HUMAN FACTORS EFFECTIVENESS VERIFICATION OF INTELLIGENT ALARM SYSTEMS IN NUCLEAR POWER PLANTS

Technical Paper Publication: ICONE32-1192

Jianhua Chen - Shenzhen University

Sijuan Chen - Shenzhen University

Kunze Yang - The Pennsylvania State University

Chenxi Zhang - Shenzhen University

Jipu Wang - Shenzhen University

Chengxiang Liu - Shenzhen University

Faqiang Qian - Shenzhen University

# RESEARCH ON DYNAMIC ASSESSMENT METHOD OF HUMAN FACTOR RELIABILITY AND RISK IN NUCLEAR POWER PLANT ACCIDENT SCENARIOS

.....

Technical Paper Publication: ICONE32-1378

Ting Wen - Shenzhen University Anqi Xu - Shenzhen University Ming Yang - Shenzhen University

-62-



Xiaomeng Dong - Shenzhen University Linfeng Li - Shenzhen University Ziwei Weng - Shenzhen University Zihan Zhou - Shenzhen University Guoming Yin - Shenzhen University

Operator Cognitive Model and Human-Machine Interface Requirements Analysis in Automated Environments

Technical Paper Publication: ICONE32-1653

KUNXIU LIU - China Nuclear Power Engineering Co., Ltd. WANTING LI - China Nuclear Power Engineering Co., Ltd. TENGJIAO ZHENG - China Nuclear Power Engineering Co., Ltd. SHIGUANG DENG - China Nuclear Power Engineering Co., Ltd.

#### RESEARCH AND APPLICATION OF IDHEAS-ECA METHOD IN FIRE HUMAN RELIABILITY ANAYSIS IN NUCLEAR POWER PLANT

Technical Paper Publication: ICONE32-1947

KUNXIU LIU - CNNC China Nuclear Power Engineering Co., Ltd WANTING LI - CNNC China Nuclear Power Engineering Co., Ltd HENGPING LIU - CNNC China Nuclear Power Engineering

Co., Ltd

YUNLONG XU - CNNC China Nuclear Power Engineering Co., Ltd

**SHIGUANG DENG -** CNNC China Nuclear Power Engineering Co., Ltd,

TENGJIAO ZHENG - CNNC China Nuclear Power Engineering Co., Ltd

Track 4-3 Metal Cooling SMR (II) 8:30 am – 10 am, C-109A

Session Chair:

Session Co-Chair:

DEVELOPMENT AND IMPLEMENTATION OF AN RVACS MODULE IN THE BELLA DYNAMICS CODE FOR ASSESSMENT OF STATION BLACKOUT EVENTS IN METAL COOLED REACTORS Technical Paper Publication: ICONE32-0999

Fredrik Dehlin - KTH Royal Institute of TechnologyAlejandria Pérez-Valseca - Metropolitan Autonomous UniversityJanne Wallenius - KTH Royal Institute of Technology

.....

RESEARCH ON CORE FLOW DISTRIBUTION IN A SMALLAND MICRO LEAD-COOLED FAST REACTOR Technical Paper Publication: ICONE32-1114

Yangguang Zhang - North China Electric Power University
Daogang Lu - North China Electric Power University
Xiaotian Wang - North China Electric Power University
Qiong Cao - North China Electric Power University

# SCHEME DESIGN OF MULTI-PURPOSE SMALL

#### MODULAR LEAD-COOLED FAST REACTOR

Technical Paper Publication: ICONE32-1415

Ruiyang Guo - China institute of atomic energy
Yi Zhuang - China institute of atomic energy
Han Zhang - China institute of atomic energy
Yinpeng Zhou - China institute of atomic energy
Jiyue Liang - China institute of atomic energy
Xin Zhou - China institute of atomic energy
Pengrui Qiao - China institute of atomic energy
Hongyi Yang - China institute of atomic energy

Research on the Design Optimization of Small Modular Lead-cooled Fast Reactors Based on Machine Learning Technical Paper Publication: ICONE32-1530

Han Zhang - China Institute of Atomic Energy
Ruiyang Guo - China Institute of Atomic Energy
Yun Hu - China Institute of Atomic Energy
Pan Cao - China Institute of Atomic Energy
Haixia Wan - China Institute of Atomic Energy
Yi Zhuang - China Institute of Atomic Energy
Pengrui Qiao - China Institute of Atomic Energy

CONCEPTUAL DESIGN OF A YTTRIUM HYDRIDE MODERATED THERMIONIC REACTOR FOR LUNAR BASE



#### Technical Paper Publication: ICONE32-2015

Zheng Wang - China Institute of Atomic Energy Yuchen Huo - China Institute of Atomic Energy Jinduo Wang - China Institute of Atomic Energy Shouzhi Zhao - China Institute of Atomic Energy Zheng Sun - China Institute of Atomic Energy Jing Shao - China Institute of Atomic Energy Cheng Hou - China Institute of Atomic Energy Yangliu Li - China Institute of Atomic Energy Chanjuan Tang - China Institute of Atomic Energy Binhe Hu - China Institute of Atomic Energy

#### Track 4-4 Micro Reactor (I)

8:30 am - 10 am, C-109B

#### Session Chair:

Session Co-Chair:

# NODALIZATION OF ACP100 SMR IN APROS AND STEADY STATE SIMULATION

Technical Paper Publication: ICONE32-0034

Zhu Ye - Nuclear Power Institute of China
Danrong Song - Nuclear Power Institute of China
Qing Chu - Nuclear Power Institute of China
Chang Zeng - Nuclear Power Institute of China
Zhiyun Cai - Nuclear Power Institute of China

An Adaptive Modularization Method for Nuclear Systems of Marine Small Modular Reactors Based on DBSCAN and PSO

Technical Paper Publication: ICONE32-0150

Xin Li - China Nuclear Power Technology Research Institute Co. Ltd.

Zhihong Tang - China Nuclear Power Technology Research Institute Co. Ltd.

Liyuan Wang - China Nuclear Power Technology Research Institute Co. Ltd.

**Shusheng Guo -** China Nuclear Power Technology Research Institute Co. Ltd. **Wenjun Zhang -** China Nuclear Power Technology Research Institute Co. Ltd.

Lide Zhang - China Nuclear Power Technology Research Institute Co. Ltd.

•••••

Research on ACP100 Emergency Operating Procedures and Methods

Technical Paper Publication: ICONE32-0485

Qian Sun - China Nuclear Power Engineering Co.,Ltd

Qiang Zhao - China Nuclear Power Engineering Co.,Ltd

NUMERICAL SIMULATION OF PRHR SYSTEM CHARACTERISTICS UNDER INTERMEDIATE LOOP LARGE BREAK INCIDENT FOR INTEGRATED SMALL REACTORS

Technical Paper Publication: ICONE32-0501

Zhidong Yue - General Clean Energy Co. Ltd. Ting Wei - General Clean Energy Co. Ltd.

.....

Research on a rapid prediction method for key core design parameters of small-scale reactors

Technical Paper Publication: ICONE32-0819

Pei Ren - China institute of atomic energy

ZhaoDong Xia - China institute of atomic energy

YuTing Cheng - China institute of atomic energy

CuiJie Pan - China institute of atomic energy

Jiecheng Zhao - China institute of atomic energy

.....

Experimental Investigation and Simulation Analysis of The Pressure Suppression System for Small Modular Reactor ACPR508

Technical Paper Publication: ICONE32-0870

Yabing Li - China Nuclear Power Technology Research Institute Di Wang - China Nuclear Power Technology Research Institute Chenyu Hao - China Nuclear Power Technology Research Institute

ANALYSIS OF DOUBLE-ENDED GUILLOTINE BREAK ACCIDENT IN SURGE LINE OF ACP100 BASED ON COUPLING METHOD

-64-

e 32<sup>nd</sup> International Conference on Nuclear Engineering

Technical Paper Publication: ICONE32-0908

Fan Miao - School of Nuclear Science and Technology, Xi'an Jiaotong University

**Bin Zhang** - School of Nuclear Science and Technology, Xi'an Jiaotong University; State Key Laboratory of Multiphase Flow in Power Engineering, Xi'an Jiaotong University

**Tianci Xie -** School of Nuclear Science and Technology, Xi'an Jiaotong University

Hao Yang - School of Nuclear Science and Technology, Xi'an Jiaotong University

Jianqiang Shan - School of Nuclear Science and Technology, Xi'an Jiaotong University; State Key Laboratory of Multiphase Flow in Power Engineering, Xi'an Jiaotong University

. . . . . . . . .

Track 16-2 Thermal-Hydraulics and Reactor System I 8:30 am – 10 am, C-112

#### Session Chair:

Session Co-Chair:

Development of Industry-applicable Two-phase Flow Identification and Classification Approach Based on Flow-induced Vibration Signals

Technical Paper Publication: ICONE32-0169

Hanyu Wang - The University of Tokyo Shuichiro Miwa - The University of Tokyo Wen Zhou - The University of Tokyo

Koji Okamoto - The University of Tokyo

A Novel Fuel Element: Helical Annular Fuel and Its Thermal-Hydraulic Characteristics Analysis in a 2x2 Bundle

.....

Technical Paper Publication: ICONE32-0277

Shuo Guo - Xi'an Jiaotong University

Xingguang Zhou - Xi'an Jiaotong University Dianqiang Jiang - Xi'an Jiaotong University Xiaoli Wu - Nuclear Power Institute of China Qi Lu - Nuclear Power Institute of China Ting Zhang - Nuclear Power Institute of China Dalin Zhang - Xi'an Jiaotong University

### DEVELOPMENT OF ONSET OF BOILING ENTRAINMENT AND BOILING ENTRAINMENT RATE PREDICTION METHOD FOR TWO-PHASE FLOW FALLING LIQUID FILM

.....

Technical Paper Publication: ICONE32-0746

**KAITO NADE** - The University of Electro-Communications **RAKA FIRMAN** - The University of Electro-Communications **YUKI NARUSHIMA** - Hitachi, Ltd.

TOMIO OKAWA - The University of Electro-Communications KENICHI KATONO - Hitachi, Ltd.

Loss of External Load Accident Characterization for Heat Pipe Cooled Reactors with Closed Brayton Cycle

Technical Paper Publication: ICONE32-1716

Guanghui Jiao - Harbin Engineering University Genglei Xia - Harbin Engineering University Tao Zhou - Harbin Engineering University

### RESEARCH ON THE FLOW MIXING CHARACTERISTICS OF DIRECT VESSEL INJECTION IN REACTOR PRESSURE VESSELS

Technical Paper Publication: ICONE32-1983

Changfan Zhu - Harbin Engineering University
Tuo Wang - Harbin Engineering University
Jiajun Li - Harbin Engineering University
Dongyang Li - Harbin Engineering University
Sichao Tan - Harbin Engineering University
Ruifeng Tian - Harbin Engineering University

Track10-1 Equipment research on nuclear power plants 8:30 am – 10 am, C-113

Session Chair:

Session Co-Chair:

RELIABILITY EVALUATION OF HYDRAULIC CIRCUIT COMPONENTS OF MAIN STEAM ISOLATE VALVES



Technical Paper Publication: ICONE32-0442

Wensheng Hu - CNNP

Yibo Guo - CNNP

Design and Qualification Research of Main Feedwater Isolation Valve for HPR

.....

Technical Paper Publication: ICONE32-0788

JIANG KETAO - China Nuclear Power Engineering Co.,Ltd.
SUN JIALI - China Nuclear Power Engineering Co.,Ltd.
LI DONGLIANG - China Nuclear Power Engineering Co.,Ltd.
ZHANG WEI - China Nuclear Power Engineering Co.,Ltd.
ZHU JINGMEI - China Nuclear Power Engineering Co.,Ltd.

Analysis of hydraulic cylinder influence on pressure charging process of control rod hydraulic drive system Technical Paper Publication: ICONE32-1187

Yun Li - Tsinghua University Benke Qin - Tsinghua University

Hanliang Bo - Tsinghua University

Study on surface boiling heat transfer of fuel cladding with optimized gas-liquid transport path using a single hydrophobic pattern

Technical Paper Publication: ICONE32-1246

Liyang Shen - South China University of Technology Jiejin Cai - South China University of Technology

Optimization Research on the Installation Structure of Miniature Neutron Source Reactor Fuel Assembly

.....

Technical Paper Publication: ICONE32-1419

Qian Hao -China Institute of Atomic Energy Mengjiao Wang -China Institute of Atomic Energy Jinhua Zhang -China Institute of Atomic Energy Dan Peng -China Institute of Atomic Energy Jingyan Hong -China Institute of Atomic Energy Xiaobo Wu -China Institute of Atomic Energy

Yiguo Li -China Institute of Atomic Energy

.....

Research of new control rod drive mechanism for high

temperature gas-cooled reactor

Technical Paper Publication: ICONE32-2057

**Ping Liu -** Huaneng Nuclear Energy Technology Research Institute Co., LTD, China

**Wei Wang -** Huaneng Nuclear Energy Technology Research Institute Co., LTD, China

**Dongwang Meng -** Huaneng Nuclear Energy Technology Research Institute Co., LTD, China

Weijun Lei - Huaneng Nuclear Energy Technology Research Institute Co., LTD, China

**Ye Lin -** Huaneng Nuclear Energy Technology Research Institute Co., LTD, China

**Jie Xu -** Huaneng Nuclear Energy Technology Research Institute Co., LTD, China

Shichun Zhang - Huaneng Nuclear Energy Technology Research Institute Co., LTD, China

**Qi Wang -** Huaneng Nuclear Energy Technology Research Institute Co., LTD, China

**Qiangqiang Yang -** Huaneng Nuclear Energy Technology Research Institute Co., LTD, China

Huimin Sun - Huaneng Nuclear Energy Technology Research Institute Co., LTD, China

.....

**Track 14-1 Nuclear Safety Simulation** 

8:30 am – 10 am, C-114

Session Chair:

Session Co-Chair:

SIMULATION OF THERMOHYDRAULICS AND AEROSOL BEHAVIOR IN LACE LA4 VIA SPRUCE

Technical Paper Publication: ICONE32-0677

**Pingwen OU -** State Key Laboratory of Nuclear Power Safety Technology and Equipment, CNPRI

**Chao GUO -** State Key Laboratory of Nuclear Power Safety Technology and Equipment, CNPRI

**Yong OUYANG -** State Key Laboratory of Nuclear Power Safety Technology and Equipment, CNPRI

Peng CHEN - State Key Laboratory of Nuclear Power Safety



#### Technology and Equipment, CNPRI

Development and Assessment of Cladding Oxidation Models of Severe Accident Program SCENES-CoreMt

.....

Technical Paper Publication: ICONE32-1066

Feng Guo - Shanghai Jiao Tong University

Danting Zhao - Shanghai Jiao Tong University Meng Zhao - Shanghai Jiao Tong University

Hao Zhang - Shanghai Jiao Tong University

Yanhua Yang - Shanghai Jiao Tong University

#### DEVELOPMENT AND VALIDATION OF A TURBULENT COMBUSTION MODEL FOR CO/H2/ AIR MIXTURES

Technical Paper Publication: ICONE32-1082

Siqi Liu - China Nuclear Power Research Institute Yabing Li - China Nuclear Power Research Institute

Yong Ouyang - China Nuclear Power Research Institute Xinhai Zhao - China Nuclear Power Research Institute

SIMULATION OF FISSION PRODUCT RELEASE IN PHEBUS FPT1 VIA SPRUCE

Technical Paper Publication: ICONE32-1354

Zehao ZHANG - State Key Laboratory of Nuclear Power Safety Technology and Equipment, China Nuclear Power Technology Research Institute Co., Ltd.

**Pingwen OU** - State Key Laboratory of Nuclear Power Safety Technology and Equipment, China Nuclear Power Technology Research Institute Co., Ltd.

**Zichen ZHAO** - State Key Laboratory of Nuclear Power Safety Technology and Equipment, China Nuclear Power Technology Research Institute Co., Ltd.

**Yong OUYANG -** State Key Laboratory of Nuclear Power Safety Technology and Equipment, China Nuclear Power Technology Research Institute Co., Ltd.

**Chao GUO** - State Key Laboratory of Nuclear Power Safety Technology and Equipment, China Nuclear Power Technology Research Institute Co., Ltd.

Peng CHEN - State Key Laboratory of Nuclear Power Safety

Technology and Equipment, China Nuclear Power Technology Research Institute Co., Ltd.

Yueyang HOU - State Key Laboratory of Nuclear Power Safety Technology and Equipment, China Nuclear Power Technology Research Institute Co., Ltd. / University of Science and Technology of China

.....

Validation of SPRUCE code with aerosol deposition experiment in a containment with heat exchanger tubes Technical Paper Publication: ICONE32-1598

Yongzheng Chen - China Nuclear Power Technology Research Institute Co., Ltd

Yong Ouyang - China Nuclear Power Technology Research Institute Co., Ltd

**Pingwen Ou -** China Nuclear Power Technology Research Institute Co., Ltd

Xinnuo E - Harbin Engineering University

**Peng Chen -** China Nuclear Power Technology Research Institute Co., Ltd

**Chao Guo -** China Nuclear Power Technology Research Institute Co., Ltd

Haifeng Gu - Harbin Engineering University

Feiye Liao - China Nuclear Power Technology Research Institute Co., Ltd

.....

An Attempt to Verify Gamma-Ray Transport Codes Based on the Discrete Ordinates Method Using the Method of Manufactured Solutions

Technical Paper Publication: ICONE32-1930

**Zhenwen Wei** - Institute for Advanced Study in Nuclear Energy & Safety, College of Physics and Optoelectronic Engineering, Shenzhen University

Jipu Wang - Institute for Advanced Study in Nuclear Energy & Safety, College of Physics and Optoelectronic Engineering, Shenzhen University

Peitao Song - China Institute for Radiation Protection

**Tengjie Chen** - Institute for Advanced Study in Nuclear Energy & Safety, College of Physics and Optoelectronic Engineering, Shenzhen University



Can Huang - Institute for Advanced Study in Nuclear Energy & Safety, College of Physics and Optoelectronic Engineering, Shenzhen University

**Ziyang Lin** - Institute for Advanced Study in Nuclear Energy & Safety, College of Physics and Optoelectronic Engineering, Shenzhen University

Haoyuan Song - Institute for Advanced Study in Nuclear Energy& Safety, College of Physics and Optoelectronic Engineering,Shenzhen University

Hao Liang - Institute for Advanced Study in Nuclear Energy & Safety, College of Physics and Optoelectronic Engineering, Shenzhen University

Sijuan Chen - Institute for Advanced Study in Nuclear Energy & Safety, College of Physics and Optoelectronic Engineering, Shenzhen University

**Ming Yang -** Institute for Advanced Study in Nuclear Energy & Safety, College of Physics and Optoelectronic Engineering, Shenzhen University

**Yong Liu** - Institute for Advanced Study in Nuclear Energy & Safety, College of Physics and Optoelectronic Engineering, Shenzhen University

.....

Track1-5 Advanced Reactors (High-Temperature Reactors, Fast Reactors, New Concept Reactors) I 10:30 am – 12:00 pm, C-101AB

#### Session Chair:

Session Co-Chair:

Study on Thermal Expansion Reactivity of CEFR at full power Technical Paper Publication: ICONE32-0592

xinyuan Bian - China Institute of Atomic Energy
guotu Ke - China Institute of Atomic Energy
jian Zhang - China Institute of Atomic Energy
Analysis of Primary Frequency Modulation Response of Largescale Pool-type Sodium-Cooled Fast Reactor
Technical Paper Publication: ICONE32-0733

Weiping Hong - China Institute of Atomic Energy Jun Yang - China Institute of Atomic Energy Zhongxiao Guo - China Institute of Atomic Energy Jin Wang - China Institute of Atomic Energy

Linjie Zhou - China Institute of Atomic Energy

Study on the Sensitivity of Steam Outlet Temperature in THTR Steam Generators

.....

Technical Paper Publication: ICONE32-1064

wang miaomiao - Huaneng Nuclear Energy Technology Research Institute Co., Ltd.

**li jingsong -** China Nuclear Power Operation Technology Corporation

**ma xiqiang -** Huaneng Nuclear Energy Technology Research Institute Co., Ltd.

**zhu yingjie** - Huaneng Nuclear Energy Technology Research Institute Co., Ltd.

zhang tianqi - China Nuclear Power Operation Technology Corporation

zhang wei - China Nuclear Power Operation Technology Corporation

wang lang - Huaneng Nuclear Energy Technology Research Institute Co., Ltd., China

AN OVERVIEW OF NUCLEAR HYDROGEN PRODUCTION: TECHNOLOGIES, CHALLENGES, AND PROSPECTS

Technical Paper Publication: ICONE32-1286

Wenxiao Chen - Huaneng Nuclear Energy Technology Research Institute

Na An - Huaneng Nuclear Energy Technology Research Institute Bin Zhang - Huaneng Nuclear Energy Technology Research Institute

Jianli Huang - Huaneng Nuclear Energy Technology Research Institute

Anti-sway strategy for crane hoisting in floating nuclear power plants

Technical Paper Publication: ICONE32-1610

**Xiaobin Qu -** China Nuclear Power Technology Research Institute Co.,Ltd.

Apeng Zhao - China Nuclear Power Technology Research Institute Co.,Ltd.



Shujian Tang - China Nuclear Power Technology Research Institute Co.,Ltd.

Yu Hou - Xi'an Jiaotong University

**Gang Liu -** China Nuclear Power Technology Research Institute Co.,Ltd.

Guofeng Zhou - China General Nuclear Power Co., Ltd.

Potential Benefits of Converting Coal Power Plants to Integrated Nuclear Energy Systems in China Technical Paper Publication: ICONE32-1628

Suoni Qi - China Nuclear Power Engineering Co.,LTD.

Li Fun - China Nuclear Power Engineering Co.,LTD.

# RESEARCH AND APPLICATION OF OXYGENATION TREATMENT IN SODIUM-COOLED FAST REACTOR NUCLEAR POWER UNIT

.....

Technical Paper Publication: ICONE32-1658

Zhenhua Hu - Xi'an Thermal Power Research Institute Co., Ltd Yumin Yang - Xi'an Thermal Power Research Institute Co., Ltd Junwan Li - Xi'an Thermal Power Research Institute Co., Ltd

# Track2-5 Nuclear fuel fabrication and testing

10:30 am – 12:00 pm, C-102

#### Session Chair:

Session Co-Chair:

Reliability studies for Additive manufacturing Parts of Nuclear fuel

Technical Paper Publication: ICONE32-0496

Guopeng QIN-CNNC Jianzhong Nuclear Fuel Co.,Ltd. Liying ZHANG - CNNC Jianzhong Nuclear Fuel Co.,Ltd.

# HTR-PM FUEL ELEMENT MANUFACTURING AND OPERATIONAL PERFORMANCE ANALYSIS

.....

Technical Paper Publication: ICONE32-1009

Furui SUN - Huaneng Shandong Shidao Bay Nuclear Power Co., Ltd.Bin QU - Huaneng Shandong Shidao Bay Nuclear Power Co., Ltd.Haiqiong LI - Huaneng Shandong Shidao Bay Nuclear Power Co., Ltd.

An XU - Huaneng Shandong Shidao Bay Nuclear Power Co., Ltd. Xing FENG - Huaneng Shandong Shidao Bay Nuclear Power Co., Ltd.

EFFECTS OF DIFFERENT ROLLING Q-VALUES AND DEFORMATIONS ON THE PROPERTIES OF ZR-4 ALLOY PIPE UNDER DIFFERENT ANNEALING REGIMES

Technical Paper Publication: ICONE32-1549

HAOHAO Guan - State Nuclear Baoti Zirconium Industry Company, China

**Weidong CuI** - State Nuclear Baoti Zirconium Industry Company, China

Yangping Sun - State Nuclear Baoti Zirconium Industry Company, China

**Chunguang Liu** - State Nuclear Baoti Zirconium Industry Company, China

Yahui Cheng - State Nuclear Baoti Zirconium Industry Company, China

.....

PREPARATION AND PROPERTIES OF MICRO-ARC OXIDATION LAYER ON ZIRCOUIUM ALLOY SURFACE

Technical Paper Publication: ICONE32-1563

Zhibin Wang - China North Nuclear Fuel Co., Ltd
Jinguo Wu - China North Nuclear Fuel Co., Ltd
Mingyang Li - China North Nuclear Fuel Co., Ltd
Zhenfang Cai - China North Nuclear Fuel Co., Ltd
Siyuan Liu - China North Nuclear Fuel Co., Ltd

Preparation and Characterization of CERMET Fuel Pellet Matrix Using Powder Extrusion Printing Technical Paper Publication: ICONE32-1688

Zhao Yumeng - China North Nuclear Fuel Co., Ltd.
Shao Zongyi - China North Nuclear Fuel Co., Ltd.
Xun Yuxuan - China North Nuclear Fuel Co., Ltd.
Li Yu - China North Nuclear Fuel Co., Ltd.
Li Zongshu - China North Nuclear Fuel Co., Ltd.
Liu Wentao - China North Nuclear Fuel Co., Ltd.
Liu Wei - China North Nuclear Fuel Co., Ltd.

-69-



Ji Pengbo - China North Nuclear Fuel Co., Ltd.

Application and prospect of surface treatment and modification technologies in nuclear fuel assembly

.....

Technical Paper Publication: ICONE32-1731

Zhao Yumeng - China North Nuclear Fuel Co., Ltd.
Li Zongshu - China North Nuclear Fuel Co., Ltd.
Wang Zhibin - China North Nuclear Fuel Co., Ltd.
Ji Pengbo - China North Nuclear Fuel Co., Ltd.
Xie Chenchen - China North Nuclear Fuel Co., Ltd.
Du Jiangpin - China North Nuclear Fuel Co., Ltd.
Lu Yongheng - China North Nuclear Fuel Co., Ltd.
Wang Wei - China North Nuclear Fuel Co., Ltd.
Iiu Yanshuo - China North Nuclear Fuel Co., Ltd.

Elevated lithum concentration effect on PWR primary materials

Technical Paper Publication: ICONE32-1845

Zhang Yu - Daya Bay Nuclear Power Operation And Management Co., Ltd.

Lin GenXian - Suzhou Nuclear Power Research Institute Co., Ltd Liu CanShuai - Suzhou Nuclear Power Research Institute Co., Ltd Tian ZhaoHui - Suzhou Nuclear Power Research Institute Co., Ltd Sun Yun - Suzhou Nuclear Power Research Institute Co., Ltd Lijun Song - Suzhou Nuclear Power Research Institute Co., Ltd

Track 7-5 Thermal-hydraulic experiments and measurement methods (V)

10:30 am - 12:00 pm, C-103

Session Chair:

Session Co-Chair:

#### EXPERIMENTAL AND MECHANISTIC STUDY ON THE EFFECT OF INCLINED CONDITIONS ON THE CHF OF UPWARD FLOW OF R134A IN A TUBE

Technical Paper Publication: ICONE32-0091

Huanjun Kong - Xi'an Jiaotong University Ya Li - Xi'an Jiaotong University Jianqiang Shan - Xi'an Jiaotong University -70Miao Gui - Xi'an Jiaotong University

# EXPERIMENTAL STUDY ON THE DYNAMIC RESPONSE OF VCT OUTLET CONCENTRATION DURING DILUTION OPERATION

.....

Technical Paper Publication: ICONE32-0166

Xiangyu Chi - China Nuclear Power Engineering Co.,Ltd.
Jiazhuo Wang - China Nuclear Power Engineering Co.,Ltd.
Bin Zhao - China Nuclear Power Engineering Co.,Ltd.
Pei Yu - China Nuclear Power Engineering Co.,Ltd.
Jiazhi Liu - China Nuclear Power Engineering Co.,Ltd.

EFFECT OF SURFACTANT ON BOILING HEAT TRANSFER —— FROM A BUBBLE DYNAMIC PERSPECT

Technical Paper Publication: ICONE32-0196

Song Ni - City University of Hong Kong, China
Sina Li - City University of Hong Kong, China
Chung Ki Cheng - City University of Hong Kong, China
Jiyun Zhao - City University of Hong Kong, China

Experimental Study of Resistance Characteristics in Helically-Coiled Tube of Steam Generator for Leadbismuth Reactor and Evaluation of Empirical Formulas Technical Paper Publication: ICONE32-0340

Dandan Gu - China Institute of atomic energy
Bin Hou - China institute of atomic energy
Hongyi Yang - China institute of atomic energy
Changzhi Xiao - China institute of atomic energy

Design and modeling of the simulation platform for integrated thermal hydraulic test facility

Technical Paper Publication: ICONE32-0414

Si Ni - China Nuclear Power Engineering Co., LTD
Liqun Zhang - China Nuclear Power Engineering Co., LTD
Chao Wang - China Nuclear Power Engineering Co., LTD
Changjiang Yang - China Nuclear Power Engineering Co., LTD
Shaohua Wang - China Nuclear Power Engineering Co., LTD
Shuang Lin - China Nuclear Power Engineering Co., LTD



Qianxi Xiao - Xi'an Jiaotong University

Study On The Effects Of Condensate Temperature And Steam Pressure On Condensation-Induced Water Hammer (CIWH) In Steam Pipelines Of Nuclear Power Plants

.....

Technical Paper Publication: ICONE32-1648

Rongyang Xue - North China Electric Power University Jiaming Zhao - China Nuclear Power Engineering Co.,Ltd Minchao Liang - North China Electric Power University Jiarui Zhang - North China Electric Power University Wentao Guo - North China Electric Power University Shengfei Wang - North China Electric Power University

# Track 8-5 Rod Bundle Channel and Subchannel 10:30 am – 12:00 pm, C-104A

#### Session Chair:

Session Co-Chair:

**Research on Structural Design and Flow Field Optimization of 5x5 Helical Cruciform Fuel Assembly** Technical Paper Publication: ICONE32-0218

Xinli Yin - Harbin Engineering University

Guangliang Chen - Harbin Engineering University

Design of a Fluid Network Method Coupled CFD Scheme for Rod bundle Fuel Assemblies

Technical Paper Publication: ICONE32-0490

**Rui Li** - Fundamental Science on Nuclear Safety and Simulation Technology Laboratory

**Guangliang Chen -** Fundamental Science on Nuclear Safety and Simulation Technology Laboratory

Yuhang Zhang - Fundamental Science on Nuclear Safety and Simulation Technology Laboratory

Lixuan Zhang - Fundamental Science on Nuclear Safety and Simulation Technology Laboratory

Zhaofei Tian - Fundamental Science on Nuclear Safety and Simulation Technology Laboratory

.....

CFD investigation on coolant flow behaviour of LBE cooled fuel assemblies with different bundle size

Technical Paper Publication: ICONE32-0673

Guanwen Luo - China Nuclear Power Technology Research Institute

Jun Xing - China Nuclear Power Technology Research Institute Kuo Wang - China Nuclear Power Technology Research Institute

Jingwei Pan - China Nuclear Power Technology Research Institute

**Yiliang Xie -** China Nuclear Power Technology Research Institute

Xiaohang Wu - China Nuclear Power Technology Research Institute

Huiyong Zhang - China Nuclear Power Technology Research Institute

Wenxi Tian - Xi'an Jiaotong University

.....

Numerical Simulation Study of the Dispersed Flow Region During Reflooding in Narrow Gap Channels Technical Paper Publication: ICONE32-1215

Xinkui Fang - Beijing University of Chemical Technology
Dexia Yuan - Beijing University of Chemical Technology
Jingqi Xu - Beijing University of Chemical Technology
Tao Lu - Beijing University of Chemical Technology
Yan Luo - Beijing University of Chemical Technology

Numerical simulation of subchannel heat transfer and non-uniform wall heat flux characteristics based on conjugate heat transfer

Technical Paper Publication: ICONE32-1297

Yongchao Chen - South China University of Technology Jiejin Cai - South China University of Technology Heng Xie - Tsinghua University

Analysis of the influence of square bond structure and carbon brick metal reactor gap channel on the bypass flow distribution characteristics of Pebble-Bed High Temperature Gas Cooled Reactor



Technical Paper Publication: ICONE32-1399

Yuhang Liu - Beijing Jiaotong University
Lixin Yang - Beijing Jiaotong University
Jinsong Guo - HUANENG Nuclear Energy Technology
Research Institute
Wei Liu - HUANENG Nuclear Energy Technology Research Institute

Ting Zhao - Beijing Jiaotong University

Track 9-5 Radioactive Waste Packaging and Transport Containers

#### 10:30 am - 12:00 pm, C-104B

Session Chair:

Session Co-Chair:

RESEARCH AND APPLICATION OF LEAD POURING TECHNOLOGY IN TRANSFER CASK OF SPENT FUEL DRY STORAGE

Technical Paper Publication: ICONE32-0127

Wei Yuanyuan- CHINA CHENG CHENG - CHINA PAN YUELONG - CHINA Tang Qionghui - CHINA Nie Zhaoyu - CHINA Gao Yafu - CHINA Zhang Xueling - CHINA WEN QINGLONG - CHINA Li Jiaming - CHINA

Sensitivity Analysis of Factors Influencing the Source Terms and Dose Consequences of Fuel Drop Accidents Technical Paper Publication: ICONE32-0193

Wei DENG - China Nuclear Power Engineering Co.,Ltd Ya LIU - China Nuclear Power Engineering Co.,Ltd Jiaxuan GAO - China Nuclear Power Engineering Co.,Ltd Mengxi WANG - China Nuclear Power Engineering Co.,Ltd

RESEARCH ON THE PREDICTION OF THE WHOLE LIFE CYCLE COST OF RADIOACTIVE SOLID WASTE STORAGE AT MEDIUM AND DEEP GEOLOGY Technical Paper Publication: ICONE32-0336

**Dong Zhao -** China Nuclear Power Engineering Co.,Ltd., China **Hong-ying Yu -** China Nuclear Power Engineering Co.,Ltd., China **Xin Shang -** China Nuclear Power Engineering Co.,Ltd., China

#### FEASIBILITY STUDY ON DRY STORAGE OF MNSR FUEL

Technical Paper Publication: ICONE32-0680

HAO Qian - China Institute of Atomic EnergyWANG Shuo - China Institute of Atomic EnergyZHANG Jinhua - China Institute of Atomic Energy

LU Yinghao - China Institute of Atomic Energy

Preparation of Intermediate-Level Waste Packages for Off-site Shipment Using Specialized Engineered Waste Handling and Transfer Equipment

Technical Paper Publication: ICONE32-0885

Yi Mi - CNL

Samuel Melnyk - CNL

.....

Discussion on Tritium Analysis and Optimization of Control in the Primary Circuit of High-temperature Gascooled Reactor

Technical Paper Publication: ICONE32-1523

Qian Ma - Huaneng Shandong Shidao Bay Nuclear Power Co., Ltd Xi Chen - Huaneng Shandong Shidao Bay Nuclear Power Co., Ltd Jie Di - Huaneng Shandong Shidao Bay Nuclear Power Co., Ltd Zheng Liang - Huaneng Shandong Shidao Bay Nuclear Power Co., Ltd

**Yongsheng Jia -** Huaneng Shandong Shidao Bay Nuclear Power Co., Ltd

Wenting Jia - Huaneng Shandong Shidao Bay Nuclear Power Co., Ltd

Yulin Zhang - Huaneng Shandong Shidao Bay Nuclear Power Co., Ltd

.....

**Research on the influence of regeneration of Helium Purification System on gaseous effluent in HTR-PM** Technical Paper Publication: ICONE32-1603

-72-



**Qian Ma -** Huaneng Shandong Shidao Bay Nuclear Power Co., Ltd **Yongsheng Jia -** Huaneng Shandong Shidao Bay Nuclear Power Co., Ltd

Xinyue Zhang - Huaneng Shandong Shidao Bay Nuclear Power Co., Ltd

Xi Chen - Huaneng Shandong Shidao Bay Nuclear Power Co., Ltd Na Li - Huaneng Shandong Shidao Bay Nuclear Power Co., Ltd Yulin Zhang - Huaneng Shandong Shidao Bay Nuclear Power Co., Ltd

Peipei Zhang - Huaneng Shandong Shidao Bay Nuclear Power Co., Ltd

Xue He - Huaneng Shandong Shidao Bay Nuclear Power Co., Ltd

Track1-14 Equipment Reliability and Failure Analysis (Case Analysis ) I

#### 10:30 am - 12:00 pm, C-105A

Session Chair:

Session Co-Chair:

Development and Application of Ex-Vessel Neutron Dosimetry System in Tianwan VVER-1000 Unit 2 Technical Paper Publication: ICONE32-0187

Meng Zhang - CNNP Operation Maintenance Technology Co., Ltd Chunfeng Shi - CNNP Operation Maintenance Technology Co., Ltd Yaping Zhang - School of Nuclear Science and Technology, Xi'an Jiaotong University

Liangzhi Cao - School of Nuclear Science and Technology, Xi'an Jiaotong University

Donghui Wang - State Nuclear Power Plant Service Company, China

#### FAILURE ANALYSIS OF A DISSIMILAR METAL WELD PIPING IN THE SECONDARY LOOP OF A CANDU NUCLEAR REACTOR

Technical Paper Publication: ICONE32-0883

Yuling You - Shanghai Jiao Tong University, China Jiamei Wang - Shanghai Jiao Tong University, China Kai Chen - Shanghai Jiao Tong University, China Lefu Zhang - Shanghai Jiao Tong University, China Pneumatic Solenoid Valve Fault Modeling and Simulation Verification for Nuclear Power Plants

Technical Paper Publication: ICONE32-1344

Haitao Lan - Hubei University of Automotive Technology
Gejia Zhu - China Resources Power Investment Co
Jianxun Lu - Shenzhen Technology University
Ben Zhang - Shenzhen Technology University
Wenlin Wang - Shenzhen Technology University
Guohua Wu - Shenzhen Technology University
Ping Zheng - China Great Wall Technology Group Co
Haichuan Zhang - Shenzhen Technology University

.....

#### ROOT CAUSE ANALYSIS AND IMPROVEMENT MEASURES FOR THE PLUNGER ASSEMBLY FAILURES IN THE EMERGENCY BORIC ACID INJECTION PUMP OF HPR1000

Technical Paper Publication: ICONE32-1606

Yixin Lin - CNNP Operation Maintenance Technology Co.,Ltd Zhiming Wu - CNNP Operation Maintenance Technology Co.,Ltd

**Xue Wen -** CNNP Operation Maintenance Technology Co.,Ltd **Xiaoyu Hou -** CNNP Operation Maintenance Technology Co.,Ltd

.....

## ANOMALY DETECTION FOR MAIN STEAM ISOLATION VALVE WITH MULTIVARIATE TIME SERIES

Technical Paper Publication: ICONE32-1804

Ping Liu - China Nuclear SUFA Technology Industry Co., Ltd
Zhi-yan Li - Zhejiang University
An-qi Guan - Zhejiang University
Fang-na Xiang - Zhejiang University
Zhen-hao Lin - Zhejiang University, Hangzhou Valvever
Intelligent Technology Co., Ltd.
Jin-yuan Qian - Zhejiang University

Analysis of Gearbox Tooth Failure and Improvement Measures of Nuclear Power Plant Chiller Compressor Technical Paper Publication: ICONE32-1814



**Dongxiong Feng -** Suzhou Nuclear Power Research Institue Co.,Ltd.

**Qingqing Wang -** Suzhou Nuclear Power Research Institue Co.,Ltd.

Xiaokang Wu - Suzhou Nuclear Power Research Institue Co..Ltd.

Analysis and Study on Operation Reliability of Degassing Tower in HPR1000 Boron Recycling System

Technical Paper Publication: ICONE32-2103

Wenxuan Zhang - Huaneng Hainan Changjiang Nuclear power Co., Ltd.

.....

Track2-14 Innovative Fuel and Technology (II) 10:30 am – 12:00 pm, C-105B

#### Session Chair:

Session Co-Chair:

Comparative Study on Quasi-Transient Neutronics of MSR Fuel Drainage Process for MSFR and DFR Technical Paper Publication: ICONE32-0106

**Bowen Wang -** Harbin Engineering University **Xiang Wang -** Harbin Engineering University

UNCERTAINTY ANALYSIS OF NON-DESTRUCTIVE URANIUM LOADING MEASUREMENT IN SPHERICAL FUEL ELEMENTS OF HIGH-TEMPERATURE REACTORS

Technical Paper Publication: ICONE32-0649

Yanlong Wen - Tsinghua University Haiyan Xiao - Tsinghua University Hongjian Zhang - Tsinghua University Qing Zhu - Tsinghua University Hong Li - Tsinghua University Liguo Zhang - Tsinghua University

Validation and Application of MLFF in Generating the Input of Thermal Scattering Data for Liquid FLiBe Technical Paper Publication: ICONE32-0653

Guoxiao Cai - Shanghai Institute of Applied Physics Jifeng Hu - Shanghai Institute of Applied Physics Xiaohe Wang - Shanghai Institute of Applied Physics Xiangzhou Cai - Shanghai Institute of Applied Physics Jingen Chen - Shanghai Institute of Applied Physics

Study on Optimization of Count Control Logic for Fuel Handling System in HTR-PM Reactor

Technical Paper Publication: ICONE32-0849

xiaotao xing -Huaneng Shandong Shidaowan Nuclear Power Co., LTD

xiaojin huang - Tsinghua University

chen wang - Huaneng Shandong Shidaowan Nuclear Power Co., LTD
feng jiang -Huaneng Shandong Shidaowan Nuclear Power Co., LTD
hui wang - Huaneng Shandong Shidaowan Nuclear Power Co., LTD
guining qi - Huaneng Shandong Shidaowan Nuclear Power Co., LTD
huimin sun - Huaneng Nuclear Energy Technology Research
Institute Co., LTD

.....

Automatic Control Strategy and Method of Ball Flow in Fuel Element of HTR-PM

Technical Paper Publication: ICONE32-0933

Chen Wang - Huaneng Shandong Shidao Bay Nuclear Power Co., Ltd.

**Feng Jiang -** Huaneng Shandong Shidao Bay Nuclear Power Co., Ltd.

Xiaotao Xing - Huaneng Shandong Shidao Bay Nuclear Power Co., Ltd.

Junsheng Fang - Huaneng Shandong Shidao Bay Nuclear Power Co., Ltd.

Huimin Sun - Huaneng Nuclear Energy Technology Research Institute Co.,Ltd.

Yijie Yan - Huaneng Shandong Shidao Bay Nuclear Power Co., Ltd.

**Qiangqiang Yang -** Huaneng Nuclear Energy Technology Research Institute Co.,Ltd.

.....

Research on the Analysis Method of Mechanical Characteristic of Plate Fuel Assembly



Technical Paper Publication: ICONE32-1180

yujie Liu - Shanghai Nuclear Engineering Research and Design Institute

Shiyin Xu - Shanghai Nuclear Engineering Research and Design Institute

JIngya Sun - Shanghai Nuclear Engineering Research and Design Institute

Jie Ding - Shanghai Nuclear Engineering Research and Design Institute

Heting Sun - Shanghai Nuclear Engineering Research and Design Institute

Xiaoqiang Chen - Shanghai Nuclear Engineering Research and Design Institute

#### Track 8-14 Advanced Reactor (I) 10:30 am – 12:00 pm, C-106A

#### Session Chair:

Session Co-Chair:

**Optimization of surface thermocouple arrangement of sodium-cooled fast reactor steam generator** Technical Paper Publication: ICONE32-0986

Xiangyu Yan - China institute of atomic energy
Lina Zhu - China institute of atomic energy
Shuai Xing - China institute of atomic energy
Huanjun Zhu - China institute of atomic energy
Yichen Li - China institute of atomic energy
Weiqing Li - China institute of atomic energy
Bin Hou - China institute of atomic energy

.....

Optimization study of external electric heater arrangement of sodium-cooled fast reactor steam generator

Technical Paper Publication: ICONE32-0987

Xiangyu Yan - China institute of atomic energy
Lina Zhu - China institute of atomic energy
Shuai Xing - China institute of atomic energy
Huanjun Zhu - China institute of atomic energy

Yichen Li - China institute of atomic energy Weiqing Li - China institute of atomic energy Bin Hou - China institute of atomic energy

NUMERICAL STUDY AND EXPERIMENTAL VALIDATION ON PRIMARY SIDE RESISTANCE CHARACTERISTICS OF HOTSG HELICAL PIPE SECTION

.....

Technical Paper Publication: ICONE32-1337

ZHOU Youxin - CNPRI CHEN Xiting - CNPRI GAO Yaxin - CNPRI MAO Yulong - CNPRI YUAN Zhaojun - CNPRI

Investigation on the transient performance of High Temperature Sodium Heat Pipe Based on CFD Simulation

Technical Paper Publication: ICONE32-1393

Haojie Zhang - Beijing Jiaotong University
Zhuqian Zhang - Beijing Jiaotong University
Lixin Yang - Beijing Jiaotong University
Heyao Li - Beijing Jiaotong University
Shihao Yang - Beijing Jiaotong University

Research on Thermal Characteristics of Lithium cooled Reactor Comprehensive Test Device Based on SindaFluint Technical Paper Publication: ICONE32-1452

Su Hang - China Institute of Atomic Energy Guo Chunqiu - China Institute of Atomic Energy

Huang Jinlu - Xi'an Jiaotong University

Li Weihan - China Institute of Atomic Energy

.....

Numerical simulation of thermal fluctuation in subchannels of wire-wrapped fuel rods for sodium-cooled fast reactors

Technical Paper Publication: ICONE32-1495

Zhaoxin Chen - China Institute of Atomic Energy Yi Huang - China Institute of Atomic Energy



Fuhai Gao - China Institute of Atomic Energy

Track 7-14 Severe accidents analysis (II) 10:30 am – 12:00 pm, C-106B

#### Session Chair:

Session Co-Chair:

Experimental Study on Natural Removal of Aerosols in Containment of ACP100 during Severe Accidents Technical Paper Publication: ICONE32-0239

Yu FENG - China Nuclear Power Engineering Co., LTD.
Hongliang WANG - China Nuclear Power Engineering Co., LTD.
Mingrui YU - China Nuclear Power Engineering Co., LTD.
Yiran GUO - China Nuclear Power Engineering Co., LTD.
Bolin ZHU - China Nuclear Power Engineering Co., LTD.
Yidan YUAN - China Nuclear Power Engineering Co., LTD.

Uncertainty Analysis of Severe Accidents in AP1000 Technical Paper Publication: ICONE32-0510

**Yunfeng Gu** - China Nuclear Power Operation Technology Corporation, LTD

Jue Wang - China Nuclear Power Operation Technology Corporation, LTD

Wei Wei - China Nuclear Power Operation Technology Corporation, LTD

**Ma Guoyang -** China Nuclear Power Operation Technology Corporation, LTD

Xiong Huang - China Nuclear Power Operation Technology Corporation, LTD

Yuqing Chen - China Nuclear Power Operation Technology Corporation, LTD

MODEL DEVELOPMENT FOR DETERMINING

OXYGEN FLUX DIFFUSING INTO ZR SUBSTRATE IN THE DEGRADATION STAGE OF CR COATING UNDER HIGH-TEMPERATURE STEAM OXIDATION CONDITIONS

Technical Paper Publication: ICONE32-0607

Dong Wang - Fuzhou University Kai Lu - Fuzhou University Yapei Zhang - Xi'an Jiaotong University G.H. Su - Xi'an Jiaotong University Xi Liu - Fuzhou University

A Temperature Coupling Framework for Thermohydraulic Analysis of Stratified Molten Pool Configuration Under Severe Accident Conditions Technical Paper Publication: ICONE32-0656

**PENGYA GUO** - Department of Engineering Physics, Tsinghua University, Beijing 100084, China

**ERHUI CHEN -** CNNC Key Laboratory for Severe Accident Research in Nuclear Power Safety, China Nuclear Power Engineering Co., Ltd, Beijing 100048, China

**PENG YU -** CNNC Key Laboratory for Severe Accident Research in Nuclear Power Safety, China Nuclear Power Engineering Co., Ltd, Beijing 100048, China

LI ZHANG - CNNC Key Laboratory for Severe Accident Research in Nuclear Power Safety, China Nuclear Power Engineering Co., Ltd, Beijing 100048, China

**ZHUO LIU -** CNNC Key Laboratory for Severe Accident Research in Nuclear Power Safety, China Nuclear Power Engineering Co., Ltd, Beijing 100048, China

**WEI LI -** CNNC Key Laboratory for Severe Accident Research in Nuclear Power Safety, China Nuclear Power Engineering Co., Ltd, Beijing 100048, China

JIYANG YU - Department of Engineering Physics, Tsinghua University, Beijing 100084, China

**YIDAN YUAN -** Department of Engineering Physics, Tsinghua University, Beijing 100084, China

## CHARACTERISTICS OF EUTECTIC REACTION LAYER DURING EUTECTIC MELTING OF BORON CARBIDE ABSORBER AND STAINLESS STEEL

Technical Paper Publication: ICONE32-0685

Xuesong Bai - Shanghai Jiao Tong University Lili Tong - Shanghai Jiao Tong University Xuewu Cao - Shanghai Jiao Tong University



Thermal-hydraulic Safety Analysis of the Passive Containment Air-Cooling System for ACP100 after a Severe Accident

Technical Paper Publication: ICONE32-0852

Longyu Pu - Harbin Engineering University Yanfeng Zhang - Harbin Engineering University Chunhui Dong - Harbin Engineering University Ronghua Chen - Xi'an Jiaotong University

Track 7-19 Small modular reactors and Gen IV reactors (II)

10:30 am - 12:00 pm, C-107A

#### Session Chair:

Session Co-Chair:

## NUMERICAL STUDY ON THE DESIGN OF AN ENERGY BALANCE FLOW METER FOR ULTRA LOW FLOW MEASUREMENT IN LIQUID METAL SYSTEMS

Technical Paper Publication: ICONE32-0338

Jiahao Zhao - Southeast University

Bin Han - Southeast University

Xiaoliang Zhu - Southeast University

**BaoWen Yang -** DEQD Institute for Advanced Research in Multiphase Flow and Energy Transfer

**Aiguo Liu -** DEQD Institute for Advanced Research in Multiphase Flow and Energy Transfer

Yuanjie Zhang - Southeast University

Research on Flow Induced Vibration Analysis Method of Sodium-Sodium Heat Exchanger in Sodium Cooled Fast Reactor

.....

Technical Paper Publication: ICONE32-0651

Yuning Liu - CIAE Shan He - CIAE Guangdong Song - CIAE Shuai Xing - CIAE Accident analyses of station blackout for Liquid Fuel Molten Salt Reactor

Technical Paper Publication: ICONE32-0834

Pinyan Huang - Shanghai Institute Of Applied Physics,CAS
Chong Zhou - Shanghai Institute Of Applied Physics,CAS
Shuaiyu Xue - Shanghai Institute Of Applied Physics,CAS
Qiang Sun - Shanghai Institute Of Applied Physics,CAS
Xiaohan Yu - Shanghai Institute Of Applied Physics,CAS

Research of Thermal-hydraulic characterization in narrow-slit flow of core bypass under the fuel assembly blockage accident condition of SMILE lead-cooled fast reactor in the range of natural circulation flow rate Technical Paper Publication: ICONE32-0862

**Xiaotian Wang -** School of Nuclear Science and Engineering, North China Electric Power University

**Daogang Lu** - School of Nuclear Science and Engineering, North China Electric Power University

Yangguang Zhang - School of Nuclear Science and Engineering, North China Electric Power University

**Qiong Cao -** School of Nuclear Science and Engineering, North China Electric Power University

.....

Analysis and Study on Sodium Fire Accidents and Detection Methods in the Primary Loop of Sodium Cooled Fast Reactor

Technical Paper Publication: ICONE32-0907

Xin ZHANG - CIAE Fengyang SHEN - CIAE Xisi ZHANG - CIAE Fangyuan XUE - CIAE Lijie ZHOU - CIAE

Verification of Numerical simulation code for highpressured water injection in molten LBE

Technical Paper Publication: ICONE32-1326

Hua Pang - China Nuclear Power Technology Research Institute Feng Mao - China Nuclear Power Technology Research Institute Peng Sun - China Nuclear Power Technology Research Institute



Lei Zhang - China Nuclear Power Technology Research Institute Xiangyu Yun - China Nuclear Power Technology Research Institute

Huiyong Zhang - China Nuclear Power Technology Research Institute

Shishun Zhang - China Nuclear Power Technology Research Institute

.....

#### Track 4-2 Metal Cooling SMR (I)

#### 10:30 am – 12:00 pm, C-107B

Session Chair:

Session Co-Chair:

Experimental and numerical investigation on Natural Circulation of Lead-bismuth in China LEAd-based Reactor System

Technical Paper Publication: ICONE32-0433

Qiqi Yan - CGPNRI Miaomiao Xu - CGPNRI Ren huo - CGPNRI Ren Liang - CGPNRI Zhikang Lin - CGPNRI

Concept of the Fifth Generation Nuclear Energy System (N5G) and the R&D Status of China Lead-based Reactor

Technical Paper Publication: ICONE32-0604

**Yican Wu -** Shandong Key Laboratory of Neutron Science and Technology, International Academy of Neutron Science (IANS), Qingdao, Chongqing and Hefei

**Chao Liu** - Shandong Key Laboratory of Neutron Science and Technology, International Academy of Neutron Science (IANS), Qingdao, Chongqing and Hefei

**Ming Jin** - Shandong Key Laboratory of Neutron Science and Technology, International Academy of Neutron Science (IANS), Qingdao, Chongqing and Hefei

Yuqing Bai - Shandong Key Laboratory of Neutron Science and Technology, International Academy of Neutron Science (IANS), Qingdao, Chongqing and Hefei **Qingsheng Wu** - Shandong Key Laboratory of Neutron Science and Technology, International Academy of Neutron Science (IANS), Qingdao, Chongqing and Hefei

**Chunjing Li** - Shandong Key Laboratory of Neutron Science and Technology, International Academy of Neutron Science (IANS), Qingdao, Chongqing and Hefei

**Yazhou Li -** Shandong Key Laboratory of Neutron Science and Technology, International Academy of Neutron Science (IANS), Qingdao, Chongqing and Hefei

**Tao Zhou** - Shandong Key Laboratory of Neutron Science and Technology, International Academy of Neutron Science (IANS), Qingdao, Chongqing and Hefei

**Jieqiong Jiang -** Shandong Key Laboratory of Neutron Science and Technology, International Academy of Neutron Science (IANS), Qingdao, Chongqing and Hefei

**Fang Wang -** Shandong Key Laboratory of Neutron Science and Technology, International Academy of Neutron Science (IANS), Qingdao, Chongqing and Hefei

**Yong Song -** Shandong Key Laboratory of Neutron Science and Technology, International Academy of Neutron Science (IANS), Qingdao, Chongqing and Hefei

Liqing Hu - Shandong Key Laboratory of Neutron Science and Technology, International Academy of Neutron Science (IANS), Qingdao, Chongqing and Hefei

#### CONCEPTUAL DESIGN OF 100 MW NATURAL CIRCULATION LEAD COOLED FAST REACTOR POWER SYSTEM

Technical Paper Publication: ICONE32-0637

Ruiyang Guo - China institute of atomic energy
Han Zhang - China institute of atomic energy
Pengrui Qiao - China institute of atomic energy
Hongyi Yang - China institute of atomic energy
Yi Zhuang - China institute of atomic energy

Design and Application of Self-start-stop Mode for Nonnuclear Integrated Test Device of Small Modular Sodiumcooled Fast Reactor

Technical Paper Publication: ICONE32-0780

-78-



Yichen Li - China institute of atomic energyJundong Qian - China institute of atomic energyHuanjun Zhu - China institute of atomic energy

## Study on ZrH-BC in Shielding Design of Small Sodium-Cooled-Fast-Reactor with Annular Fuel

Technical Paper Publication: ICONE32-0863

Bin Ye - Southwest University of Science and Technology
Junyan liu - Southwest University of Science and Technology
Feng Zhu - Southwest University of Science and Technology
Shiyu Liu - Southwest University of Science and Technology
Junjie Mao - Southwest University of Science and Technology
Yanling Ji - Southwest University of Science and Technology
Yushan Yang - Southwest University of Science and Technology

## OXYGEN CORROSION SIMULATION OF LEAD COOLED FAST REACTOR SNCLFR-100 BASED ON NUCLEAR THERMAL COUPLING PROGRAM

Technical Paper Publication: ICONE32-0934

Sifan Dong - University of Science and Technology of China Jingguo Wei - University of Science and Technology of China Junjia Zhang - University of Science and Technology of China Shuai Wang - University of Science and Technology of China Kefan Zhang - University of Science and Technology of China Hongli Chen - University of Science and Technology of China

.....

Track 3-6 Reliability and Diagonostic Technology 10:30 am – 12:00 pm, C-108A

Session Chair:

Session Co-Chair:

Research on Logic Degradation Technology of Diversity Actuation System Based on Simple Hardware Technology Technical Paper Publication: ICONE32-0200

Jikun Wang - China Techenergy Co., Ltd. Mingli Li - China Techenergy Co., Ltd. Gang Li - China Techenergy Co., Ltd.

#### RELIABILITY STUDY OF POWER SYSTEM PERFORMANCE BASED ON IGBT LOSS AND JUNCTION TEMPERATURE ESTIMATION

Technical Paper Publication: ICONE32-1268

**Yifan Song -** School of Energy and Power Engineering, Chongqing University, China

**Feng Wang -** School of Energy and Power Engineering, Chongqing University, China

**Shang Geng -** School of Energy and Power Engineering, Chongqing University, China

**Xiuqin Zhang -** School of Energy and Power Engineering, Chongqing University, China

**Zhaolei Zheng -** School of Energy and Power Engineering, Chongqing University, China

**Hong Gao -** School of Energy and Power Engineering, Chongqing University, China

Jun Liu - Chongqing Changan Automobile Co., Ltd. New Energy Research Institute, China

.....

## RESEARCH ON FAULT CHARACTERISTIC PARAMETER EXTRACTION AND STATE EVALUATION METHOD OF SWITCHING POWER SUPPLY IN NUCLEAR POWER PLANT

Technical Paper Publication: ICONE32-1343

Tao Zhang - Suzhou Nuclear Power Research Institute
Nan Lin - Suzhou Nuclear Power Research Institute
Tang Tang - Suzhou Nuclear Power Research Institute
Qiang Wang - Suzhou Nuclear Power Research Institute
Binfeng Wang - Suzhou Nuclear Power Research Institute
Haiyang Yu - Suzhou Nuclear Power Research Institute
Hong Ying - Suzhou Nuclear Power Research Institute
Jie Xu - Suzhou Nuclear Power Research Institute
Yingjie Wang - Suzhou Nuclear Power Research Institute

Research on Uncertainty of Indicating Signals in Nuclear Instrument System of Nuclear Power Plant Technical Paper Publication: ICONE32-1508

**Yuxiang Zhu -** China Nuclear Power Technology Research Institute Co.



**Xianghui Lu -** China Nuclear Power Technology Research Institute Co.

**Changyou Zhao -** China Nuclear Power Technology Research Institute Co.

Xin Wang - China Nuclear Power Technology Research Institute Co.

**Huaijin Xu** - China Nuclear Power Technology Research Institute Co.

**Qingyu Gao -** China Nuclear Power Technology Research Institute Co.

Yan Zhao - China Nuclear Power Technology Research Institute Co.

#### A TEMPORAL TRANSFER LEARNING MODEL WITH ADAPTIVE BATCH NORMALIZATION FOR FAULT DIAGNOSIS OF NUCLEAR POWER PLANTS UNDER MULTIPLE POWER LEVELS

Technical Paper Publication: ICONE32-1736

Wenhao Jia - Harbin University of Science and Technology
Zhanguo Ma - Harbin University of Science and Technology
Long Tian - Harbin University of Science and Technology
Dihao Zheng - Harbin University of Science and Technology
Ziyang Cui - Harbin University of Science and Technology

#### SPATIO-TEMPORAL FEATURE EXTRACTION FOR I&C SYSTEM PROCESS VARIABLES OF NUCLEAR STEAM SUPPLY SYSTEM IN HTR-PM600 BASED ON GCN-LSTM MODEL

Technical Paper Publication: ICONE32-1803

**Zijian Wu** - Institute of Nuclear and New Energy Technology, Tsinghua University, China

**Tianhao Zhang -** Institute of Nuclear and New Energy Technology, Tsinghua University, China

Jianghai Li - Institute of Nuclear and New Energy Technology, Tsinghua University, China

Xiaojin Huang - Institute of Nuclear and New Energy Technology, Tsinghua University, China

Track 3-8 Application of Digital and Intelligent Technology

10:30 am – 12:00 pm, C-108B

Session Chair:

Session Co-Chair:

Research on the Automatic Identification Method of Maintenance Isolation Boundaries for the Equipment of NPPs

Technical Paper Publication: ICONE32-0225

**Zhang Xiuchun -** Suzhou Nuclear Power Research Institute Co.,Ltd.

Kong Kaihe - China Nuclear Power Engineering Company, LTD.
Ma Rui - Suzhou Nuclear Power Research Institute Co.,Ltd.
Liu Zhiyun - China Nuclear Power Engineering Company, LTD.
Liu Jie - Suzhou Nuclear Power Research Institute Co.,Ltd.
Sun Chen - China Nuclear Power Engineering Company, LTD.
Xue Feng - Suzhou Nuclear Power Research Institute Co.,Ltd.

Zhang Jie - Suzhou Nuclear Power Research Institute Co., Ltd.

**Wu Zhenhua -** Suzhou Nuclear Power Research Institute Co.,Ltd.

**Sun Xuefeng -** Suzhou Nuclear Power Research Institute Co.,Ltd.

**Guo Dongyuan -** Suzhou Nuclear Power Research Institute Co.,Ltd.

Research on the Function of Digital Procedure System for Pressurized Water Reactor Nuclear Power Plants Technical Paper Publication: ICONE32-0226

Technical Paper Publication. ICONE52-0220

Jiahao Liu - China Nuclear Power Engineering Co.,Ltd. Ao Li - China Nuclear Power Engineering Co.,Ltd.

.....

Intelligent Screening and Grading Algorithm for Nuclear Power Experience Feedback Based on the Knowledge-Enhanced Pre-Trained Language Model

Technical Paper Publication: ICONE32-0266

CHENXI XU - China Nuclear Power Design Co., Ltd PENG WANG - China Nuclear Power Design Co., Ltd SITAI YAN - China Nuclear Power Design Co., Ltd YUNFU WANG - China Nuclear Power Design Co., Ltd HEMIN LIU - China Nuclear Power Design Co., Ltd

-80-



Research on Intelligent Calibration Methods for Ionizing Radiation Instruments Based on Artificial Intelligence and Digital Technologies

Technical Paper Publication: ICONE32-1170

shasha Yu - Suzhou Nuclear Power Research InstituteYang Wang - Suzhou Nuclear Power Research InstituteXu Liu - Suzhou Nuclear Power Research Institute

Heterogeneous sensing to defend the I&C monitoring function against feedback tampering based on deep learning

Technical Paper Publication: ICONE32-1756

Jianghai Li - Tsinghua University

Tianhao Zhang - Tsinghua University

Boyuan Li - Tsinghua University

Si Yao - Tsinghua University

Xiaojin Huang - Tsinghua University

.....

Research on the Application of Digital Simulation Construction in Nuclear Power Plant

Technical Paper Publication: ICONE32-2032

Zhao Danfeng - China Nuclear Power Engineering Co.,Ltd.
Du Guang - China Nuclear Power Engineering Co.,Ltd.
Zhang Nianzhe - China Nuclear Power Engineering Co.,Ltd.
Li Daping - China Nuclear Power Engineering Co.,Ltd.

Track 4-5 Micro Reactor (II)

10:30 am - 12:00 pm, C-109A

#### Session Chair:

Session Co-Chair:

# SIMULATION OF PROCESSES IN NATURAL CIRCULATION FOR SMALL MODULAR REACTOR

Technical Paper Publication: ICONE32-1422

Minglian Liao - Huaneng Xiapu Nuclear Power CO LTD Shengli Cai - Huaneng Xiapu Nuclear Power CO LTD Neutron-physical and Safety-related Core Design Optimization of a Soluble-boron-free Small Modular Reactor

Technical Paper Publication: ICONE32-1423

Yi Song - Karlsruhe Institute of Technology

Victor Hugo Sanchez Espinoza - Karlsruhe Institute of Technology

Analysis of Mitigation System Activation Time Intervals for Severe Accidents in Small Modular Reactors and Recommendations for Accident Management

Technical Paper Publication: ICONE32-1616

Chunrong Liu - China nuclear power technology research institute Ruitao Li - China nuclear power technology research institute Zijie Wu - China nuclear power technology research institute

Modeling and simulation of nitrogen pressurizer pressure

Technical Paper Publication: ICONE32-1656

JIASHU LI - Shanghai Jiao Tong University

system in SMR

MENG LIN - Shanghai Jiao Tong University

JINYUAN ZENG - China Nuclear Power Technology Research Institute Co., Ltd

**KAI WANG -** China Nuclear Power Technology Research Institute Co., Ltd

JUNYI LIN - Shanghai Nuclear Reactor Engineering Simulation Technology Co., Ltd

ANALYSIS OF A SMALL REACTOR WITH FULL-CORE DETAILED NEUTRONIC-THERMAL-HYDRAULIC COUPLING MODEL

Technical Paper Publication: ICONE32-1820

**Mingtao He -** China Nuclear Power Technology Research Institute Co. Ltd.

Xinxin Wang - China Nuclear Power Technology Research Institute Co. Ltd.

**Rong Duan -** China Nuclear Power Technology Research Institute Co. Ltd.

**Changyou Zhao -** China Nuclear Power Technology Research Institute Co. Ltd.

-81-



## INVESTIGATION OF SOLAR PHOTOVOLTAIC INTEGRATION WITH SMALL MODULAR NUCLEAR REACTORS

Technical Paper Publication: ICONE32-2089

HaiWang Yan - Huaneng Hainan ChangJiang Nuclear Power co.,Ltd

Du Wang - Shanghai University of Electric Power

## GENETIC ALGORITHM LAYOUT OPTIMISATION FOR SMALL MODULAR REACTORS BALANCE OF PLANT

.....

Technical Paper Publication: ICONE32-2169

Paul Wrigley - Derby University Paul wood - Derby University Richard Hall - Derby University Jason Joannou - UKAEA Sam O'Neil - Derby University Dan Robertson - Rolls-Royce SMR

**Track 4-6 Gas Cooling SMR** 

10:30 am - 12:00 pm, C-109B

#### Session Chair:

Session Co-Chair:

Enhanced Numerical Methods for Fission Product Diffusion Modeling in Spherical Fuel Elements of Pebble-Bed HTGR

Technical Paper Publication: ICONE32-0583

CAO Chenghao - Tsinghua University

SHEN Shaoning - Tsinghua University

LIANG Jinhang - Tsinghua University

LI Chuan - Tsinghua University

CAO Jianzhu - Tsinghua University

## TRANSIENT THERMODYNAMIC PERFORMANCE ANALYSIS OF STIRLING ENGINE INTEGRATED SPACE GAS-COOLED NUCLEAR REACTOR

Technical Paper Publication: ICONE32-1225

-82-

Tao Zhou - Harbin Engineering University
Yuandong Zhang - Harbin Engineering University
Genglei Xia - Harbin Engineering University
Guanghui Jiao - Harbin Engineering University
Yifan Xu - Harbin Engineering University

Research on Cost Influencing Factors and Investment Control of High Temperature Gas-Cooled Reactor Technical Paper Publication: ICONE32-1310

Bin Zhang - Huaneng Nuclear Energy Technology Research Inst.
Na An - Huaneng Nuclear Energy Technology Research Inst.
Wenxiao Chen - Huaneng Nuclear Energy Technology Research Inst.
Jianli Huang - Huaneng Nuclear Energy Technology Research Inst.

# RESEARCH ON THE DRAG COEFFICIENTS FOR AN IN-LINE ARRAY OF THREE SPHERICAL FUEL ELEMENTS IN HTGR VERTICAL PIPES

Technical Paper Publication: ICONE32-1339

Lei He - Institute of Nuclear and New Energy Technology, Key Laboratory of Advanced Reactor Engineering and Safety of Ministry of Education, Tsinghua University, China

Junfeng Nie - Institute of Nuclear and New Energy Technology, Key Laboratory of Advanced Reactor Engineering and Safety of Ministry of Education, Tsinghua University, China

Wendong Cui - Institute of Nuclear and New Energy Technology, Key Laboratory of Advanced Reactor Engineering and Safety of Ministry of Education, Tsinghua University, China Junyu Chen - Institute of Nuclear and New Energy Technology, Key Laboratory of Advanced Reactor Engineering and Safety of Ministry of Education, Tsinghua University, China

**Pandong Lin** - Ministry of Education, Key Laboratory for Liquid-Solid Structural Evolution and Processing of Materials, School of Materials Science and Engineering, Shandong University, China

DESIGN AND HEAT TRANSFER CHARACTERISTICS ANALYSIS OF THE MAIN PIPELINE OF AIR-COOLED MICROREACTORS

.....

Technical Paper Publication: ICONE32-1451



Chenhui Wang - China Nuclear Power Engineering Co., Ltd. Huicui Chen - China Nuclear Power Engineering Co., Ltd. Ran Zhang - China Nuclear Power Engineering Co., Ltd. Production of Medical Isotope 1311 by Irradiation in HTR-PM Technical Paper Publication: ICONE32-1680

Linyun Liu - Huaneng Nuclear Energy Technology Research Institute Co., Ltd..

**Yong Luo** - Huaneng Nuclear Energy Technology Research Institute Co., Ltd.

Hongyang Wei - School of Nuclear Science and Technology, Harbin Engineering University

.....

Track 16-4 Radioactive Material Transport and Safety Analysis

10:30 am – 12 pm, C-112

#### Session Chair:

Session Co-Chair:

Modelling of alpha spectra - application to Continuous Air Monitors (CAMs)

Technical Paper Publication: ICONE32-0299

Mohamed Dahi M'Hayham - Autorité de sûreté nucléaire et de radioprotection (ASNR), PSN-RES/SCA/LPMA1Autorité de sûreté nucléaire et de radioprotection (ASNR), PSN-RES/SCA/ LPMA

**Grégoire Dougniaux** - Autorité de sûreté nucléaire et de radioprotection (ASNR), PSN-RES/SCA/LPMA1Autorité de sûreté nucléaire et de radioprotection (ASNR), PSN-RES/SCA/LPMA

**Benoît Sabot -** Université Paris-Saclay, CEA, List, Laboratoire National Henri Becquerel (LNE-LNHB)

Xavier Mougeot - Université Paris-Saclay, CEA, List, Laboratoire National Henri Becquerel (LNE-LNHB)

.....

Evaluation of Bayesian source reconstruction methods for atmospheric radionuclide releases: likelihood comparison and selection criterion design

Technical Paper Publication: ICONE32-0643

Yuhan Xu - Tsinghua University

Xinwen Dong - Tsinghua University Hao Hu - Tsinghua University Haoyuan Luo - Tsinghua University Sheng Fang - Tsinghua University

CONSEQUENCE ANALYSIS IN THE CASE OF A SEVERE ACCIDENT IN BARAKAH NUCLEAR POWER PLANT Evaluation of Atmospheric Dispersion of Radioactive Materials and Exposure Doses during Severe Accident Using HYSPLIT

Technical Paper Publication: ICONE32-0728

Abdulla Bin Tamim - Tokai University Takaaki Sakai - Tokai University

.....

#### PRELIMINARY EXPERIMENTAL STUDY ON GASEOUS IODINE MIGRATION AND CHEMICAL TRANSFORMATIONS IN CONTAINMENT

Technical Paper Publication: ICONE32-0838

Jiaxuan Tang - Key Laboratory of Low-grade Energy Utilization Technologies and Systems, Ministry of Education, Chongqing University

Jialong Li - Key Laboratory of Low-grade Energy Utilization Technologies and Systems, Ministry of Education, Chongqing University

Luteng Zhang - Key Laboratory of Low-grade Energy Utilization Technologies and Systems, Ministry of Education, Chongqing University

Yang Yang - Key Laboratory of Low-grade Energy Utilization Technologies and Systems, Ministry of Education, Chongqing University

Liangming Pan - Key Laboratory of Low-grade Energy Utilization Technologies and Systems, Ministry of Education, Chongqing University

.....

Numerical Simulation of Radionuclide Transport Behavior in Hangzhou Bay

Technical Paper Publication: ICONE32-1609

Zhengzhe Qu - Tsinghua University Feng Xie - Tsinghua University

-83-



Yongye Liu - Nuclear and Radiation Safety Center, MEE, China Ping Wang - Nuclear and Radiation Safety Center, MEE, China Xinhua Liu - Nuclear and Radiation Safety Center, MEE, China

#### NUMERICAL STUDY OF AEROSOL DEPOSITION IN MICRO-CHANNEL BASED ON OPENFOAM

Technical Paper Publication: ICONE32-2029

Qinrui Zhang - Xi'an Jiaotong University Nuo Chen - Xi'an Jiaotong University Shiqi Wang - Xi'an Jiaotong University Mingjun Wang - Xi'an Jiaotong University Wenxi Tian - Xi'an Jiaotong University Suizheng Qiu - Xi'an Jiaotong University Guanghui Su - Xi'an Jiaotong University

Track10-2 Research on materials of nuclear power plants

#### 10:30 am - 12:00 pm, C-113

Session Chair:

Session Co-Chair:

#### ADVANCED MANUFACTURING METHOD TO PROLONG LIFE OF DISSIMILAR METAL WELDED COMPONENTS: OPTIMIZED FE/NI INTERFACE FORM

Technical Paper Publication: ICONE32-0261

Xiaogang Li - Tsinghua University

Xuelan Yan - Gansu Academy of Sciences, China

Xu Zhang - Beijing Institute of Astronautical Systems Engineering, China

Haiquan Zhang - Tsinghua University

High-precision Backwash Metal Filter Element Design and Application in NPPs

.....

Technical Paper Publication: ICONE32-0297

Yuteng Liu - Hualong Nuclear Power Technology Co., Ltd Shengyong Li - AT&M Environmental Engineering Technology Co., Ltd., China

Wei Shang - Hualong Nuclear Power Technology Co., LtdZhongquan Hu - Hualong Nuclear Power Technology Co., Ltd

Lifeng Zhang - AT&M Environmental Engineering Technology Co., Ltd., China Yanwei Cao - AT&M Environmental Engineering Technology Co., Ltd., China Xiaobo Wu - Hualong Nuclear Power Technology Co., Ltd ..... **CORROSION BEHAVIOR OF TYPICAL AUSTENITIC** ALLOYS IN SUPERCRITICAL CARBON DIOXIDE Technical Paper Publication: ICONE32-0694 Zhu Liu - HUANENG Nuclear Energy Technology Research Institute Wei Liu - HUANENG Nuclear Energy Technology Research Institute Jin Shi - HUANENG Nuclear Energy Technology Research Institute Xianglong Guo - Shanghai Jiao Tong University Lefu Zhang - Shanghai Jiao Tong University Analysis of the Microstructure and Properties of UNS N08810 Rod in the Hot Extrusion and Heat Treatment States Technical Paper Publication: ICONE32-0719 Hao Dong - China Nuclear Power Engineering Anzhou Qi - China Nuclear Power Engineering Guoming Liu - China Nuclear Power Engineering Xiaochuan Jiang - China Nuclear Power Engineering Liying Zhang - China Nuclear Power Engineering Teng Shen - China Nuclear Power Engineering Jingyu Guan - China Nuclear Power Engineering ..... Corrosion behaviour of Ni-based alloys in high temperature liquid sodium Technical Paper Publication: ICONE32-1059

Hongchen Xiang - Chongqing University

Zhengang Duan - Chongqing University

Chunsong Liu - Chongqing University Qinglong Wen - Chongqing University

Qiang Li - China Institute of Atomic Energy

ne 32<sup>nd</sup> International Conference on Nuclear Engineering

Stress-strain analysis of welding seam in modular construction of Hua-long Pressurized Reactor steel lining Technical Paper Publication: ICONE32-1154

Yang Liu - Huaneng Shandong ShidaoBay Nuclear Power Co., Ltd Lingyun Bi - Huaneng Shandong ShidaoBay Nuclear Power Co., Ltd

Hudong Liu - Huaneng Shandong ShidaoBay Nuclear Power Co., Ltd

Research on the 3D Printing of W-Fe Alloy Matrix for Dispersion Nuclear Fuel

Technical Paper Publication: ICONE32-1685

**Shan Feng -** China North Nuclear Fuel Co., Ltd., China; Inner Mongolia University of Technology, China

Ruifeng Liu - Inner Mongolia University of Technology, China Mingyang Li - China North Nuclear Fuel Co., Ltd.; CNNC Key Laboratory of New Materials Research and Application Development

Wei Liu - China North Nuclear Fuel Co., Ltd.; CNNC Key Laboratory of New Materials Research and Application Development

Xiaoping Niu - China North Nuclear Fuel Co., Ltd. ; CNNC Key Laboratory of New Materials Research and Application Development

Hexi Baoyin - Inner Mongolia University of Technology, China

**Track 14-2 Multiphysics Simulation** 

10:30 am - 12:00 pm, C-114

Session Chair:

Session Co-Chair:

## STUDY ON THE PHOTON EFFECT IN BURNUP CALCULATION OF THE FAST BREEDER REACTOR BASED ON THE DETERMINISTIC TWO-STEP METHOD

Technical Paper Publication: ICONE32-0006

Hu Kui - China Nuclear Power Engineering Co., Ltd. Zhang Peng - China Nuclear Power Engineering Co., Ltd.

#### CFD CODE VALIDATION ON NACIE-UP ROD BUNDLE: REVIEW ON NUMERICAL METHODS AND RESULTS

Technical Paper Publication: ICONE32-0029

Haoyang Li - Xi'an Jiaotong University

Dalin Zhang - Xi'an Jiaotong University

Wenxi Tian - Xi'an Jiaotong University

Suizheng Qiu - Xi'an Jiaotong University

.....

Development and application of Neutronics-Thermal Coupling Program in Liquid metal Reactor core

Technical Paper Publication: ICONE32-0565

Haotian Li - China Institute of Atomic Energy
Tianze Li - Nuclear and Radiation Safety Center, MEE, China
Mingyu Wu - China Institute of Atomic Energy
Zongyun Wu - China Institute of Atomic Energy
Weihan Li - China Institute of Atomic Energy

**Development and Verification of a Subchannel Analysis Code Applicable to the Reactor under Motion Conditions** Technical Paper Publication: ICONE32-1149

Dongyu HE - CNPRI Ke WANG - CNPRI Hang XIA - CNPRI

Research on the Grid-Tracking-Based Hybrid Liquid Level Tracking Model

Technical Paper Publication: ICONE32-1173

Mingjie Ma - Shanghai Jiao Tong University Hao Zhang - Shanghai Jiao Tong University

Yanhua Yang - Shanghai Jiao Tong University

## RESEARCH ON DISTRIBUTED COUPLED COMPUTATIONAL METHODS BASED ON THE VITARS PLATFORM

Technical Paper Publication: ICONE32-1521

Qianxi Xiao - Xi'an Jiaotong University Dezhi Wan - Xi'an Jiaotong University



Ronghua Chen - Xi'an Jiaotong University Liqun Zhang - China Nuclear Power Engineering, Co., Ltd Si Ni - China Nuclear Power Engineering, Co., Ltd Wenxi Tian - Xi'an Jiaotong University Suizheng Qiu - Xi'an Jiaotong University

## Track1-6 Advanced Reactors (High-Temperature Reactors, Fast Reactors, New Concept Reactors)II 3:30 pm –5 pm , C-101AB

#### Session Chair:

Session Co-Chair:

Research on Diagnosis Strategy and Method for Gas cooled Microreactor Accidents

Technical Paper Publication: ICONE32-0171

Jiahao Liu - China Nuclear Power Engineering Co.,Ltd. Qian Sun - China Nuclear Power Engineering Co.,Ltd.

.....

## IMPROVEMENT OF FRICTION PAIR IN HTGR REACTIVITY CONTROL DRIVE MECHANISM

Technical Paper Publication: ICONE32-0911

GUANGJIAN CHEN - Huaneng Nuclear Energy Technology Research Institute LING LIU - Tsinghua University

YUCHENG WANG - Tsinghua University

FENG XIE - Tsinghua University

Analysis and Discussion on Gamma Nuclide Radiation in

Primary Circuit and Optimal Control of HTR-PM

Technical Paper Publication: ICONE32-0974

Wenting Jia - Huaneng Shandong Shidaobay Nuclear Power Co., Ltd

Qian Ma - Huaneng Shandong Shidao Bay Nuclear Power Co., Ltd Xi Chen - Huaneng Shandong Shidao Bay Nuclear Power Co., Ltd Shiwei Guo - Huaneng Shandong Shidao Bay Nuclear Power Co., Ltd

Yulin Zhang - Huaneng Shandong Shidao Bay Nuclear Power Co., Ltd Ermo Wang - Huaneng Shandong Shidao Bay Nuclear Power Co., Ltd

**Peng Su** - Huaneng Shandong Shidao Bay Nuclear Power Co., Ltd **Chuang Yuan** - Huaneng Shandong Shidao Bay Nuclear Power Co., Ltd

••••••

Research on Helium Quality Control Technology in the Primary Circuit of High-Temperature Gas-Cooled Reactors

Technical Paper Publication: ICONE32-1139

Zhenjiang Li - Huaneng Nuclear Energy Technology Research Institute

**Guangjian Chen -** Huaneng Nuclear Energy Technology Research Institute

Yingjie Zhu - Huaneng Nuclear Energy Technology Research Institute Lei Ma - Huaneng Nuclear Energy Technology Research Institute

Yijie Yan - Huaneng Nuclear Energy Technology Research Institute Miaomiao Wang - Huaneng Nuclear Energy Technology Research Institute

Chongxi Chang - Huaneng Shandong Shidao Bay Nuclear Power Co.,Ltd

Wenming Yang - Huaneng Shandong Shidao Bay Nuclear Power Co.,Ltd

.....

Research of Multi-parameter Fusion Intelligent Earlywarning Method for HTR-PM Primary Helium Circulator

Technical Paper Publication: ICONE32-1153

Miaomiao Wang - Huaneng Nuclear Energy Technology Research Institute

Yijie Yan - Huaneng Nuclear Energy Technology Research Institute

YUhui Dong - Huaneng Nuclear Energy Technology Research Institute

Jian Wang - Huaneng Nuclear Energy Technology Research Institute

.....

Research on Negative Pressure Lifting Method for Spherical Spent Fuel Elements in High-Temperature Gascooled Reactors

-86-

e 32<sup>nd</sup> International Conference on Nuclear Engineering

Technical Paper Publication: ICONE32-1179

Lei Ma - Huaneng Nuclear Energy Technology Research Institute Qian Zhang - Huaneng Nuclear Energy Technology Research Institute Zhenjiang Li - Huaneng Nuclear Energy Technology Research Institute

Yijie Yan - Huaneng Nuclear Energy Technology Research Institute Yingjie Zhu - Huaneng Nuclear Energy Technology Research Institute

**Guangjian Chen -** Huaneng Nuclear Energy Technology Research Institute

Yifan Wu - Huaneng Nuclear Energy Technology Research Institute Miaomiao Wang - Huaneng Nuclear Energy Technology Research Institute

Tao Wu - Huaneng Shandong Shidao Bay Nuclear Power Co.,Ltd

Track2-6 Reactor Physics and Core Design (I) 3:30 pm –5 pm , C-102

Session Chair:

Session Co-Chair:

#### OPTIMIZATION STUDY AND VALIDATION OF REACHING CRITICALITY OF HPR1000 UNIT

Technical Paper Publication: ICONE32-1611

**Bo LIU -** China Nuclear Power Technology Research Institute Co.,Ltd.

**Dechang CAI -** China Nuclear Power Technology Research Institute Co.,Ltd.

**Xingxing XU -** China Nuclear Power Technology Research Institute Co.,Ltd.

**Yuxiang ZHU -** China Nuclear Power Technology Research Institute Co.,Ltd.

**Changyou ZHAO -** China Nuclear Power Technology Research Institute Co.,Ltd.

**Zhijun LI -** China Nuclear Power Technology Research Institute Co.,Ltd.

.....

Research on the Breeding Characteristics of Uranium-

**Plutonium Fuel in Liquid Metal Fast Reactors** 

Technical Paper Publication: ICONE32-1751

**Changheng Xu** - China Nuclear Power Technology Research Institute Co.,Ltd

Yunliang Lin - China Nuclear Power Technology Research Institute Co.,Ltd

Hui Pan - China Nuclear Power Technology Research Institute Co.,Ltd

Mingtao He - China Nuclear Power Technology Research Institute Co.,Ltd

Changyou Zhao - China Nuclear Power Technology Research Institute Co.,Ltd

Shengze Ma - China Nuclear Power Technology Research Institute Co..Ltd

Lin Ye - China Nuclear Power Technology Research Institute Co.,Ltd

Huaijin Xu - China Nuclear Power Technology Research Institute Co.,Ltd

.....

## A STUDY OF AN IRREGULAR COARSE MESH DIVISION WITH THE METHOD OF CHARACTERISTICS FOR WIDE-SPECTRUM ULTRA-HIGH FLUX EXPERIMENTAL REACTORS

Technical Paper Publication: ICONE32-1778

Zaqing Huang - Harbin Engineering University
Chen Hao - Harbin Engineering University
Wen Yin - Harbin Engineering University
Yizhen Wang - Harbin Engineering University

Ning Xu - Harbin Engineering University

.....

Design Research of Plate Deep Penetration Shielding Benchmark Experiments Based on Cf-252 Neutron Source

Technical Paper Publication: ICONE32-1781

Zi'an Zhai - Nuclear Power Institute of China Songqian Tang - Nuclear Power Institute of China Sifan Liu - Nuclear Power Institute of China Xianglei Wang - Nuclear Power Institute of China



Xingjian Wen - Nuclear Power Institute of China Yirui Wu - Nuclear Power Institute of China

Preliminary Study on the Irradiation Production Characteristics of Cf-252 in a High Flux Reactor

.....

Technical Paper Publication: ICONE32-1789

Boyi Yu - INET, Tsinghua University Jian Li - INET, Tsinghua University Lei Shi - INET, Tsinghua University

#### NEUTRONIC ANALYSIS OF COMPLEX REACTOR CORE BASED ON MONTE CARLO-DETERMINISTIC COUPLING METHOD

Technical Paper Publication: ICONE32-1826

**Xuezhong Li -** China Nuclear Power Technology Research Institute Co. Ltd.

**Mingtao He -** China Nuclear Power Technology Research Institute Co. Ltd.

**Desheng Meng -** China Nuclear Power Technology Research Institute Co. Ltd.

**Changheng Xu** - China Nuclear Power Technology Research Institute Co. Ltd.

**Changyou Zhao -** China Nuclear Power Technology Research Institute Co. Ltd.

.....

Track 7-6 Boiling heat transfer and two-phase flow (I) 3:30 pm –5 pm , C-103

#### Session Chair:

Session Co-Chair:

#### EFFECTS OF GAP WIDTH VARIATION ALONG AXIAL LENGTH ON FRICTION LOSS AND HEAT TRANSFER IN TAYLOR-COUETTE-POISEUILLE FLOW

Technical Paper Publication: ICONE32-1142

**Zhou Yuan** - Institute of Nuclear and New Energy Technology of Tsinghua University

Zhang Qinzhao - Institute of Nuclear and New Energy Technology of Tsinghua University

.....

Study on Flow Heat Transfer and Acoustic Characteristics During Quenching Process

Technical Paper Publication: ICONE32-1227

Dexia Yuan - Beijing University of Chemical Technology
Junquan Zhang - Beijing University of Chemical Technology
Xinkui Fang - Beijing University of Chemical Technology
Yan Luo - Beijing University of Chemical Technology

Experimental study of droplet entrainment characteristics

in boiling liquid pools

Technical Paper Publication: ICONE32-1599

Jiangun Yu - Harbin Engineering University

Haifeng Gu - Harbin Engineering University

Yanmin Zhou - Harbin Engineering University

Xinnuo E - Harbin Engineering University

Jawaria Ahad - Pakistan Institute of Engineering & Applied Sciences (PIEAS)

••••••

STUDY ON DIFFERENCE OF POOL BOILING HEAT TRANSFER PERFORMANCE BETWEEN CHROMIUM-COATED ZIRCONIUM ALLOY CLADDING AND ZIRCONIUM ALLOY CLADDING AT ATMOSPHERIC PRESSURE

Technical Paper Publication: ICONE32-1623

Yalun YAN - China Nuclear Power Technology Research Institute Deying ZHANG - China Nuclear Power Technology Research Institute Haotian WANG - China Nuclear Power Technology Research Institute Jie YE - China Nuclear Power Technology Research Institute Xuefeng FU - China Nuclear Power Technology Research Institute Zhenxun PENG - China Nuclear Power Technology Research Institute

Semi-empirical Model for Predicting Void Fraction of Dispersed Air-Water Flow in Vertical Upward Tubes Based on the Principle of Minimum Entropy Generation

Technical Paper Publication: ICONE32-1785

-88-



Hao Liu - Chongqing University
Zaiyong Ma - Chongqing University
Luteng Zhang - Chongqing University
Kang Li - Chongqing University
Qiang Lian - Chongqing University
Zhiwen Peng - Chongqing University
Liangming Pan - Chongqing University

Peclet Number Effect on Net Vapor Generation in Subcooled Flow Boiling Technical Paper Publication: ICONE32-2225

Tomio Okawa - The University of Electro-Communications Track 8-6 Thermal-Hydraulics and Reactor Safety 3:30 pm –5 pm , C-104A

#### Session Chair:

Session Co-Chair:

Study on Characteristic of Cold Trap and Boron Concentration Distribution in Passive Core Makeup System

Technical Paper Publication: ICONE32-0422

Yafu Gao - State Key Laboratory of Nuclear Power Safety Monitoring Technology and Equipment, China; China Nuclear Power Design Company, China

**Chende Xu** - State Key Laboratory of Nuclear Power Safety Monitoring Technology and Equipment, China; China Nuclear Power Design Company, China

Hui Qian - State Key Laboratory of Nuclear Power Safety Monitoring Technology and Equipment, China; China Nuclear Power Design Company, China

.....

## NUMERICAL SIMULATION OF NATURAL CIRCULATION FLOW STABILITY IN SMALL REACTOR

Technical Paper Publication: ICONE32-0500

Ting Wei - General Clean Energy Co. Ltd.

Zhidong Yue - General Clean Energy Co. Ltd.

#### DESIGN OPTIMIZATION AND NUMERICAL SIMULATION OF VENTILATION SYSTEM FOR THE MAIN STEAM ISOLATION VALVE ROOM IN HPR1000 NUCLEAR POWER STATION

Technical Paper Publication: ICONE32-1033

Jinquan Han - China Nuclear Power Engineering Co., Ltd. Bei Hu - China Nuclear Power Engineering Co., Ltd.

Experimental Study and Numerical Simulation of a Small Reactor Passive Containment Air Cooling System Technical Paper Publication: ICONE32-1259

Shengsheng LIN - China Nuclear Power Engineering Co.,Ltd
Xuhao ZHANG - China Nuclear Power Engineering Co.,Ltd
Jing SUN - China Nuclear Power Engineering Co.,Ltd
Yuan CHANG - China Nuclear Power Engineering Co.,Ltd
Dongliang LI - China Nuclear Power Engineering Co.,Ltd

## LARGE EDDY SIMULATION OF HEAT TRANSFER IN LOW-PRANDTL-NUMBER FLUID: SOME PRELIMINARY INVESTIGATIONS

Technical Paper Publication: ICONE32-1566

Jie Wu - South China University of Technology Jiejin Cai - South China University of Technology Yanping Huang - Nuclear Power Institute of China

# ANALYSIS OF THE FLOW DISTRIBUTION IN THE REACTOR PRESSURE VESSEL OF CPR1000 UNDER ASYMMETRICAL REACTOR INLET CONDITIONS

Technical Paper Publication: ICONE32-1827

Xin Wang - China Nuclear Power Technology Research Institute Chaohao Shang - China Nuclear Power Technology Research Institute

Jie Ye - China Nuclear Power Technology Research Institute Yingjie Feng - China Nuclear Power Technology Research Institute Xianmin Dong - China Nuclear Power Technology Research Institute Track 9-6 Decontamination And Analysis

3:30 pm -5 pm , C-104B

Session Chair:



#### Session Co-Chair:

Research on gamma scanning iterative reconstruction method based on Tikhonov regularization method Technical Paper Publication: ICONE32-0899

Hao Zhou - CGN Research Institute Co.,Ltd. Chenyu Shan - CGN Research Institute Co.,Ltd.

Qingxin Lei - CGN Research Institute Co.,Ltd.

Kang Chang - CGN Research Institute Co., Ltd.

Feng Liu - CGN Research Institute Co.,Ltd.

Xiajie Liu - CGN Research Institute Co., Ltd.

Chaoyuan Xiao - CGN Research Institute Co., Ltd.

Yizhi Chen - CGN Research Institute Co.,Ltd.

.....

Experimental Study and Analysis of Wear Properties of Graphite Balls Used in HTR-PM at Different Temperatures

Technical Paper Publication: ICONE32-1198

Hu Xiaomuzi - China Institute of Atomic Energy

Wang Xiujuan -China Huaneng ShanDong ShiDao Bay Nuclear Power co.,ltd.

Zhang Haochun - Harbin Institute of Technology, China

**Cao Jian -** China Huaneng ShanDong ShiDao Bay Nuclear Power co.,ltd.

.....

Research on the Cascade extraction and liquid scintillation Analysis of uranium and plutonium in aerosol samples

Technical Paper Publication: ICONE32-1471

Qimeng Fan - Xi'an Research Institute of Hi-tec, China Hanlin Li - Xi'an Research Institute of Hi-tec, China Chen Xie - Xi'an Research Institute of Hi-tec, China Kuo Zhao - Xi'an Research Institute of Hi-tec, China Xianchao Jiang - Xi'an Research Institute of Hi-tec, China

## DESIGN AND PROCESS RESEARCH OF IN-SITU RADIOACTIVE DECONTAMINATION EQUIPMENT FOR LARGE-SCALE COMPONENTS BASE ON CAVITATION JET TECHNOLOGY

Technical Paper Publication: ICONE32-1586

JIAWEN LI - China Nuclear Power Technology Research Institute Co., Ltd

**DANFENG JIANG** - China Nuclear Power Technology Research Institute Co., Ltd

YUFEI GAO - China Nuclear Power Technology Research Institute Co., Ltd

JIE ZHAN - China Nuclear Power Technology Research Institute Co., Ltd

**FENG LIU** - China Nuclear Power Technology Research Institute Co., Ltd

**XUEFEI LI -** China Nuclear Power Technology Research Institute Co., Ltd

**XINGDONG SU -** China Nuclear Power Technology Research Institute Co., Ltd

CAILUN WANG - China Nuclear Power Technology Research Institute Co., Ltd

LIYUAN YAN - China Nuclear Power Technology Research Institute Co., Ltd

.....

Pulse Shape Discrimination Anti-coincidence Method Using BGO Crystal in Liquid Scintillation Counting

Technical Paper Publication: ICONE32-1621

Husheng Wang - Wuhan Second Ship Design and Research Institute, China

Liangzhou Zuo - Wuhan Second Ship Design and Research Institute, China

Yangyang Yan - Wuhan Second Ship Design and Research Institute, China

Hao Jiang - Wuhan Second Ship Design and Research Institute, China

Wenjie Qiu - Wuhan Second Ship Design and Research Institute, China

Xingyu Liu - Wuhan Second Ship Design and Research Institute, China

Research on decontamination test of radioactive metal

items based on ultrasound and electrochemistry Technical Paper Publication: ICONE32-1698

Chen Xisan - NPIC



Liu Jinlong - NPIC Sun Zhijun - NPIC Teng Lei - NPIC Zhang Yongling - NPIC

Track1-15 Equipment Reliability and Failure Analysis (Conceptual Analysis ) II

3:30 pm -5 pm , C-105A

Session Chair:

Session Co-Chair:

DEVELOPMENT OF THE HITACHI ADVANCED PLANT PERFORMANCE DIAGNOSIS SYSTEM FOR NUCLEAR POWER PLANT PERFORMANCE MONITORING: INSTRUMENT AND EQUIPMENT DETERIORATION EVALUATION FOR PLANT OUTPUT MAXIMIZATION

Technical Paper Publication: ICONE32-0096

Yuki Hidaka - Hitachi-GE Nuclear Energy Ltd Akinori Tamura - Hitachi Ltd. Nobuyuki Shinohara - Hitachi-GE Nuclear Energy Ltd. Kenji Sasaki - Hitachi-GE Nuclear Energy Ltd.

Norikazu Hamaura - Hitachi-GE Nuclear Energy Ltd.

Vibration diagnosis and analysis of guide bearing fault

of large vertical pump for Nuclear Power Unit vertical pump unit

Technical Paper Publication: ICONE32-0254

Mingli Liu - Shandong Nuclear Power Co.Ltd Huiren Zhang - Shandong Nuclear Power Co.Ltd Hao Wang - Shandong Nuclear Power Co.Ltd Chuandong Li - Shandong Nuclear Power Co.Ltd

.....

## RESEARCH ON LONG TERM OPERATION STATUS EVALUATION TECHNOLOGY OF EIECTRICAL PENERTRATING COMPONENTS IN NUCLEAR POWER PLANTS

Technical Paper Publication: ICONE32-1061

Binfeng Wang - Suzhou Nuclear Power Research Institute

Tao Zhang - Suzhou Nuclear Power Research Institute
Hong Ying - Suzhou Nuclear Power Research Institute
Tang Tang - Suzhou Nuclear Power Research Institute
Nan Lin - Suzhou Nuclear Power Research Institute
Tianyu Hui - Suzhou Nuclear Power Research Institute
Yingjie Wang - Suzhou Nuclear Power Research Institute

## RESEARCH ON THE AGING AND REMAINING LIFE ASSESSMENT OF RELAYS IN NUCLEAR POWER PLANTS

Technical Paper Publication: ICONE32-1340

Xu Liu - Suzhou Nuclear Power Research Institute
Nan Lin - Suzhou Nuclear Power Research Institute
Tao Zhang - Suzhou Nuclear Power Research Institute
Shasha Yu - Suzhou Nuclear Power Research Institute
Ming Xia - Suzhou Nuclear Power Research Institute
Yazhou Gan - Suzhou Nuclear Power Research Institute
Qinghe Zheng - Suzhou Nuclear Power Research Institute
Qiang Wang - Suzhou Nuclear Power Research Institute

**Research on Equipment Reliability Classification Technology for High-Temperature Gas-Cooled Reactors** Technical Paper Publication: ICONE32-1433

Junxiu Lv - Chinergy Co.Ltd

Dingqiang li - Chinergy Co.Ltd

Research on Improvement in Reliability of Charging Pump Couplings in Nuclear Power Plants

Technical Paper Publication: ICONE32-1578

**Guodong Li** - Suzhou Nuclear Power Research Institue Co.,Ltd. **Qingqing Wang** - Suzhou Nuclear Power Research Institue Co.,Ltd.

**Shuangfei wang -** Suzhou Nuclear Power Research Institue Co.,Ltd.

.....

# OVERVIEW OF OECD/NEA METAL SUBGROUP ACTIVITIES IN SUPPORTING LIFE EXTENSION

Technical Paper Publication: ICONE32-2162

Keiko Chitose - Nuclear Energy Agency



## Track2-15 Nuclear Fuel and Claddings (IV) 3:30 pm –5 pm , C-105B

#### Session Chair:

Session Co-Chair:

Uncertainty quantification of corrosion model for zirconium alloy cladding based on artificial intelligence Technical Paper Publication: ICONE32-0135

Tao Zhang - State Key Laboratory of Advanced Nuclear Energy Technology, Nuclear Power Institute of China
Yongjun Jiao - State Key Laboratory of Advanced Nuclear Energy Technology, Nuclear Power Institute of China
Zhenhai Liu - State Key Laboratory of Advanced Nuclear
Energy Technology, Nuclear Power Institute of China
Shuo Xing - State Key Laboratory of Advanced Nuclear Energy
Technology, Nuclear Power Institute of China
Haoyu Wang - State Key Laboratory of Advanced Nuclear
Energy Technology, Nuclear Power Institute of China
Zangping Pu - State Key Laboratory of Advanced Nuclear
Energy Technology, Nuclear Power Institute of China
Zengping Li - State Key Laboratory of Advanced Nuclear
Energy Technology, Nuclear Power Institute of China
Yuanming Li - State Key Laboratory of Advanced Nuclear
Energy Technology, Nuclear Power Institute of China

Preliminary study on X-ray digital radiography detection of nuclear rod-shaped fuel elements

Technical Paper Publication: ICONE32-0215

Xiaoliang Yang - Nuclear Power Institute of China Xuequan Wang - Nuclear Power Institute of China Ji Li - Nuclear Power Institute of China Zhe Pan - Nuclear Power Institute of China Jiandong Luo - Nuclear Power Institute of China

**Research on Crud Deposition of Zr-4 and N36 Zirconium Alloys in Simulated PWR Primary Water Chemistry** Technical Paper Publication: ICONE32-0432

**Guoqing Li** - Nuclear Power Institute of China **Mingyang Zhou** - Nuclear Power Institute of China **Xi Qiu** - Nuclear Power Institute of China Jiamei Wang - Shanghai Jiaotong University Fawen Zhu - Nuclear Power Institute of China Zengping Pu - Nuclear Power Institute of China

The analysis of the characteristic of Control Rod Burnup Based on RMC in Fast Reactor

.....

Technical Paper Publication: ICONE32-0882

Tianya Li - Nuclear Power Institute of China Lianjie Wang - Nuclear Power Institute of China Bangyang Xia - Nuclear Power Institute of China Rui Guo - Nuclear Power Institute of China Qing Li - Nuclear Power Institute of China

Irradiation Effects on the Radial and Axial Chemical Composition of Ag-In-Gd Control Rods

\_\_\_\_\_

Technical Paper Publication: ICONE32-0956

Yuanyu Dong - China Nuclear Power Engineering Co., Ltd, China
Lidong Zhang - China Nuclear Power Engineering Co., Ltd, China
Cang Ma - China Nuclear Power Engineering Co., Ltd, China
Zhengfa Liao - China Nuclear Power Engineering Co., Ltd, China

.....

NUMERICAL INVESTIGATION OF EQUIVALENT THERMAL CONDUCTIVITY IN METAL-INSERTED UO2 FUEL ELEMENTS

Technical Paper Publication: ICONE32-1171

Yiwei ZHANG - China Institute of Atomic Energy Junhui DIAO - China Institute of Atomic Energy Qi WU - China Institute of Atomic Energy Yuanfang ZOU - China Institute of Atomic Energy

Track 8-15 Advanced Reactor (II)

3:30 pm -5 pm , C-106A

Session Chair:

Session Co-Chair:

FLUID MALDISTRIBUTION THROUGH CANTILEVER STICK BUNDLE AT LOW AND HIGH REYNOLDS NUMBERS: A SIMULATION STUDY



Technical Paper Publication: ICONE32-0234

M. Irfan Khalid - Harbin Engineering University
 Gao Puzhen - Harbin Engineering University
 Abid Hussain - Harbin Engineering University
 Ashhar Bilal - Harbin Engineering University

#### NUMERICAL STUDY OF OXYGEN CONCENTRATION CONTROL AND OXYGEN TRANSPORT CHARACTERISTICS OF LIQUID LEAD-BISMUTH

Technical Paper Publication: ICONE32-0633

Jinyu Yue - China Nuclear Power Technology Research Institute Xian Zeng - China Nuclear Power Technology Research Institute Chen Hu - China Nuclear Power Technology Research Institute Zhonghui Liao - China Nuclear Power Technology Research Institute

Numerical analysis on heat transfer of convective LBE flow around a hemi-spherical window of spallation target Technical Paper Publication: ICONE32-1100

Xiaolin Chen - Institute of Modern Physics Chinese Academy of Sciences

Weiping Deng - Institute of Modern Physics Chinese Academy of Sciences

Tao Wan - Institute of Modern Physics Chinese Academy of Sciences

.....

#### NUMERICAL SIMULATION OF GAS COOLING PERFORMANCE OF HIGH-FREQUENCY PRESSURE SENSOR IN HIGH-TEMPERATURE MOLTEN LBE

Technical Paper Publication: ICONE32-1469

Hua Pang - China Nuclear Power Technology Research Institute Feng Mao - China Nuclear Power Technology Research Institute Peng Sun - China Nuclear Power Technology Research Institute Lei Zhang - China Nuclear Power Technology Research Institute Xiangyu Yun - China Nuclear Power Technology Research Institute

Huiyong Zhang - China Nuclear Power Technology Research

#### Institute

Shishun	Zhang	-	China	Nuclear	Power	Technology	Research
Institute							

Advanced mixing analysis in boiling water reactors: A comprehensive CFD study

Technical Paper Publication: ICONE32-2223

Chao Wang - Framatome

Evaluation of gas entrainment flow rate by circulating annular flow model

Technical Paper Publication: ICONE32-2227

Kei Ito - Kyoto University

Naoya Odaira - Kyoto University

Daisuke Ito - Kyoto University

Yasushi Saito - Kyoto University

Kentarou Matsushita - Japan Atomic Energy Agency

Toshiki Ezure - Japan Atomic Energy Agency

Masaaki Tanaka - Japan Atomic Energy Agency

Track 7-15 Fuel thermal-hydraulics (I)

3:30 pm –5 pm , C-106B

Session Chair:

Session Co-Chair:

Study on influence of PWR fuel assembly bow on DNBR at fuel assembly edge

Technical Paper Publication: ICONE32-1077

Bin Qiu - China Nuclear Power Technology Research Institute Fang Chen - China Nuclear Power Technology Research Institute Hanhong Zhao - China Nuclear Power Technology Research Institute Yiran Liu - China Nuclear Power Technology Research Institute

An Experimental Research of Mixing Coefficient of a PWR Fuel Assembly

Technical Paper Publication: ICONE32-1446

Minghui Duan - China Institute of Atomic Energy Minfu Zhao - China Institute of Atomic Energy

-93-



Xiaoyang Zhang - China Institute of Atomic Energy
Bin Yang - China Institute of Atomic Energy
Junhan Wei - China Institute of Atomic Energy
Dongxu Zhang - China Institute of Atomic Energy
Yongwang Xu - China Institute of Atomic Energy
Qingyuan Li - China Institute of Atomic Energy

Study on the Two-Dimensional Heat Conduction Characteristics of Plate-Type ATF Fuel under Different Bubbling Modes

Technical Paper Publication: ICONE32-1647

Chengrui Zhang - North China Electric Power University Juan Chen - North China Electric Power University Xinkun Song - North China Electric Power University Huichen Yu - North China Electric Power University

Research on the Thermal-Hydraulic Characteristics of High-Temperature Gas-cooled Prismatic Graphite Components

Technical Paper Publication: ICONE32-1650

Yanfang Xue - China Nuclear Power Engineering Co.,Ltd Zheng Huang - China Nuclear Power Engineering Co.,Ltd Yanyun Sun - China Nuclear Power Engineering Co.,Ltd Dingsheng Wang - China Nuclear Power Engineering Co.,Ltd Jun Fang - China Nuclear Power Engineering Co.,Ltd Shuoting Zhang - China Nuclear Power Engineering Co.,Ltd Guoming Liu - China Nuclear Power Engineering Co.,Ltd Qiaoyan Cheng - China Nuclear Power Engineering Co.,Ltd Lanyu Zhou - China Nuclear Power Engineering Co.,Ltd

#### ANALYSIS OF TEMPERATURE CONTROL IN SPENT FUEL STORAGE TANKS WITH VENTILATION AND NATURAL CONVECTION

Technical Paper Publication: ICONE32-1833

**Cong Xu** - China Nuclear Power Engineering Co., LTD **Si Peng** - China Nuclear Power Engineering Co., LTD **Li Wan** - Institute of Nuclear and New Energy Technology, Tsinghua University

Shunyang Li - Institute of Nuclear and New Energy Technology,

Tsinghua University

## EFFECT OF SNB ON CRUD DEPOSITION AND BORON PRECIPITATION ON FUEL CLADDING SURFACE

.....

Technical Paper Publication: ICONE32-2011

Desheng Jin - CNPRI Jiapeng Liao - CNPRI Wei Zhang - CNPRI Haotian Wang - CNPRI Yulong Mao - CNPRI Studet award

3:30 pm -5 pm , C-107A

Track 4-7 Other SMR (I) 3:30 pm –5 pm , C-107B

Session Chair:

Session Co-Chair:

Numerical simulation and optimization design of thermoelectric generator for space nuclear power system Technical Paper Publication: ICONE32-0048

.....

Xing Gao - Deep Space Exploration Laboratory
Yang Zhu - Deep Space Exploration Laboratory
Yang Liu - Deep Space Exploration Laboratory
Bingkang Zhou - Deep Space Exploration Laboratory
Zhi Yang - Deep Space Exploration Laboratory
Xiao Luo - Deep Space Exploration Laboratory

The optimization of Feeder joint shim design and manufacture for Fusion Tokamak Assembly Technical Paper Publication: ICONE32-0249

CUICAI DONG - China Nuclear Power Engineering Co.,Ltd.
WEI HAN - China Nuclear Power Engineering Co.,Ltd.
MEIMEI YOU - China Nuclear Power Engineering Co.,Ltd.
HANJIE XU - China Nuclear Power Engineering Co.,Ltd.
Peng LU - China Nuclear Power Engineering Co.,Ltd.



## RESEARCH ON COST MANAGEMENT METHODS FOR NUCLEAR FUSION ASSEMBLY PROJECTS BASED ON SCRUM AGILE MANAGEMENT THEORY

Technical Paper Publication: ICONE32-0335

YOU MEIMEI - China Nuclear Power Engineering Co.,Ltd.
DONG CUICAI - China Nuclear Power Engineering Co.,Ltd.
HAN WEI - China Nuclear Power Engineering Co.,Ltd.
XU HANJIE - China Nuclear Power Engineering Co.,Ltd.

**Research on fusion Engineering management in China** Technical Paper Publication: ICONE32-0703

Peng LU - China Nuclear Power Engineering Corporation Jingwu WEN - China Nuclear Power Engineering Corporation Jingzhu DOU - China Nuclear Power Engineering Corporation Cuicai DONG - China Nuclear Power Engineering Corporation

DESIGN AND ANALYSIS OF 40KW LOW-ENRICHED URANIUM LUNAR SURFACE REACTOR SYSTEM

Technical Paper Publication: ICONE32-0769

SHUO JIANG - China Institute of Atomic Energy
GU HU - China Institute of Atomic Energy
ZELONG ZHAO - China Institute of Atomic Energy
CHI XU - China Institute of Atomic Energy
AO WANG - China Institute of Atomic Energy
YUEJUN LI - China Institute of Atomic Energy

**International Thermonuclear Experimental Reactor** (**ITER**) **Program TAC-1 project management practice** Technical Paper Publication: ICONE32-0964

Peng Liu - China Nuclear Power Engineering Co.,Ltd.Yi Li - China Nuclear Power Engineering Co.,Ltd./University of International Business and Economics

Track 7-23 Thermal-hydraulic HX and equipment (II) 3:30 pm –5 pm , C-108A

#### Session Chair:

Session Co-Chair:

Impact of Surface Emissivity on the Heat Transfer Performance of Passive Containment Air-Cooling System Technical Paper Publication: ICONE32-0055

Hongliang Wang - China Nuclear Power Engineering Co.,Ltd.
Yu Feng - China Nuclear Power Engineering Co.,Ltd.
Mingrui Yu - China Nuclear Power Engineering Co.,Ltd.
Yong Guo - China Nuclear Power Engineering Co.,Ltd.
Wei Li - China Nuclear Power Engineering Co.,Ltd.
Qiang Guo - China Nuclear Power Engineering Co.,Ltd.
Yidan Yuan - China Nuclear Power Engineering Co.,Ltd.

Design and performance analysis on forced circulation integrated cold trap

Technical Paper Publication: ICONE32-0175

**Bing Yang -** China Institute of Atomic Energy **Chunli Yu -** China Institute of Atomic Energy **Xu Li -** China Institute of Atomic Energy

## A DESIGN OF AIR-WATER MIXED COOLING PASSIVE RESIDUAL HEAT REMOVAL SYSTEM

Technical Paper Publication: ICONE32-0425

Yuepeng Bi - Harbin Engineering University
Chenyang Wang - Harbin Engineering University
Yifan Xu - Harbin Engineering University
Genglei Xia - Harbin Engineering University

Design and thermal analysis of a brazed water-cooled beam window

Technical Paper Publication: ICONE32-0663

Zhang Hao - Institute of Advanced Light Source Facilities, Shenzhen, China

Study on Design of Heat Exchanger for Component Cooling Water System in Linglong

Technical Paper Publication: ICONE32-0687

**Siyuan Wang -** Zhengzhou Branch of China Nuclear Power Engineering Co.,LTD.

**Zhiqiang Wang -** Zhengzhou Branch of China Nuclear Power Engineering Co.,LTD.

-95-



**Jiling Chen** - Zhengzhou Branch of China Nuclear Power Engineering Co.,LTD.

.....

#### Analysis of Thermal Hydraulic Coupling Stress Characteristics of Spiral Tube Steam Generator in High Temperature Gas Cooled Reactor

Technical Paper Publication: ICONE32-0759

junfeng liu - Xi'an Thermal Power Research Institute Co., Ltd chenglong wang - Xi'an Jiaotong University wenshu li - Xi'an Jiaotong University

xiaolong ma - Xi'an Thermal Power Research Institute Co., Ltd suizheng qiu - Xi'an Jiaotong University

## ANALYSIS OF FLUID-SOLID COUPLED VIBRATION CHARACTERISTICS AND STRUCTURAL OPTIMIZATION DESIGN OF A NUCLEAR POWER BY-PASS CONTROL VALVE

Technical Paper Publication: ICONE32-0789

Dan Wang - Xi'an Thermal Power Research Institute Co., Ltd.
Dawei Wei - Xi'an Thermal Power Research Institute Co., Ltd.
Bo Zhao - Xi'an Thermal Power Research Institute Co., Ltd.
Chuangao Han - Xi'an Thermal Power Research Institute Co., Ltd.
Lei Dong - Xi'an Thermal Power Research Institute Co., Ltd.
Boyuan Wang - Xi'an Thermal Power Research Institute Co., Ltd.
Track 5-1 Accident Analysis and Management

3:30 pm -5 pm , C-108B

#### Session Chair:

Session Co-Chair:

## RIES, A COMPREHENSIVE SYSTEM INCORPORATING RADIOLOGICAL RISK ASSESSMENT AND EMERGENCY STRATEGY SUPPORT FOR SEVERE NUCLEAR ACCIDENT

Technical Paper Publication: ICONE32-0903

Li Yang - North China Electric Power University Cunyou Wang - North China Electric Power University Jiayue Song - North China Electric Power University Huanting Li - North China Electric Power University Zhaoyang Wang - North China Electric Power University -96Xinpeng Li - North China Electric Power University Sheng Fang - Tsinghua University Yixue Chen - North China Electric Power University

## ACCIDENT ANALYSIS OF TOTAL INSTANTANEOUS BLOCKAGE OF A FUEL SUBASSEMBLY OF CHINA INITIATIVE ACCELERATOR DRIVEN SYSTEM

Technical Paper Publication: ICONE32-1003

Yonggang Cao - China Institute of Atomic Energy Lixia Wang - China Institute of Atomic Energy Huiping OuYang - China Institute of Atomic Energy Pengrui Qiao - China Institute of Atomic Energy Jiyue Liang - China Institute of Atomic Energy

.....

**Research on accident diagnosis models based on a combination of knowledge and data-driven approaches** Technical Paper Publication: ICONE32-1241

Yuan Zhou - Sichuan University

Sulin Qin - Sichuan University

Guang Yang - China Nuclear Power Research and Design Institute Dahuan Zhu - China Nuclear Power Research and Design Institute Tao Huang - China Nuclear Power Research and Design Institute Qinwen Xiong - China Nuclear Power Research and Design Institute

**Research on core melt droplet interactions in sodium pool** Technical Paper Publication: ICONE32-1437

Nassir Yassin - Harbin Engineering University Zhi-Gang Zhang - Harbin Engineering University Zhi Yang - Harbin Engineering University Gosai A.M. Abdegader - Harbin Engineering University Calculation of differential pressure in the containment compartment under LOCA accident Technical Paper Publication: ICONE32-1615 ShiLei Dun - Southeast University ZongYan Bai - Southeast University Tao Zhou - Southeast University

LanYv Zhou - China National Nuclear Power Engineering Corporation



Safety Function Analysis of Pool-Type Sodium-Cooled Fast Reactor under SBO Accident

Technical Paper Publication: ICONE32-2035

Haibo Zhang - China Nurclear Power Engineering Co., LTD.Xiaoman Zhai - China Nurclear Power Engineering Co., LTD.Teng Teng - China Nurclear Power Engineering Co., LTD.

.....

Study on characteristics of SEOP accident operational procedure system based on Hualong One technology Technical Paper Publication: ICONE32-2133

Ming Zhong - Huaneng Hainan Changjiang Nuclear Power Co. Ltd Qing He - Huaneng Hainan Changjiang Nuclear Power Co. Ltd ShiDong Yu - Huaneng Hainan Changjiang Nuclear Power Co. Ltd Track 4-8 Other SMR (II)

3:30 pm -5 pm , C-109A

#### Session Chair:

Session Co-Chair:

Numerical Simulation and Validation of a Non-Nuclear Prototype for a Heat Pipe-Cooled Space Reactor Technical Paper Publication: ICONE32-0971

Ziang Guo - Shanghai Jiao Tong University Limin Liu - Shanghai Jiao Tong University Ziyin Liu - Shanghai Jiao Tong University Yihu Wang - Shanghai Jiao Tong University Zhengyu Du - Nuclear Power Institute of China Xiaoqiang He - Nuclear Power Institute of China Hanyang Gu - Shanghai Jiao Tong University

#### SIMULATION RESEARCH ON PRESSURE CONTROL OF STEAM-GAS PRESSURIZER BASED ON NEURAL NETWORK ADAPTIVE PID

Technical Paper Publication: ICONE32-1594

Minglong Yue - Harbin Engineering University

Minyang Gui - Harbin Engineering University

Lei Cheng - Harbin Engineering University

Jian Deng - Nuclear Power Institute of China, Science and Technology on Reactor System Design Technology Laboratory Xiaoli Wu - Nuclear Power Institute of China, Science and Technology on Reactor System Design Technology LaboratoryRuifeng Tian - Harbin Engineering University

Sicao Tan - Harbin Engineering University

Preliminary Design of a SF6 Gas Insulating HV-Bushing for CRAFT NNBI

Technical Paper Publication: ICONE32-1687

Yuchen Qu - Hefei Institutes of Physical Science, Chinese Academy of Sciences

Zhimin Liu - Hefei Institutes of Physical Science, Chinese Academy of Sciences

Caichao Jiang - Hefei Institutes of Physical Science, Chinese Academy of Sciences

Jianglong Wei - Hefei Institutes of Physical Science, Chinese Academy of Sciences

**Bo Liu -** Hefei Institutes of Physical Science, Chinese Academy of Sciences

Yuanlai Xie - Hefei Institutes of Physical Science, Chinese Academy of Sciences

Conceptual design and preliminary thermal-hydraulic analysis of a heat pipe cooled reactor

Technical Paper Publication: ICONE32-1984

Bian Jiawei - China Nuclear Power Technology Research Institute Sun Hao - China Nuclear Power Technology Research Institute Guo Zihao - China Nuclear Power Technology Research Institute Wu Jun - China Nuclear Power Technology Research Institute Zhang Dalin - Xi'an Jiaotong University

Yang Jiang - China Nuclear Power Technology Research Institute

## THE STRATEGIC ROLE AND OUTLOOKS OF CHINA'S NUCLEAR ENERGY UNDER THE GOAL OF CARBON PEAKING AND CARBON NEUTRALITY

Technical Paper Publication: ICONE32-2016

Xiaoguang Liu - China National Nuclear Corporation Yunhuang Zhang - Neutron Exploration Technologies Gangyang Zheng - Neutron Exploration Technologies



Limiao Xing - Neutron Exploration Technologies Ziguan Wang - Neutron Exploration Technologies Guangliang Chen - Harbin Engineering University

#### A REGULATORY ROADMAP FOR SEA-BASED NUCLEAR PROJECTS FOR INTERNATIONAL COMMERCIALACTIVITIES

Technical Paper Publication: ICONE32-2023

.....

Eirik Ovrum - DNV

Ole Christen Reistad - DNV

#### Track 4-9 Other SMR (III)

3:30 pm -5 pm , C-109B

#### Session Chair:

Session Co-Chair:

# SIMULATION METHOD FOR FLUID NETWORKS BASED ON SUPERCRITICAL CO2 CYCLE SYSTEM

Technical Paper Publication: ICONE32-0063

Yiming Xiong - Harbin Engineering University Minjun Peng - Harbin Engineering University Genglei xia - Harbin Engineering University

THERMAL RESISTANCE ANALYSIS AND STRUCTURAL MECHANICAL EVALUATION OF HIGH-TEMPERATURE MOLTEN SALT PUMP INSULATION SCREEN FOR MOLTEN SALT REACTORS

.....

Technical Paper Publication: ICONE32-0203

JIN YANG - Shanghai Institute of Applied Physics, Chinese Academy of Sciences

**YUAN FU -** Shanghai Institute of Applied Physics, Chinese Academy of Sciences

JIAN-YU ZHANG - Shanghai Institute of Applied Physics, Chinese Academy of Sciences

XING-CHAO SHEN - Shanghai Institute of Applied Physics, Chinese Academy of Sciences

RONG-FANG YU - Shanghai Institute of Applied Physics,

Chinese Academy of Sciences

**ZHI-JUN LI** - Shanghai Institute of Applied Physics, Chinese Academy of Sciences

.....

Data-driven-assisted Optimization of Supercritical CO2 Brayton Cycle with Uncertain Boundary Constraints Technical Paper Publication: ICONE32-0287

Shengyu Shen - Zhejiang University

Heyuan Wang - Marine Design and Research Institute of China Jun He - Marine Design and Research Institute of China

Guofeng Fan - Zhejiang University

Chunhui Dai - Zhejiang University

Shaohong Zhang - Zhejiang University

Numerical simulation study on operating characteristics of sCO2 natural circulation

Technical Paper Publication: ICONE32-1363

Yuandong Zhang - Harbin Engineering University
Chenyang Wang - Harbin Engineering University
Bowen Dai - Harbin Engineering University
Zhan Li - Harbin Engineering University
Yuepeng Bi - Harbin Engineering University

Analysis of Thorium-based Molten Salt Micro-reactor Core Physics Characteristics Based on Monte Carlo Method

.....

Technical Paper Publication: ICONE32-2142

Feng Wang - Chongqing University Lizha BIEKEEN - Chongqing University Jianqiang Lang - Chongqing University Shang Geng - Chongqing University Yifan Song - Chongqing University

Track11-1 Numerical Simulation and Experimental Verification

3:30 pm –5 pm , C-112

Session Chair:

Session Co-Chair:

-98-



#### NUMERICAL ANALYSIS OF INTERFACE STABILITY DURING ZIRCONIUM OXIDATIVE SOLIDIFICATION

Technical Paper Publication: ICONE32-0094

Haoli Wang - Xi'an Jiaotong University
Yapei Zhang - Xi'an Jiaotong University
Shihao Wu - Xi'an Jiaotong University
Wenxi Tian - Xi'an Jiaotong University
Suizheng Qiu - Xi'an Jiaotong University
G. H. Su - Xi'an Jiaotong University

Experimental and numerical studies on the interaction between high temperature melt and cooling tube of core catcher

Technical Paper Publication: ICONE32-0250

Fengyang Quan - China Nuclear Power Engineering Co
Wei Li - China Nuclear Power Engineering Co
Yidan Yuan - China Nuclear Power Engineering Co
Mengyi Wang - China Nuclear Power Engineering Co

#### SIMULATION OF PASSIVE CONTAINMENT COOLING SYSTEM IN SEVERE ACCIDENT VIA ASTEC

Technical Paper Publication: ICONE32-0676

Pingwen OU - CNPRI Jianhua CAO - CNPRI Yong OUYANG - CNPRI Chao GUO - CNPRI

Study on the Impact of Squib Valve Opening Time on Maximum Temperature of Cladding During a SBO Accident in the ACP100

.....

Technical Paper Publication: ICONE32-1541

Yujian Wang - Xi'an Jiaotong University Haoli Wang - Xi'an Jiaotong University Shihao Wu - Xi'an Jiaotong University Yapei Zhang - Xi'an Jiaotong University Wenxi Tian - Xi'an Jiaotong University Suizheng Qiu - Xi'an Jiaotong University

#### G. H. Su - Xi'an Jiaotong University

Preliminary Experimental Study on Suppression of Steam Explosion with Superabsorbent Polymer Microbeads

.....

Technical Paper Publication: ICONE32-1697

jingqi zhao - School of Nuclear Science and Technology of Xi'an Jiaotong University/China Nuclear Power Engineering Co., Ltd qiang guo - China Nuclear Power Engineering Co., Ltd jinkun min - China Nuclear Power Engineering Co., Ltd bin zhang - School of Nuclear Science and Technology of Xi'an Jiaotong University

wei li - China Nuclear Power Engineering Co., Ltd yidan yuan - China Nuclear Power Engineering Co., Ltd

## STUDY ON CORE DAMAGE ASSESSMENT OF ACP 100S FLOATING NUCLEAR POWER PLANT

Technical Paper Publication: ICONE32-1948

Yirui Wu - Nationat key Laboratory of Nucrear Reactor Technology
Jian Deng - Nuclear Power Institute of China
Zian Zhai - Nuclear Power Institute of China
Tao Xu - Nuclear Power Institute of China
Mengmeng Xi - Nuclear Power Institute of China
Mingming Xia - Nuclear Power Institute of China
Junlong Wang - Nuclear Power Institute of China

Track10-3 Advanced methods of manufacture and others 3:30 pm –5 pm , C-113

Session Chair:

Session Co-Chair:

Influences of Base Isolation on the Seismic Resistance of Nuclear Power Plant Reactor Building

Technical Paper Publication: ICONE32-0088

**ZHONG HU -** Hualong Nuclear Power Technology Co.,Ltd. **YATING ZHANG -** Hualong Nuclear Power Technology Co.,Ltd.

JUNFENG WANG - Hualong Nuclear Power Technology Co.,Ltd.



Optimized Design and Analysis of Large Pressurized Water Reactor Steam Supply System

Technical Paper Publication: ICONE32-0162

Ping Wang - China Nuclear Engineering Corporation
liheng Wang - China Nuclear Engineering Corporation
chenhui Wang - China Nuclear Engineering Corporation
Feixue Liu - China Nuclear Engineering Corporation
qian Yu - China Nuclear Engineering Corporation

#### EFFECT OF SOURCE TERM RELEASE RATE ON RADIATION DOSE OF MAIN CONTROL ROOM UNDER ACCIDENT CONDITION

.....

Technical Paper Publication: ICONE32-1247

**Yichen Chen -** China Nuclear Power Technology Research Institute Co., Ltd

**Changdong Lu -** China Nuclear Power Technology Research Institute Co., Ltd

**Wanjun Xie -** China Nuclear Power Technology Research Institute Co., Ltd

.....

Equipment Design Management And Analysis Of New Nuclear Project

Technical Paper Publication: ICONE32-1608

JINGJING RAO - China Nuclear Power Engineering Co., Ltd, China YU ZHANG - China Nuclear Power Engineering Co., Ltd, China

Performance Investigation of Concrete Models on Local Damage of RC Structure Subjected to Oblique Impact Loading

Technical Paper Publication: ICONE32-1682

Zuoyi Kang - Japan Atomic Energy Agency Akemi Nishida - Japan Atomic Energy Agency Haruji Tsubota - Japan Atomic Energy Agency Masaharu Itoh - Japan Atomic Energy Agency

Prediction and control measurements of natural draft wet cooling towers noise in nuclear power plant Technical Paper Publication: ICONE32-1909 Zixuan Zhu - China Nuclear Power Engineering Co., Ltd.
Fang Lin - China Nuclear Power Engineering Co., Ltd.
Wei Bai - China Nuclear Power Engineering Co., Ltd.
Jia Yang - China Nuclear Power Engineering Co., Ltd.

Track 14-3 Advanced Reactor Simulation 3:30 pm –5 pm , C-114

Session Chair:

Session Co-Chair:

Study on overconfidence characteristic of deep learningbased fault diagnostic models for nuclear power plants

Technical Paper Publication: ICONE32-0855

JiaHao Cheng - Harbin Engineering University Sichao Tan - Harbin Engineering University Jiangkuan Li - Harbin Engineering University Tong Li - Harbin Engineering University Ruifeng Tian - Harbin Engineering University Jiaoshen Xu - China Nuclear Power Engineering Co., Ltd

Validation of a Transient Analysis Program for Heat Pipe-Cooled Reactors Based on KRUSTY Experiments

Technical Paper Publication: ICONE32-0976

Kunpeng Shao - Shanghai Jiao Tong University
Ziang Guo - Shanghai Jiao Tong University
Changhe Liu - Shanghai Jiao Tong University
Ziyin Liu - Shanghai Jiao Tong University
Limin Liu - Shanghai Jiao Tong University
Hanyang Gu - Shanghai Jiao Tong University

**Evaluation of Fuel Coolant Interaction Model in** SCENES\_CM Based on FARO Experiments Technical Paper Publication: ICONE32-1229

Danting Zhao - Shanghai Jiao Tong University Feng Guo - Shanghai Jiao Tong University Yanhua Yang - Shanghai Jiao Tong University Meng Zhao - Shanghai Jiao Tong University Hao Zhang - Shanghai Jiao Tong University

-100-



The **32**<sup>nd</sup> International Conference on Nuclear Engineering

## DEVELOPMENT OF VALIDATION MATRIX OF FUEL ASSEMBLY THERMAL-HYDRAULICS SUB-CHANNEL ANALYSIS CODE FOR SODIUM-**COOLED FAST REACTORS**

Technical Paper Publication: ICONE32-1263

Norihiro Kikuchi - Japan Atomic Energy Agency Ryuji Yoshikawa - Japan Atomic Energy Agency Masaaki Tanaka - Japan Atomic Energy Agency

**Comparison Analysis and Research of Irradiation Devices** and Test Loops

Technical Paper Publication: ICONE32-1593

Yan Zhao - China Institute of Atomic Energy

Bin Hou - China Institute of Atomic Energy

Huanjun Zhu - China Institute of Atomic Energy

Yichi Li - China Institute of Atomic Energy

Jianxiang Yao - China Institute of Atomic Energy

The Verification and Validation of the Lead-Bismuth Subchannel Thermal-Hydraulic Analysis Program Based on COSINE

Technical Paper Publication: ICONE32-1764

Jinhao Yi - Shanghai Jiao Tong University Hao Zhang - Shanghai Jiao Tong University Meng Zhao - Shanghai Jiao Tong University Yanhua Yang - Shanghai Jiao Tong University

-101-



#### Thursday, June 26th

Track1-7 Engineering Construction Cost Optimization 8:30 am –10:00 am , C-101AB

#### Session Chair:

Session Co-Chair:

Stability analysis of concrete pouring for large-span dome steel formwork in reactor building

Technical Paper Publication: ICONE32-0112

Xiaoyi Yang - China Nuclear Power Engineering Co., Ltd.
Guozhen Xu - China Nuclear Power Engineering Co., Ltd.
Zhimao Feng - China Nuclear Power Engineering Co., Ltd.
Lijian Cai - China Nuclear Power Engineering Co., Ltd.

#### THE OPTIMIZATION STUDY ON THE SET-POINTS OF HPR1000 UNDER DIFFERENT CONTAINMENT CONDITIONS

.....

Technical Paper Publication: ICONE32-0224

**TIANQI SI** - China Nuclear Power Engineering Co.,Ltd **YU DU** - China Nuclear Power Engineering Co.,Ltd **KE YI** - China Nuclear Power Engineering Co.,Ltd

Parameter Sensitivity Investigation on Site Response Analysis for Nuclear Power Plants on Soil Sites Technical Paper Publication: ICONE32-0638

JINGXIONG ZHAO - CHINA NUCLEAR POWER ENGINEERING CO., LTD

XIAOYING SUN - CHINA NUCLEAR POWER ENGINEERING CO., LTD

.....

## PERFORMANCE ANALYSIS OF SQUAT SHEAR WALL WITH DIFFERENT EDGE REINFORCEMENT IN NUCLEAR ISLAND

Technical Paper Publication: ICONE32-0645

Shaojie Wang - CNPE Jianglong Luo - CNPE Dongmei Wang - CNPE Xinli Zhao - CNPE

Yumin Li - CNPE

.....

Study on Scale Effect of Impact Resistance of Reinforced Concrete Structures with High Reinforcement Ratio and High Strength

Technical Paper Publication: ICONE32-1197

Mengsha LIU - China Nuclear Power Engineering Co. LTD Ge GAO - China Nuclear Power Engineering Co. LTD Di JIANG - China Nuclear Power Engineering Co. LTD

Track2-7 Reactor Physics and Core Design (II) 8:30 am –10:00 am , C-102

Session Chair:

Session Co-Chair:

## DEVELOPMENT AND APPLICATION OF ADVANCED NEUTRONICS PROGRAM TOPMC

Technical Paper Publication: ICONE32-0205

**Guangyao SUN -** SuperSafety Science & Technology Co., Ltd; International Academy of Neutron Science, China

.....

The Core Design and Optimization of Small Reactor with Annular Fuel

Technical Paper Publication: ICONE32-1008

Cuijie Pan - China Institute of Atomic Energy Yuting Cheng - China Institute of Atomic Energy

Zhaodong Xia - China Institute of Atomic Energy

Qingfu Zhu - China Institute of Atomic Energy

Qi Zhou - China Institute of Atomic Energy

Zhifeng Zhang - China Institute of Atomic Energy

Convergence Optimization of Curved Surface Nodal Method

Technical Paper Publication: ICONE32-1130

Xiaoyu Zhou - Harbin Engineering University Chen Hao - Harbin Engineering University Yizhen Wang - Harbin Engineering University

-102-



Zhengxin Du - Harbin Engineering University Jining Li - Harbin Engineering University Yunlin Xu - Purdue University

#### THREE-DIMENSIONAL SUPER-RESOLUTION RECONSTRUCTION OF POWER DISTRIBUTION IN REACTOR BY NEURAL NETWORK

.....

Technical Paper Publication: ICONE32-1194

Jiacheng Wang - Tsinghua University

Xiaodong Huo - China Nuclear Power Engineering Co., Ltd (CNPE))

Haifeng Yang - China Nuclear Power Engineering Co., Ltd (CNPE))

.....

Kan Wang - Tsinghua University

Fuel management design for PWR decommissioning

Technical Paper Publication: ICONE32-1205

Zhuoting Shi - China Nuclear Power Technology Research Institute Jinfeng Wei - China Nuclear Power Technology Research Institute Shufan Zhang - China Nuclear Power Technology Research Institute Yuxiang Zhu - China Nuclear Power Technology Research Institute Changyou Zhao - China Nuclear Power Technology Research Institute Hong Zhang - China Nuclear Power Technology Research Institute

Study on the spatial response correction algorithm of induced fission neutrons in active coincidence counting of uranium materials

Technical Paper Publication: ICONE32-1269

Yuqi Zhang - China Insitute of Atomic Energy
Yimei Cheng - China Insitute of Atomic Energy
Haitao Zhao - China Insitute of Atomic Energy
Lixin Bu - China Insitute of Atomic Energy

Calculation and Verification of Geometry Parameters Integration in CSN Method Based on Quasi-Monte Carlo Method

Technical Paper Publication: ICONE32-1282

Jining Li - Harbin Engineering University Chen Hao - Harbin Engineering University Xiaoyu Zhou - Harbin Engineering University Yizhen Wang - Harbin Engineering University Yunlin Xu - Purdue University

Track 7-7 Boiling heat transfer and two-phase flow (II) 8:30 am –10:00 am , C-103

.....

Session Chair:

Session Co-Chair:

Study of Boiling Heat Transfer in Tubes Based on Machine Learning Technical Paper Publication: ICONE32-0631

1

Dan Yang - China Institute of Atomic Energy

Kaiwen Du - China Institute of Atomic Energy Minfu Zhao - China Institute of Atomic Energy

Junhan Wei - China Institute of Atomic Energy

Yongwang Xv - China Institute of Atomic Energy

Qingyuan Li - China Institute of Atomic Energy

Ziwei Wang - China Institute of Atomic Energy

Dongxu Zhang - China Institute of Atomic Energy

.....

Evaluation of droplet entrainment phenomenon in steam generator

Technical Paper Publication: ICONE32-0705

Xiang Yu - The 404 Company Limited Lingqing Yang - The 404 Company Limited Jian Zhou - The 404 Company Limited Bingzheng Ke - The 404 Company Limited

Caibing Liu - The 404 Company Limited

#### A NEURAL NETWORK PREDICTION MODEL FOR POST-DRYOUT HEAT TRANSFER BASED ON SAMPLE EXPANSION

Technical Paper Publication: ICONE32-0708

**Zhong Cui -** Yantai Research Institute, Harbin Engineering University

**Yanfeng Zhang -** Yantai Research Institute, Harbin Engineering University



**Zhunzfeng Fan -** State Nuclear Power Demonstration Plant Co., Ltd, China

**Guixiang Wang -** Yantai Research Institute, Harbin Engineering University

**Fuqiu Ma -** Yantai Research Institute, Harbin Engineering University

Chunhui Dong - Yantai Research Institute, Harbin Engineering University

Numerical Simulation Study on the Coalescence of Coaxial Double Vapor Bubbles during subcooled pool boiling

Technical Paper Publication: ICONE32-0772

Wenjie Hao - Tsinghua University

Yao Liu - Tsinghua University

Jinyu Han - Tsinghua University

Chenru Zhao - Tsinghua University

Hanliang Bo - Tsinghua University

Numerical and experimental study of transient response characteristics of multi-loop coupled natural circulation systems

Technical Paper Publication: ICONE32-0775

**Shilong Pei -** China Advanced Research Institute of Nuclear Energy and Safety, School of Physics and Optoelectronic Engineering, Shenzhen University

**Yuzhao Ye** - China Advanced Research Institute of Nuclear Energy and Safety, School of Physics and Optoelectronic Engineering, Shenzhen University

Xiaomeng Dong - China Advanced Research Institute of Nuclear Energy and Safety, School of Physics and Optoelectronic Engineering, Shenzhen University

**Ming Yang -** China Advanced Research Institute of Nuclear Energy and Safety, School of Physics and Optoelectronic Engineering, Shenzhen University

**Xi Huang -** China Advanced Research Institute of Nuclear Energy and Safety, School of Physics and Optoelectronic Engineering, Shenzhen University

Anqi Xu - China Advanced Research Institute of Nuclear Energy

and Safety, School of Physics and Optoelectronic Engineering, Shenzhen University

Yang Yu - China Nuclear Power Research and Design Institute

Numerical Study On The Effect Of Flow Direction On Condensation Heat Transfer Outside The Tube

Technical Paper Publication: ICONE32-1617

Xinyi Shen - Harbin engineering university
Ruihan Jing - Harbin engineering university
Xu Zhang - Harbin engineering university
Jia Guo - Harbin engineering university
Haozhi Bian - Harbin engineering university

**Track 8-7 Multi-Physics Coupling** 

8:30 am -10:00 am , C-104A

Session Chair:

Session Co-Chair:

Influence of Beam Length on Flow Patterns and Vibration in Fluid-Structure Interaction Simulations Technical Paper Publication: ICONE32-0714

**Qingyun He** - China Nuclear Power Technology Research Institute Co.,Ltd; State Key Laboratory of Nuclear Power Safety Technology and Equipment

Yingxuan Hu - China Nuclear Power Technology Research Institute Co.,Ltd

Yijun Zhang - China Nuclear Power Technology Research Institute Co.,Ltd

Wenhuai Li - China Nuclear Power Technology Research Institute Co.,Ltd

**Ting Wang -** China Nuclear Power Technology Research Institute Co.,Ltd

.....

NUMERICAL SIMULATION AND THERMO-HYDRO-MECHANICAL COUPLING OF THERMAL CYCLING PHENOMENA IN DOWN-HORIZONTAL PIPING

Technical Paper Publication: ICONE32-0959

-104-

e 32<sup>nd</sup> International Conference on Nuclear Engineering

Shuo Wang - Beijing University of Chemical Technology
Qile Gao - China Nuclear Power Engineering Co., Ltd
Ruizhi Hao - Beijing University of Chemical Technology
Haitao Ren - Beijing University of Chemical Technology
Shuhua Zhou - Beijing University of Chemical Technology
Wenshu Jiang - Beijing University of Chemical Technology
Xudong Wang - Beijing University of Chemical Technology
Tao Lu - Beijing University of Chemical Technology

-----

## STUDY ON THE FLUID-STRUCTURE INTERACTION CHARACTERISTICS OF A DOUBLE-LAYERED COAXIAL CYLINDRICAL SHELL WITH LIQUID IN NARROW GAPS

Technical Paper Publication: ICONE32-1004

Xinyue LUO - China Nuclear Power Engineering Co., Ltd

The Fluid-Structure Interaction Study of Porous Spent Fuel Storage and Transport Baskets under Seismic Conditions Based on Direct Numerical Simulation Method

Technical Paper Publication: ICONE32-1305

Yubo Zhang - North China Electric Power University

Yu Liu - North China Electric Power University

Yijun Huang - Huaneng Shidao Bay Nuclear Power Development Co., Ltd

Daogang Lu - North China Electric Power University

Feifan Zhang - North China Electric Power University

#### THREE-DIMENSIONAL MULTI-PHYSICS COUPLING NUMERICAL SIMULATION METHOD BASED ON FLAT LINEAR INDUCTION PUMP

Technical Paper Publication: ICONE32-1385

Heyao Li - Beijing Jiaotong University Lixin Yang - Beijing Jiaotong University

Zhuqian Zhang - Beijing Jiaotong University

Xiao Chen - Beijing Jiaotong University

.....

Fluid-Structure Interaction Study of a Flexible-Walled Rectangular Water Tank Based on the ALE Finite Element Method Technical Paper Publication: ICONE32-1527

Fei Xie - North China Electric Power University
Feifan Zhang - North China Electric Power University
Yixian Zhou - North China Electric Power University
Daogang Lu - North China Electric Power University
Yu Liu - North China Electric Power University

Trank 9-7 Radioactive Waste Management 8:30 am –10:00 am , C-104B

Session Chair:

Session Co-Chair:

## RESEARCH ON DECOMMISSIONING TREATMENT PLAN FOR REACTOR PRESSURE VESSEL HEAD BASED ON VIRTUAL SIMULATION

Technical Paper Publication: ICONE32-0228

Zhennan Zhang - China Nuclear Power Engineering Company
Yujia Chen - China Nuclear Power Engineering Company
Weilun Liang - China Nuclear Power Engineering Company
Yuelong Pan - China Nuclear Power Engineering Company
Qiang Li - China Nuclear Power Engineering Company
Ming Huo - China Nuclear Power Engineering Company

Study on off-site management strategy and shipping mode of spent fuel in China in the next dozen years Technical Paper Publication: ICONE32-0675

Haijun Liu - CGNPC Uranium Resources Co. Ltd.Chao Liu - CGNPC Uranium Resources Co. Ltd.Jiabei Zhang - CGNPC Uranium Resources Co. Ltd.

#### INTELLIGENT RECOGNITION OF HIGH DOSE RATE RADIOACTIVE SOLID MAINTENANCE WASTE IN NUCLEAR POWER PLANTS USING ENHANCED YOLOV11

Technical Paper Publication: ICONE32-1367

Hongyuan Zhang - Institute of Nuclear and New Energy Technology, Tsinghua University, China

Jianmin Tong - Institute of Nuclear and New Energy

-105-



Technology, Tsinghua University, China

Lifeng Wei - China Datang Corporation Nuclear Power Company, Ltd., China

Helin Zhang - Fujian Ningde Nuclear Power Co.,Ltd., Fujian, China

Jianbo Chen - Fujian Ningde Nuclear Power Co.,Ltd., Fujian, China

.....

INTELLIGENT RECOGNITION OF SMALL TARGETS OF NUCLEAR POWER PLANT MAINTENANCE WASTE BASED ON DEEP LEARNING

Technical Paper Publication: ICONE32-1392

Hongyuan Zhang - Institute of Nuclear and New Energy Technology, Tsinghua University, China

Jianmin Tong - Institute of Nuclear and New Energy Technology, Tsinghua University, China

Lifeng Wei - China Datang Corporation Nuclear Power Company, Ltd., China

Helin Zhang - Fujian Ningde Nuclear Power Co.,Ltd., Fujian, China

Jianbo Chen - Fujian Ningde Nuclear Power Co.,Ltd., Fujian, China

SYNTHESIS OF NOVEL PHOSPHORUS-DOPED CARBONITRIDE PHOTOCATALYST AND ITS APPLICATION FOR URANIUM REMOVAL

Technical Paper Publication: ICONE32-2021

Yonglin LI - PLA Rocket Force University of Engineering
Siman MAO - Northwestern Polytechnical University
Xingfu CAI - PLA Rocket Force University of Engineering
Sufen LI - PLA Rocket Force University of Engineering
Yonggang HUO - PLA Rocket Force University of Engineering

.....

Standpipe and Bunker Waste Retrieval System

Technical Paper Publication: ICONE32-2229

Sohaib Syed - Canadian Nuclear Laboratories Ehtisham Ishfaq - Canadian Nuclear Laboratories

## Track1-16 Nuclear Power Plant Management System I 8:30 am –10:00 am , C-105A

Session Chair:

Session Co-Chair:

The Establishment and Application of Mobile Office Platform for Procurement Information Management in Nuclear Power Engineering

Technical Paper Publication: ICONE32-0133

Chen Shi - China Nuclear Power Engineering Co., Ltd. Xiao Yuan - China Nuclear Power Engineering Co., Ltd.

Optimization Research on Procurement Strategy of Warehouse Management Services for Nuclear Power Enterprises

Technical Paper Publication: ICONE32-0136

Xiao Yuan - China Nuclear Power Engineering Co., Ltd.Chen Shi - China Nuclear Power Engineering Co., Ltd.

••••••

Purchasing Strategy and Economic Analysis of Bulk Materials in the Nuclear Power Industry

Technical Paper Publication: ICONE32-0137

Xiao Yuan - China Nuclear Power Engineering Co., Ltd.Rui Wang - China Nuclear Power Engineering Co., Ltd.Chen Shi - China Nuclear Power Engineering Co., Ltd.

Research on full-scope operation crew training system in nuclear power plants based on virtual reality and system simulation technology

Technical Paper Publication: ICONE32-0230

CHEN YAWEI - CNPO FANG MING - CNPO

.....

Application of Intrinsic Safety Design Concept in Occupational Health and Industrial Safety Risk Prevention and Control of Nuclear Power Plants

Technical Paper Publication: ICONE32-0367

-106-



Liping CHEN - China Nuclear Power Engineering Co. Ltd. Qingmin CHEN - China Nuclear Power Engineering Co. Ltd. Yuanxia ZHOU - China Nuclear Power Engineering Co. Ltd. Yikun ZHOU - China Nuclear Power Engineering Co. Ltd.

Construction and Implementation of "Training-Authorization-On-post" System for Standard Posts of Nuclear Power Projects Based on Knowledge Engineering

Technical Paper Publication: ICONE32-0749

Yufan Song - China Nuclear Power Engineering Co., LTDJinyu Guo - China Nuclear Power Engineering Co., LTDTianyu Zhao - China Nuclear Power Engineering Co., LTD

#### Track2-16 Nuclear Fuel Cycle (I)

8:30 am -10:00 am , C-105B

#### Session Chair:

Session Co-Chair:

#### SENSITIVITY STUDY OF BORON CARBIDE PARTICLE ARRANGEMENT ON SPENT FUEL STORAGE CRITICALITY

Technical Paper Publication: ICONE32-0716

Wenwang RAN - China Nuclear Engineering Co., Ltd
Yuanyu DONG - China Nuclear Engineering Co., Ltd
Cang Ma - China Nuclear Engineering Co., Ltd
Yongneng LIU - China Nuclear Engineering Co., Ltd

#### EXTRACTION AND γ-RADIATION RADIOLYSIS PERFORMANCE OF T2EHDGA IN KEROSENE SOLVENT

Technical Paper Publication: ICONE32-0737

Jiawei Zheng - Shanghai Jiao Tong University Hongji Sang - Shanghai Jiao Tong University Muhan Chen - Shanghai Jiao Tong University Yan Wu - Shanghai Jiao Tong University Yuezhou Wei - Shanghai Jiao Tong University

#### SIMULATION ANALYSIS OF HEAT STORAGE AREA HEIGHT OF PASSIVE SPENT FUEL STORAGE VESSEL

Technical Paper Publication: ICONE32-1109

Jiayu Mu - Harbin Engineering University College of Nuclear Science and Technology

Hetao Sun - Harbin Engineering University College of Nuclear Science and Technology

Xiuchun Luan - Harbin Engineering University College of Nuclear Science and Technology

Yuheng Zhang - Harbin Engineering University College of Nuclear Science and Technology

••••••

Effectiveness of Sodium Hydroxide Pretreatment in Enhancing Fission Product Removal During Alkaline Spent Fuel Reprocessing

Technical Paper Publication: ICONE32-1388

**Gosai ABDELGADER -** College of Science and Technology, Harbin Engineering university

**Caishan Jiao -** College of Nuclear Science and Technology, Harbin Engineering university

**Mingjian HE -** College of Nuclear Science and Technology, Harbin Engineering university

Haofan Fang - College of Nuclear Science and Technology, Harbin Engineering university

**Waeel Kamal -** College of Nuclear Science and Technology, Harbin Engineering university

.....

Research on the Design of Nuclear Material Online Monitoring and Accountancy System for Spent Fuel Pyroprocessing Facilities

Technical Paper Publication: ICONE32-1489

Lixia He - China Institute of Atomic Energy Xiao Zhao - China Institute of Atomic Energy Jing Wang - China Institute of Atomic Energy

## HIGHLY EFFICIENT ADSORPTION OF EUROPIUM BY ZIRCONIUM PHOSPHORODIAMIDATE-FUNCTIONALIZED MESOPOROUS SILICA

-107-



Technical Paper Publication: ICONE32-1861

Shuyi Yang - Shanghai Jiao Tong University
Zhennan Wu - Shanghai Jiao Tong University
Luyu Zhang - Shanghai Jiao Tong University
Hao Wu - Shanghai Jiao Tong University

#### Track 8-16 Other CFD Application 8:30 am –10:00 am , C-106A

.....

#### Session Chair:

Session Co-Chair:

#### A DISCRETE BOLTZMANN MODEL COMBINED WITH IMMERSED BOUNDARY METHOD FOR COMPRESSIBLE VISCOUS FLOW

Technical Paper Publication: ICONE32-0820

Sun Xiaopeng - China Nuclear Power Engineering Co., Ltd, China

Yu Wenchi - China Nuclear Power Engineering Co., Ltd, China Wang Renjun - China Nuclear Power Engineering Co., Ltd, China

Wang Jun - China Nuclear Power Engineering Co., Ltd, China Jiang Yanyi - China Nuclear Power Engineering Co., Ltd, China Ding Menglong - China Nuclear Power Engineering Co., Ltd, China

Ma Cang - China Nuclear Power Engineering Co., Ltd, China

Numerical study of pressure drop in structured packed beds based on the layer-stacking model

Technical Paper Publication: ICONE32-0851

Yilong Guo - Harbin Engineering University

Bo Li - Harbin Engineering University

Kejie Tian - Harbin Engineering University

Ming Ding - Harbin Engineering University

Zhongning Sun - Harbin Engineering University

Zehua Guo - Harbin Engineering University

STUDY OF MIXING MODELS REFLECTING LOCAL CHARACTERISTICS

Technical Paper Publication: ICONE32-1102

Junhan Wei - China Institute of Atomic Energy Xiaoyang Zhang - Peking University Ordos Research Institute of Energy

Minfu Zhao - China Institute of Atomic Energy
Peng Liang - China Institute of Atomic Energy
Minghui Duan - China Institute of Atomic Energy
Dongxu Zhang - China Institute of Atomic Energy
Yongwang Xu - China Institute of Atomic Energy
Qingyuan Li - China Institute of Atomic Energy
Ziwei Wang - China Institute of Atomic Energy
Dan Yang - China Institute of Atomic Energy
Yufan Wang - China Institute of Atomic Energy

## The Design and Calibration of a New Differential Calorimetric Dedicated to Nuclear Heating Measurements Technical Paper Publication: ICONE32-1612

Junxin Zhang - Sichuan University Tianchi Ma - Sichuan University Liang Zhang - Nuclear Power Institute of China Guofeng Qu - Sichuan University Xingjie Peng - Nuclear Power Institute of China Jifeng Han - Sichuan University Guang Zhao - Nuclear Power Institute of China

Numerical study of turbulence drag reduction in circular pipe with micro-groove surfaces

Technical Paper Publication: ICONE32-1732

Yuang Tan - Harbin Engineering University
Tan Ma - Harbin Engineering University
Shou Feng - Harbin Engineering University
Rulei Sun - Harbin Engineering University
Puzhen Gao - Harbin Engineering University
Ruifeng Tian - Harbin Engineering University
Sichao Tan - Harbin Engineering University

Analysis of influence of finite measuring points on measurement deviation of leakage rate of containment Technical Paper Publication: ICONE32-1891

-108-



Jianfa Li - China National Nuclear Corporation Yifan Sun - Harbin Engineering University Zhaoming Meng - Harbin Engineering University Xiangcheng Wu - China Three Gorges University

Track 7-16 Fuel thermal-hydraulics (II)

8:30 am -10:00 am , C-106B

### Session Chair:

Session Co-Chair:

### THERMAL-MECHANICAL ANALYSIS OF ANNULAR FUEL ASSEMBLY BASED ON A MODIFIED SUB-CHANNEL CODE

Technical Paper Publication: ICONE32-0081

Xu Rongshuan - China Nuclear Power Technology Research Institute Co.Ltd

Wu Yingwei - Xi'an Jiaotong University

Li Jinggang - China Nuclear Power Technology Research Institute Co.Ltd

**Wang Ting -** China Nuclear Power Technology Research Institute Co.Ltd

Zhu Yuanbing - China Nuclear Power Technology Research Institute Co.Ltd

.....

Research on heat split phenomenon in dual-cooled fuel assembly

Technical Paper Publication: ICONE32-0179

Bing Yang - China Institute of Atomic Energy

### A NOVEL FRICTION FACTOR CORRELATION FOR WIRE-WRAPPED FUEL ASSEMBLIES VIA ANN AND SYMBOLIC REGRESSION

Technical Paper Publication: ICONE32-0720

Kexin Ji - China Institute of Atomic Energy

Daoxi Cheng - China Institute of Atomic Energy

.....

## SENSITIVITY ANALYSIS OF THERMAL CONDUCTIVITY CALCULATION MODEL FOR THE FUEL OF REACTOR

Technical Paper Publication: ICONE32-0790

Junjie pan - Nuclear Power Institute of China Bangyang Xia - National Key Laboratory of Nuclear Reactor Technology

Shenglong Qiang - Nuclear Power Institute of ChinaWei Lu - Nuclear Power Institute of China

Preliminary Analysis of Fuel Behavior in Reactivity-Initiated Accidents at High Burnup

.....

Technical Paper Publication: ICONE32-0791

BOSEN XIE - China Nuclear Power Design Co.,Ltd HANPING LI - China United Gas Turbine Technology Co.,Ltd YUBIN ZHANG - China Nuclear Power Design Co.,Ltd DINGQING GUO - China Nuclear Power Design Co.,Ltd QIN ZHOU - China Nuclear Power Design Co.,Ltd SHAOBIN LI - China Nuclear Power Design Co.,Ltd

## THERE-DIMENSIONAL HYDRAULIC CHARACTERISTICS INVESTIGATION OF THE PLATE-TYPE FUELASSEMBLY

Technical Paper Publication: ICONE32-0949

**Shuai Liu -** Shanghai Nuclear Engineering Research and Design Institute Co., Ltd.

**Bing Ren -** Shanghai Nuclear Engineering Research and Design Institute Co., Ltd.

**Jingya Sun -** Shanghai Nuclear Engineering Research and Design Institute Co., Ltd.

Jie Ding - Shanghai Nuclear Engineering Research and Design Institute Co., Ltd.

**Jie Zhang -** Shanghai Nuclear Engineering Research and Design Institute Co., Ltd.

Yu Dang - Shanghai Nuclear Engineering Research and Design Institute Co., Ltd.

**Fujun Gan -** Shanghai Nuclear Engineering Research and Design Institute Co., Ltd

.....

On the factors affecting the flow-induced vibration characteristics of PWR fuel assemblies

Technical Paper Publication: ICONE32-0981

-109-



Kangkang Jin - Shanghai Jiao Tong University Xiaojing Liu - Shanghai Jiao Tong University Jinbiao Xiong - Shanghai Jiao Tong University Xiang Chai - Shanghai Jiao Tong University Hui He - Shanghai Jiao Tong University

Track 7-20 Small modular reactors and Gen IV reactors (III)

.....

8:30 am -10:00 am , C-107A

Session Chair:

Session Co-Chair:

## DESIGN AND PRE-TEST CFD SIMULATIONS OF A THERMAL-HYDRAULIC TEST FACILITY FOR A PRISMATIC GAS-COOLED MICRO REACTOR

Technical Paper Publication: ICONE32-0177

**ZHENG HUANG -** China Nuclear Power Engineering Co., Ltd. (CNPE)

MIAOXIN JIAO - Xi'an Jiaotong University

JIAN JIAO - Xi'an Jiaotong University

**SHUOTING ZHANG -** China Nuclear Power Engineering Co., Ltd. (CNPE)

**YANFANG XUE -** China Nuclear Power Engineering Co., Ltd. (CNPE)

YANYU SUN - China Nuclear Power Engineering Co., Ltd. (CNPE)

**DINGSHENG WANG -** China Nuclear Power Engineering Co., Ltd. (CNPE)

.....

optimization analysis of a power cycle using supercritical CO2-based mixture working fluid

Technical Paper Publication: ICONE32-1181

**Feng Chen -** CNOOC Key Laboratory of Liquefied Natural Gas and Low -Carbon Technology

Kuankuan Qi - Xi'an Thermal Engineering Research Institute Co. Ltd.

Jiahao Kang - CNOOC Key Laboratory of Liquefied Natural Gas and Low -Carbon Technology

Yujia Zhou - Xi'an Thermal Engineering Research Institute Co. Ltd.

**Feng Qin -** CNOOC Key Laboratory of Liquefied Natural Gas and Low -Carbon Technology

Jianyu Shen - CNOOC Key Laboratory of Liquefied Natural Gas and Low -Carbon Technology

**Yifan Zhang -** Xi'an Thermal Engineering Research Institute Co. Ltd.

**Hongzhi Li -** Xi'an Thermal Engineering Research Institute Co. Ltd.

.....

Radiator Design and Optimization for Thermoelectric Space Heat Pipe-Cooled Nuclear Reactors

Technical Paper Publication: ICONE32-1334

Ao Wang - China institute of Atomic Energy

Gu Hu - China institute of Atomic Energy

Panhe Ge - China institute of Atomic Energy

Shuo Jiang - China institute of Atomic Energy

.....

### STUDY ON THE RELEASE CHARACTERISTICS OF FISSION GASES DUE TO FUEL CLADDING FAILURE IN LEAD-BISMUTH REACTORS

Technical Paper Publication: ICONE32-1365

Yuchen Li - Harbin Engineering University

Yanmin Zhou - Harbin Engineering University

Haifeng Gu - Harbin Engineering University

Yichen Zhang - Harbin Engineering University

**Pingting Jiang -** China Nuclear Power Technology Research Institute Co. Ltd.

**Zhenghui Wang -** China Nuclear Power Technology Research Institute Co. Ltd.

Ruxun Ding - Harbin Engineering University

### SIMULATION RESEARCH ON THE FLOW CHARACTERISTICS OF LEAD-BISMUTH LOOP UNDER REAL SEA ROLLING CONDITION

Technical Paper Publication: ICONE32-1459

**Pei Mou -** Institute of Nuclear Energy Safety Technology, Hefei Institute of Physical Science

**Zhen Wang -** Institute of Nuclear Energy Safety Technology, Hefei Institute of Physical Science

-110-



Shichao Zhang - Institute of Nuclear Energy Safety Technology, Hefei Institute of Physical Science

Jiangtao Jia - Institute of Nuclear Energy Safety Technology, Hefei Institute of Physical Science

Rui Pan - Institute of Nuclear Energy Safety Technology, Hefei Institute of Physical Science

.....

## RESEARCH ON DYNAMIC CHARACTERISTICS OF NITROGEN PRESSURIZER SYSTEM BASED ON LOCUST

Technical Paper Publication: ICONE32-2044

Junfeng Li - CGN Research Institute Co., LTD.
Bin Yang - CGN Research Institute Co., LTD.
Xinpeng Luo - CGN Research Institute Co., LTD.
Pu Tan - CGN Research Institute Co., LTD.
Feng Chen - CGN Research Institute Co., LTD.

.....

Track 5-2 Emergency Preparedness and Response 8:30 am –10:00 am , C-107B

### Session Chair:

Session Co-Chair:

Feasibility Analysis of Emergency Evacuation from Nuclear Power Plant Sites

Technical Paper Publication: ICONE32-0192

Wei DENG - China Nuclear Power Engineering Co.,Ltd Jiemin ZHANG - China Nuclear Power Engineering Co.,Ltd Mengxi WANG - China Nuclear Power Engineering Co.,Ltd Jin YAN - China Nuclear Power Engineering Co.,Ltd

Research On The Optimization Of Emergency Planning Zone Determination Based On The Weather Stratified Sampling Method

Technical Paper Publication: ICONE32-0194

**Qun Cao** - China Nuclear Power Engineering Co., Ltd **Jin Yan** - China Nuclear Power Engineering Co., Ltd **Jiemin Zhang** - China Nuclear Power Engineering Co., Ltd **Mengxi Wang** - China Nuclear Power Engineering Co., Ltd Liang Long - China Nuclear Power Engineering Co., Ltd Hongtao Lin - China Nuclear Power Engineering Co., Ltd

## EMERGENCY ASSEMBLY POINT SELECTION METHOD FOR NUCLEAR FACILITY AREA

Technical Paper Publication: ICONE32-0356

Jiemin ZHANG - China Nuclear Power Engineering Co., Ltd
Jin YAN - China Nuclear Power Engineering Co., Ltd
Jiaxuan GAO - China Nuclear Power Engineering Co., Ltd
Ya LIU - China Nuclear Power Engineering Co., Ltd
Wei DENG - China Nuclear Power Engineering Co., Ltd

Analysis of key factors for inland nuclear emergency Technical Paper Publication: ICONE32-0460

JIANWEI GAO - China Nuclear Power Engineering Co., Ltd HONGTAO LIN - China Nuclear Power Engineering Co., Ltd MENGXI WANG - China Nuclear Power Engineering Co., Ltd QUN CAO - China Nuclear Power Engineering Co., Ltd JIN YAN - China Nuclear Power Engineering Co., Ltd JIEMIN ZHANG - China Nuclear Power Engineering Co., Ltd SHUMING HUANG - China Nuclear Power Engineering Co., Ltd NA XUE - China Nuclear Power Engineering Co., Ltd LIN QIU -

Research on System and Method for Tabletop Exercise of Emergency Response to Nuclear Accident

.....

Technical Paper Publication: ICONE32-0858

Yuhao Yin - Suzhou Nuclear Power Research Institute Co.,Ltd. Qian Chen - Suzhou Nuclear Power Research Institute Co.,Ltd. Yichao Huang - Suzhou Nuclear Power Research Institute Co.,Ltd.

**Peng Lin -** Suzhou Nuclear Power Research Institute Co.,Ltd. **Wentao Fang -** Suzhou Nuclear Power Research Institute Co.,Ltd.

Regional HYSPLIT simulation of atmospheric transport

of 137Cs following the Fukushima accident release source term generated by severe accident codes

Technical Paper Publication: ICONE32-1069



Wujie Zhang-Harbin Engineering UniversityZehua Guo - Harbin Engineering UniversityXiaxin Cao- Harbin Engineering UniversityMing Ding- Harbin Engineering University

**GPU-QES for local- and small-scale atmospheric dispersion modeling in complex terrain and building layouts: a wind tunnel experiment validation** Technical Paper Publication: ICONE32-1370

Zhaoyang Wang - North China Electric Power University
Li Yang - North China Electric Power University
Cunyou Wang - North China Electric Power University
Sheng Fang - Tsinghua University
Xinpeng Li - North China Electric Power University
Yixue Chen - North China Electric Power University

Track 5-3 Safety Analysis and Assessment 8:30 am –10:00 am , C-108A

### Session Chair:

Session Co-Chair:

Research on the Calculation Method of Radioactive Nuclide Decay in Level 3 Probabilistic Safety Assessment of Nuclear Power Plants

Technical Paper Publication: ICONE32-0195

Qun Cao - China Nuclear Power Engineering Co., Ltd Mengxi Wang - China Nuclear Power Engineering Co., Ltd Liang Long - China Nuclear Power Engineering Co., Ltd Hongtao Lin - China Nuclear Power Engineering Co., Ltd Jiemin Zhang - China Nuclear Power Engineering Co., Ltd

## RESEARCH ON OPTIMIZATION OF SAFETY CLASSIFICATION FOR POOL TYPE SFRS BASED ON SSG-30 SAFETY CLASSIFICATION METHOD

Technical Paper Publication: ICONE32-1267

Jun Yang - China Institute of Atomic Energy Areai Nuerlan - China Institute of Atomic Energy Jin Wang - China Institute of Atomic Energy Xisi Zhang - China Institute of Atomic Energy Ting Wang - China Institute of Atomic Energy

### A REVIEW OF DYNAMIC PROBABILISTIC RISK ASSESSMENT WITH INTELLIGENCE ALGORITHMS FOR NUCLEAR SAFETY ANALYSIS

Technical Paper Publication: ICONE32-1372

Zihan Zhou - Shenzhen University Anqi Xu - Shenzhen University Xiaomeng Dong - Shenzhen University Ming Yang - Shenzhen University Linfeng Li - Shenzhen University Ting Wen - Shenzhen University Ziwei Weng - Shenzhen University Guoming Yin - Shenzhen University

### Research on Safety Assurance Methods for Nuclear Power Industry Model Assets

Technical Paper Publication: ICONE32-1397

Minmin Cheng - CNPO, HUST Menghan Zhu - CNPO Kangli Niu - HUST

Discussion on Criticality Safety Management of Non-Reactor Nuclear Fuel Cycle Facilities

Technical Paper Publication: ICONE32-1595

Junning Wang - Nuclear and Radiation Safety Center, Ministry of Ecology and Environment

**Dan Lyu -** Nuclear and Radiation Safety Center, Ministry of Ecology and Environment

**Yuntao Liu** - Nuclear and Radiation Safety Center, Ministry of Ecology and Environment

Xiaowei Yang - Nuclear and Radiation Safety Center, Ministry of Ecology and Environment

Zhihui Liu - Nuclear and Radiation Safety Center, Ministry of Ecology and Environment

A New Methodology for Developing Phenomena Identification and Ranking Tables (PIRT) Using Text Mining Techniques

-112-

ne 32<sup>nd</sup> International Conference on Nuclear Engineering

### Technical Paper Publication: ICONE32-1786

Jianing Zhao - North China Electric Power University Lehan Sun - North China Electric Power University Tengjun Geng - North China Electric Power University Hong Wei - North China Electric Power University Xueqing Ma - North China Electric Power University Shengfei Wang - North China Electric Power University

### **Track 5-4 Reactor Design and Safety**

### 8:30 am -10:00 am , C-108B

### Session Chair:

Session Co-Chair:

Preliminary Study On Security Scheme of Floating Reactor

Technical Paper Publication: ICONE32-0027

**CHE JUAN -** China Nuclear Power Technology Research Institute Co.

.....

FEASIBILITY STUDY FOR MAIN STEAM SYSTEM PIPE AND MAIN FEEDWATER PIPE LAYOUT IN THE SAME COMPARTMENT IN HPR1000 NUCLEAR STATION

Technical Paper Publication: ICONE32-0691

Haoyang Chen - China Nuclear Power Engineering Co.Ltd.Danfeng Zhao - China Nuclear Power Engineering Co.Ltd.

# STUDY ON PARTIAL FLOW BLOCKAGE OF A FUEL ASSEMBLY OF CIADS

.....

Technical Paper Publication: ICONE32-1440

Huiping Ouyang - China Institute of Atomic Energy
Yonggang Cao - China Institute of Atomic Energy
Lixia Wang - China Institute of Atomic Energy
Jiyue Liang - China Institute of Atomic Energy
Shuo Chen - China Institute of Atomic Energy
Qiao Pengrui - China Institute of Atomic Energy

## A REVIEW: RESEARCH STATUS AND DEVELOPMENT TRENDS OF PASSIVE RESIDUAL HEAT REMOVAL SYSTEMS

Technical Paper Publication: ICONE32-1520

Yunfeng Li - Naval University of Engineering
Lei Yu - Naval University of Engineering
Jianli Hao - Naval University of Engineering
Yuxian Rao - Naval University of Engineering

Conceptual Design of a Passive Residual Heat Removal System for Megawatt-Class Nuclear Power Units in Unmanned Underwater Vehicles

Technical Paper Publication: ICONE32-1557

**zhenpeng wang -** Institute of Nuclear Physics and Chemistry, China Academy of Engineering Physics

xiaoyu guo - Institute of Nuclear Physics and Chemistry, China Academy of Engineering Physics

yuchuan guo - Institute of Nuclear Physics and Chemistry, China Academy of Engineering Physics

**simao guo -** Institute of Nuclear Physics and Chemistry, China Academy of Engineering Physics

**guanbo wang -** Institute of Nuclear Physics and Chemistry, China Academy of Engineering Physics

**jie fan -** Institute of Nuclear Physics and Chemistry, China Academy of Engineering Physics

yan yang - Institute of Nuclear Physics and Chemistry, China Academy of Engineering Physics

xuanting xie - Institute of Nuclear Physics and Chemistry, China Academy of Engineering Physics

**Bin Tang -** Institute of Nuclear Physics and Chemistry, China Academy of Engineering Physics

Study on the Influence of Primary Frequency Modulation Capacity Range Up to [-6%,+3%] for Reactor Safety in HPR1000 Nuclear Power Plant

Technical Paper Publication: ICONE32-1655

Qiubai Li - China Nuclear Power Technology Research Institute Chaohao Shang - China Nuclear Power Technology Research Institute Xinjie Zhai - China Nuclear Power Technology Research Institute



Kun Xiong - China Nuclear Power Technology Research Institute

Track 5-5 Fuel and Core Behavior 8:30 am –10:00 am , C-109A

### Session Chair:

Session Co-Chair:

Experimental study on two-phase distribution characteristics of passive ERVC channel in full height IVR testing facility

Technical Paper Publication: ICONE32-0411

Ziwei Zhang - Shanghai Jiao Tong University Pengfei Liu - Shanghai Jiao Tong University Hua Zhu - Shanghai Jiao Tong University

.....

## EXPERIMENTAL STUDY OF METAL LAYER OF THE STRATIFIED MOLTEN CORIUM POOL: THE METAL MELT POOL EXPERIMENTAL SETUP

Technical Paper Publication: ICONE32-1081

Mengyi Wang - CNNC Key Laboratory for Severe Accident Research in Nuclear Power Safety, China Nuclear Power Engineering Co., Ltd

**Fengyang Quan -** CNNC Key Laboratory for Severe Accident Research in Nuclear Power Safety, China Nuclear Power Engineering Co., Ltd

Pengya Guo - Tsinghua University

Jie Pei - CNNC Key Laboratory for Severe Accident Research in Nuclear Power Safety, China Nuclear Power Engineering Co., Ltd Wei Li - CNNC Key Laboratory for Severe Accident Research in Nuclear Power Safety, China Nuclear Power Engineering Co., Ltd

**Yidan Yuan -** CNNC Key Laboratory for Severe Accident Research in Nuclear Power Safety, China Nuclear Power Engineering Co., Ltd

Investigation on the Mechanism of Ovality Impact on Creep Collapse Evolution Behavior of Zr-4 Cladding Tubes During Irradiation

Technical Paper Publication: ICONE32-1522

-114-

Changbing Tang - National Key Laboratory of Nuclear Reactor
Technology, Nuelear Power Insitute of China
Yuanming Li - National Key Laboratory of Nuclear Reactor
Technology, Nuelear Power Insitute of China
Zhong Xiao - National Key Laboratory of Nuclear Reactor
Technology, Nuelear Power Insitute of China

Preliminary Study on the Evolution Mechanism of Blister Size in UMo-Zr Monolithic Fuel Elements

Technical Paper Publication: ICONE32-1532

**Changbing Tang -** National Key Laboratory of Nuclear Reactor Technology, Nuelear Power Insitute of China

.....

Study on the layered structure of molten pool based on multi-physical field coupling

Technical Paper Publication: ICONE32-1627

ShiLei Dun - Southeast University ZongYan Bai - Southeast University

Peng Liu - Southeast University

HaoLei Zhang - Southeast University

Tao Zhou - Southeast University

EXPERIMENTAL STUDY OF SODIUM-WATER REACTION PROTECTION SYSTEM FOR LARGE LEAKAGE OF SODIUM-COOLED FAST REACTORS

Technical Paper Publication: ICONE32-1728

Jundong Qian - China Institute of Atomic Energy Bin Hou - China Institute of Atomic Energy Huanjun Zhu - China Institute of Atomic Energy

.....

Track 12-1 Innovative Nuclear Power Plant Design-I 8:30 am –10:00 am , C-109B

Session Chair:

Session Co-Chair:

Hierarchical energy management strategy of the heat pipe cooled reactor – battery hybrid energy system for ships



Technical Paper Publication: ICONE32-0427

Ziyin LIU - Shanghai Jiao Tong University Limin LIU - Shanghai Jiao Tong University Ziang GUO - Shanghai Jiao Tong University Kuaiyuan FENG - Shanghai Jiao Tong University Hui GUO - Shanghai Jiao Tong University Hanyang GU - Shanghai Jiao Tong University

Research on Frequency Regulation and Peak Shaving with Steam Supply Safety System for Nuclear Power-Molten Salt Thermal Energy Storage

Technical Paper Publication: ICONE32-0721

Ma Zihan - Xi'an Thermal Power Research Institute Zhao Mingzhe - Xi'an Thermal Power Research Institute Ma Xiaolong - Xi'an Thermal Power Research Institute Han Chuangao - Xi'an Thermal Power Research Institute Qi Peiyao - Xi'an Thermal Power Research Institute Wei Lin - Xi'an Thermal Power Research Institute Li Minghao - Xi'an Thermal Power Research Institute Wu Shougui - Xi'an Thermal Power Research Institute

## STUDY ON THE COUPLED OPERATION CHARACTERISTICS OF SMALL SODIUM COOLED FAST REACTOR AND STIRLING POWER CONVERSION SYSTEM

Technical Paper Publication: ICONE32-0805

Linjie Zhou - China Institute of Atomic Energy Jun Yang - China Institute of Atomic Energy Zhongxiao Guo - China Institute of Atomic Energy Xin Zhang - China Institute of Atomic Energy Jin Wang - China Institute of Atomic Energy Yujie Guo - China Institute of Atomic Energy Weiping Hong - China Institute of Atomic Energy

Systematic study and thermodynamic analysis of combined cooling, heating, power generation (CCHP) and desalination of nuclear-powered ships

Technical Paper Publication: ICONE32-0929

Min Liu - Sun Yat-sen University

Guopeng Yu - Sun Yat-sen University

Energy Consumption Analysis of Cogeneration Schemes for the CAP1400 PWR Nuclear Power Plant

.....

Technical Paper Publication: ICONE32-1040

**Baoguo Zhang -** State Nuclear Power Demonstration Plant Co., Ltd(SNPDP)

Chunguang Liu - SNPDP

Weiyan Meng - State Nuclear Electric Power Planning Design & Research Institute Co.,Ltd SNPDRI

Yufeng Shi - SNPDP

**Cooled Microreactor** 

Xu Li - SNPDP

Study on Nuclear Power Regulation System of a Gas-

Technical Paper Publication: ICONE32-1279

Changhao Wu - Xi'an Jiaotong University

Ying Li - China Nuclear Power Engineering Co.

Mingyue Jiang - China Nuclear Power Engineering Co.

Shengyong Liao - China Nuclear Power Engineering Co.

Peiwei Sun - Xi'an Jiaotong University

Xinyu Wei - Xi'an Jiaotong University

## RESEARCH ON COMBINED NUCLEAR POWER GENERATION TECHNOLOGY OF PRESSURIZED WATER REACTOR AND HIGH TEMPERATURE GAS-COOLED REACTOR

.....

Technical Paper Publication: ICONE32-2096

Aijun Yan - Xi 'an Thermal Engineering Research Institute Co. LTD

Hongyong Cheng - China Huaneng Group

Junyi Wu - China Huaneng Group

Guifang Shen - Huaneng Xiapu Nuclear power Co., LTD

**Feng Wang -** Huaneng Shandong Shidaowan Nuclear Power Co., LTD

**Jun Wen -** Huaneng Nuclear Energy Technology Research Institute Co., LTD

Jiancheng Han - Huaneng Shandong Shidaowan Nuclear Power Co., LTD



Yitong Li - China Huaneng Group Yang Yu - China Huaneng Group Zhidong Fan - Xi 'an Thermal Engineering Research Institute Co. LTD Chenlong Zhou - Xi 'an Thermal Engineering Research Institute Co. LTD

Track11-2 Condition Selection for Beyond Design Basis Events and Analysis of Cr-coated Alloy

.....

8:30 am -10:00 am , C-112

Session Chair:

Session Co-Chair:

A grand-potential based multi-phase-field model for simulating the evolution of intermetallic phases in Crcoated Zry-4 alloys

Technical Paper Publication: ICONE32-0005

Menghui Wanga—Sino-French Institute of Nuclear Engineering and Technology, Sun Yat-Sen University

Lin Chena—Sino-French Institute of Nuclear Engineering and Technology, Sun Yat-Sen University

## RESEARCH ON DESIGN EXTENSION CONDITIONS WITHOUT SIGNIFICANT FUEL DEGRADATION LIST OF INTEGRATED SMALL PRESSURIZED NUCLEAR POWER PLANT

Technical Paper Publication: ICONE32-0282

CHURAN FENG - China Nuclear Power Engineering Co., LTD BIN LIU - China Nuclear Power Engineering Co., LTD GUO CHEN - Nuclear Power Institute of China LINGZHI LI - China Nuclear Power Engineering Co., LTD JIAN YANG - China Nuclear Power Engineering Co., LTD MEIRU LIU - China Nuclear Power Engineering Co., LTD Oxidation and degradation of Cr-coated zirconium alloy: Effect of Cr thickness

Technical Paper Publication: ICONE32-1332

Martin Steinbrueck - KIT

### Injae Lee - KIT

Selection and Analysis of CAP1400 Design Extension Conditions Based on New Revision of Design Safety of Nuclear Power Plants

Technical Paper Publication: ICONE32-1497

**Guobao Shi -** Shanghai Nuclear Engineering Research and Design Institute Co., LTD.,

**Tianting Lu** - Shanghai Nuclear Engineering Research and Design Institute Co., LTD.,

**Kun Zhang -** Shanghai Nuclear Engineering Research and Design Institute Co., LTD.,

**Yajun Yang -** Shanghai Nuclear Engineering Research and Design Institute Co., LTD.,

**Gaofeng Huang -** Shanghai Nuclear Engineering Research and Design Institute Co., LTD.,

Research and Implementation of Sequence Selection Method for Design Extension Conditions with Core Melting

Technical Paper Publication: ICONE32-1763

Jing Liu - CNPE Cong Wang - CNPE Yun Yu - CNPE Wei wei - CNPE

Xinli Yu - CNPE

.....

Research on Requirement and Practice of Mobile Equipment Configuration in U.S. Nuclear Power Plants and its Implications

Technical Paper Publication: ICONE32-1790

Yun YU - China Nuclear Power Engineering Company
Yu LIU - China Nuclear Power Engineering Co. Ltd
Cong WANG - China Nuclear Power Engineering Co. Ltd
Jingyi LIANG - China Nuclear Power Engineering Co. Ltd
Xinli YU - China Nuclear Power Engineering Co. Ltd

Research on Electrical Design Strategies for Spent Fuel Reprocessing Plant Based on Beyond Design Basis External Events



Technical Paper Publication: ICONE32-1972

Meng Wang - China Nuclear Power Engineering Co., Ltd.Shizhong Tian - China Nuclear Power Engineering Co., Ltd.Shuo Gao - China Nuclear Power Engineering Co., Ltd.

## Track 12-2 Innovative Nuclear Power Plant Design-II 8:30 am –10:00 am , C-113

### Session Chair:

Session Co-Chair:

Study on Postulated Siting Accident Source Terms and Dose Consequence Assessment in the Advanced Nuclear Power Plants Design

Technical Paper Publication: ICONE32-0148

Ya Liu - China Nuclear Power Engineering Co., Ltd.,
Mengxi Wang - China Nuclear Power Engineering Co., Ltd.,
Jiaxuan Gao - China Nuclear Power Engineering Co., Ltd.,
Jiemin Zhang - China Nuclear Power Engineering Co., Ltd.,
Nan Wu - China Nuclear Power Engineering Co., Ltd.,
Na Xue - China Nuclear Power Engineering Co., Ltd.,
Lin Qiu - China Nuclear Power Engineering Co., Ltd.,

## SIMULATION ANALYSIS OF FLOW CHARACTERISTICS DURING THE PARAFFINE WAX MELTING PROCESS

Technical Paper Publication: ICONE32-0198

Adnan Muhammad - Harbin Engineering University, Harbin, 150001, China

Hui Wang - China Nuclear Power Engineering Co., Ltd, Beijing, 100840, China

Wang Yanlu - Harbin Engineering University, Harbin, 150001, China Cao Xiaxin - Harbin Engineering University, Harbin, 150001, China

.....

Research on Multi-Objective Radiation Complex Core Coordination Design Program and Optimization Method for HFETR

Technical Paper Publication: ICONE32-0281

Chang Liu - Nuclear Power Institute of China

Changhu Kang - Nuclear Power Institute of China Yuhao He - Nuclear Power Institute of China Jiyang Song - Nuclear Power Institute of China Runqi Liu - Nuclear Power Institute of China Liqing Qiu - Nuclear Power Institute of China Yi Xia - Nuclear Power Institute of China Yufei Guo - Nuclear Power Institute of China Yao Lu - Nuclear Power Institute of China Yutong Zou - Nuclear Power Institute of China

### EXPERIMENTAL STUDY ON FRICTION COEFFICIENT OF GRAPHITE FOR HTGR OVER THE TEMPERATURE INTERVAL 100 D TO 1300 D

Technical Paper Publication: ICONE32-0375

Zeliang Chen - China Nuclear Power Technology Research Institute Co.,Ltd.(CNPRI)

Nan Gui - Institute of Nuclear and New Energy Technology (INET)Xingtuan Yang - Institute of Nuclear and New Energy

Technology (INET) Shengyao Jiang - Institute of Nuclear and New Energy

Technology (INET)

## RESEARCH ON HEAT PIPE CONDUCTION DEVICE

Technical Paper Publication: ICONE32-0519

**OF CONTAINMENT DOME** 

Jing LIU - China Nuclear Power Engineering Co., LTD.
Bei Hu - China Nuclear Power Engineering Co., LTD.
Shanshan Qiu - China Nuclear Power Engineering Co., LTD.
Xueying Sun - Harbin Institute of Technology, China

Wenke Zheng - Harbin Institute of Technology, China

Numerical Analysis of Flow and Heat Transfer Characteristics of Liquid LBE in Horizontal Honeycomb Fuel Assembly

Technical Paper Publication: ICONE32-0710

Cong Zhang - Naval University of Engineering Ling Chen - Naval University of Engineering Yongfa Zhang - Naval University of Engineering



Song Li - Naval University of Engineering Xiaolong Wang - Naval University of Engineering

Experimental and Simulation Optimization Study on Dynamic Airflow Organization of Intelligent Variable Air Volume System on Nuclear Island

Technical Paper Publication: ICONE32-0793

Fenglin Zhang - China Nuclear Power Engineering Co., Ltd, China
Mingfang Chen - China Nuclear Power Engineering Co., Ltd, China
Bei Hu - China Nuclear Power Engineering Co., Ltd, China
Xin Tong - China Nuclear Power Engineering Co., Ltd, China
Tiansheng Wang - Jianke EET Co., Ltd, China

Track1-8 Finite Element Calculation 10:30 am –12:00 pm , C-101AB

### Session Chair:

Session Co-Chair:

## ANALYSIS AND RESEARCH ON PILE FOUNDATION SHEAR FORCE NONUNIFORMITY OF AP1000 NUCLEAR ISLAND BUILDING

Technical Paper Publication: ICONE32-0283

Xiaokun LI - China Nuclear Power Engineering Co., Ltd
Jingsen LI - China Nuclear Power Engineering Co., Ltd
Min LIU - China Nuclear Power Engineering Co., Ltd
Qingxun KONG - China Nuclear Power Engineering Co., Ltd
Jianhua YANG - China Nuclear Power Engineering Co., Ltd

### STRUCTURAL INTEGRITY ASSESSMENT OF NUCLEAR POWER PLANT CONTAINMENT BASED ON TIME-DEPENDENT PRESTRESSING

Technical Paper Publication: ICONE32-0308

### Kaixing Liao - Tongji University

Ying Huang - Suzhou Nuclear Power Research Institute Co., Ltd Zhijie Tang - Suzhou Nuclear Power Research Institute Co., Ltd Jiapei Xu - Suzhou Nuclear Power Research Institute Co., Ltd Weiping Zhang - Tongji University Yong Zhou - Tongji University Analysis on the Three-Dimensional Seismic Isolation Scheme of Nuclear Engineering Plant Buildings Technical Paper Publication: ICONE32-0368

Hehuan Ren - China Nuclear Power Engineering Co., LTD.
Jian Chen - Department of Civil Engineering, Tsinghua University
Chencheng Shi - China Nuclear Power Engineering Co., LTD.
Xiaoying Sun - China Nuclear Power Engineering Co., LTD.
Xiaoyi Yang - China Nuclear Power Engineering Co., LTD.

Research on the Calculation of Nuclear Pipes Based on Nonlinear Supports

Technical Paper Publication: ICONE32-0418

Zhe Lyu - China Nuclear Power Engineering Co.,Ltd.Lihui Jiao - China Nuclear Power Engineering Co.,Ltd.Xipeng Ma - China Nuclear Power Engineering Co.,Ltd.

### AN EQUIVALENTLY SIMPLIFIED POINT-BEAM MODEL CALCULATION FOR THE INTERNAL STRUCTURE OF REACTOR BUILDING

Technical Paper Publication: ICONE32-0558

LIU Yuanda-China Nuclear Power Engineering Co.,Ltd **Zhang Chunlong -** China Nuclear Power Engineering Co.,Ltd **Wu Xiting -** China Nuclear Power Engineering Co.,Ltd

Finite Element Analysis-Based Service Life Calculation of Recirculation Valve Springs in Nuclear Power Plant Emergency Core Cooling Systems

Technical Paper Publication: ICONE32-0700

Yiqian Sun - College of Smart Energy, Shanghai Jiao Tong University Chunjing Song - Shanghai Nuclear Engineering Research & Design Institute Co.

Yanhua Yang - College of Smart Energy, Shanghai Jiao Tong University

Meng Zhao - College of Smart Energy, Shanghai Jiao Tong University

Track2-8 Reactor Physics and Core Design (III) 10:30 am –12:00 pm , C-102



### Session Chair:

Session Co-Chair:

## DERIVATION OF CRITERIA FOR PREVENTING CORE MELTING DURING UTOP USING ASYMPTOTIC STATE IN SODIUM-COOLED FAST REACTOR

Technical Paper Publication: ICONE32-0035

Satoshi Takeda - The University of Osaka Takanori Kitada - The University of Osaka Takafumi Okita - The University of Osaka Eiji Hoashi - The University of Osaka

## Multi-Pass Refueling Analysis of the HTR-PM with Burnable Poison Particles

Technical Paper Publication: ICONE32-0082

Bing Xia - Tsinghua University Ding She - Tsinghua University Chunlin Wei - Tsinghua University Jiong Guo - Tsinghua University Jian Zhang - Tsinghua University Fu Li - Tsinghua University

An Angle-Dependent Variance Reduction method for Monte Carlo Deep-Penetration Particle Transport Calculations

Technical Paper Publication: ICONE32-0278

Lu Yiran - Nuclear Power Institute of China

Lyu Huanwen - Nuclear Power Institute of China Wang Xueqing - Nuclear Power Institute of China

Calculation of nuclear thermal coupling of fuel assemblies and analysis of nuclear data uncertainty

Technical Paper Publication: ICONE32-0289

Di Wu-Nuclear Power Institute of China

Ziyan Li-Nuclear Power Institute of China

Technical and Economic Feasibility Study on Establishing Secondary Supply of Natural Uranium in China Technical Paper Publication: ICONE32-0307

Jijun MAO - CGNPC Uranium Resources Co.Ltd Xueying MA - CGNPC Uranium Resources Co.Ltd

.....

### CONTINUOUS-ENERGY MOC FOR NEUTRON-TRANSPORT CALCULATION

Technical Paper Publication: ICONE32-0773

Xiaoyu Wen - Xi'an Jiaotong University

Yunzhao Li - Xi'an Jiaotong University

Haopo Liu - Xi'an Jiaotong University

Liangzhi Cao - Xi'an Jiaotong University

.....

### PRELIMINARY RESEARCH ON COMPARISON AND SELECTION OF TYPES OF FUEL FOR FAST REACTOR

Technical Paper Publication: ICONE32-1707

Xiaochun Jia - China institute of atomic energy

Yun Hu - China institute of atomic energy

.....

Track 7-8 Multiphase flow

10:30 am -12:00 pm , C-103

### Session Chair:

Session Co-Chair:

Preliminary Results on Experimental and Numerical Study on Characteristics of Lead-Bismuth Gas-Liquid Two-Phase Flow

Technical Paper Publication: ICONE32-0590

Kefan Geng - Shenzhen University Qi Jia - Shenzhen University Xi Huang - Shenzhen University Bo Pang - Shenzhen University Yasushi Saito - Kyoto University

## NUMERICAL STUDY ON THERMOHYDRAULICS OF HIGHLY UNDER-EXPANDED FLASHING JET

Technical Paper Publication: ICONE32-0748



**Zhizhou Zhu -** School of Mechanical Engineering, Shanghai Jiao Tong University, China

Lili Tong - School of Mechanical Engineering, Shanghai Jiao Tong University, China

**Xuewu Cao -** School of Mechanical Engineering, Shanghai Jiao Tong University, China

.....

Study on the Migration and Deposition Characteristics of Insoluble Particles in LBE within the Single-Wire Wrapping Channel

Technical Paper Publication: ICONE32-0997

Xianmin Dong - Harbin Engineering University

Ruifeng Tian - Harbin Engineering University

Xiaochang Li - Harbin Engineering University

Jiming Lin - China Nuclear Power Technology Research Institute Co., Ltd

Puzhen Gao - Harbin Engineering University

Sichao Tan - Harbin Engineering University

A novel multiphase lattice boltzmann model considering contact angle: no interfacial velocity slip and unphysical density layer

Technical Paper Publication: ICONE32-1350

Junren Hou - Department of Engineering Physics, Tsinghua University

**Shunli Jiang -** Department of Engineering Physics, Tsinghua University

Yugao Ma - Nuclear Power Institute of China

**Guodong Liu** - Department of Engineering Physics, Tsinghua University

**Shanfang Huang -** Department of Engineering Physics, Tsinghua University

Kan Wang - Department of Engineering Physics, Tsinghua University

.....

Investigation of interface distribution characteristics of vapour/water bubbly flow in a helically coiled tube

Technical Paper Publication: ICONE32-1491

Xinxin Wu - INET, Tsinghua university

Xiaowei Li - INET, Tsinghua university Hongye Zhu - INET, Tsinghua university

Simulation on thermal-hydraulic characteristics inside a Pressurized-Containment under steam release conditions containing non-condensable gases

Technical Paper Publication: ICONE32-1887

Anchi Li - North China Electric Power University
Jibin Xu - North China Electric Power University
Yu Yang - State Power Investment Corporation Research Institute
Yuhao Zhang - North China Electric Power University
Daogang Lu - North China Electric Power University

Track 8-8 Particle Behavior

10:30 am -12:00 pm , C-104A

Session Chair:

Session Co-Chair:

### NUMERICAL SIMULATION OF PARTICULATE CORROSION PRODUCT DEPOSITION IN PWR COOLANT SYSTEM

Technical Paper Publication: ICONE32-0629

Bing Dong - Nuclear power operations research institute
Feng Yi - Nuclear power operations research institute
Weimin Liang - Nuclear power operations research institute
Enwei Shen - Nuclear power operations research institute

Yikun Zang - Nuclear power operations research institute

Kouhong Xiong - Nuclear power operations research institute

Effect of corrosion products deposition on flow and heat transfer in plate fuel assembly

Technical Paper Publication: ICONE32-0914

yushun LU - Shanghai University of Electric Powerrui ZHANG - Shanghai University of Electric Power

jianquan LIU - Shanghai University of Electric Power

Numerical simulation study on the behavior of aerosol particles in confined spaces

particles in commed spaces

Technical Paper Publication: ICONE32-0952

-120-



Cao Chengque-China Nuclear Power Technology Research Institute

Lu Changdong - China Nuclear Power Technology Research Institute Xu Peng - China Nuclear Power Technology Research Institute

Numerical simulation of Gas-Solid Flow Characteristics in Industrial-Scale Denitrification Fluidized Bed

Technical Paper Publication: ICONE32-1010

Jian Zhou - China National Nuclear Industry Corporation 404 Bingzheng Ke - China National Nuclear Industry Corporation 404 Caibing Liu - China National Nuclear Industry Corporation 404

Numerical Simulation Research on the Erosion of Oxide Film Layers by Lead-Bismuth Local Flow based on the DPM Model

Technical Paper Publication: ICONE32-1364

Gaoxiang Xu - China Huaneng Shandong Shidao Bay Nuclear Power Co., Ltd

Wan Zhang - Weihai Ocean Vocational College

Chengfang Xu - Wenergy Hefei Electric Power Co., Ltd

.....

Study of dense particle flow in high-temperature gascooled reactors

Technical Paper Publication: ICONE32-1564

Hewei Wang - North China Electric Power University

Yixian Zhou - North China Electric Power University

**Yijun Huang -** Huaneng Shidao Bay Nuclear Power Development Co., Ltd.

Daogang Lu - North China Electric Power UniversityYu Liu - North China Electric Power University

Trank 9-8 Radiation Protection and Safety Management-□ 10:30 am -12:00 pm , C-104B

.....

Session Chair:

Session Co-Chair:

Impact of Actinide Radiotoxicity on Radioactive Waste Management Strategies for Reprocessing Facilities Technical Paper Publication: ICONE32-0752

Shuai Liu - CNNC Long'an Co. Ltd.

Meng Wei - CNNC Long'an Co. Ltd.

Jianquan Liu - CNNC Long'an Co. Ltd.

Xipeng Zhang - School of Physics, Sun Yat-sen University, China

Preparation and Performance of Structural-Functional Integrated Shielding Composites Material with WC Particle Matrix and High-Entropy Alloy Binder

Technical Paper Publication: ICONE32-0783

Chengxin Li - China Nuclear Power Technology Research Institute Co., Ltd

Shao He - China Nuclear Power Technology Research Institute Co., Ltd

**Feng Liu -** China Nuclear Power Technology Research Institute Co., Ltd

Yulong Li - China Nuclear Power Technology Research Institute Co., Ltd

Li Li - China Nuclear Power Technology Research Institute Co., Ltd

Xiajie Liu - China Nuclear Power Technology Research Institute Co., Ltd

Jinhuang Yan - China Nuclear Power Technology Research Institute Co., Ltd

.....

Shielding Design Of Modular Gas-cooled Reactor Zeropower Experimental Device

Technical Paper Publication: ICONE32-1700

Qiujuan Zhao - China Nuclear Power Engineering Co.,Ltd Yingnan Tian - China Nuclear Power Engineering Co.,Ltd Defeng Yang - China Nuclear Power Engineering Co.,Ltd Xuesong Liu - China Nuclear Power Engineering Co.,Ltd Xiaoxia Wang - China Nuclear Power Engineering Co.,Ltd

Shielding Design For VVER Spent Fuel Transport Container

Technical Paper Publication: ICONE32-1767

Xuesong Liu - China Nuclear Power Engineering Co., Ltd.
Zonghuan Chen - China Nuclear Power Engineering Co., Ltd.
Bingheng Wang - China Nuclear Power Engineering Co., Ltd.



Lin Yao - China Nuclear Power Engineering Co., Ltd.

## IMPACT OF OXYGEN VACANCIES ON STRUCTURAL STABILITY AND CS IMMOBILIZATION IN TITANATE HOLLANDITE

Technical Paper Publication: ICONE32-1799

**Guanxiang Yang -** School of Nuclear Science and Engineering, North China Electric Power University, China

**Qiang zhao -** School of Nuclear Science and Engineering, North China Electric Power University, China

**Ligang Wang -** School of Nuclear Science and Engineering, North China Electric Power University, China

Yangyang Li - School of Nuclear Science and Engineering, North China Electric Power University, China

Xiaoping Ouyang - Northwest Institute of Nuclear Technology, China

.....

Research on the Metering Methods of Radioactive Waste Resin

Technical Paper Publication: ICONE32-1924

**Dong Li** - China Nuclear Power Engineering Co.,Ltd **Xinghuan Luo** - China Nuclear Power Engineering Co.,Ltd **Xueyuan Deng** - China Nuclear Power Engineering Co.,Ltd

### Track1-17 Artificial Intelligence and Simulation Control(MIX) II

10:30 am -12:00 pm , C-105A

Session Chair:

Session Co-Chair:

Development of the Hitachi Advanced Plant Performance Diagnosis System for Nuclear Power Plant Performance Monitoring: Instrument error evaluation for core thermal power management

Technical Paper Publication: ICONE32-0085

Akinori Tamura - Hitachi, Ltd Nobuyuki Shinohara - Hitachi-GE, Ltd. Kenji Sasaki - Hitachi-GE, Ltd. Norikazu Hamaura - Hitachi-GE, Ltd. -122Seiji Nemoto - Hitachi-GE, Ltd.

Risk prevention and improvement of operation caused by high temperature in nuclear power plants

.....

Technical Paper Publication: ICONE32-0309

**cheng guo -** Daya Bay nuclear power operations and management CO.,LTD

.....

TSLP: A Cloud-Edge Integration Time Series Data Processing Platform for Nuclear Power Industrial Internet

Technical Paper Publication: ICONE32-0480

Huajian Fang - China Nuclear Power Operation Technology Corporation, Ltd.

Minmin Cheng - China Nuclear Power Operation Technology Corporation, Ltd.

**Yinggang Jing -** China Nuclear Power Operation Technology Corporation, Ltd.

**Kui Xu** - China Nuclear Power Operation Technology Corporation, Ltd.

Xianying Liu - China Nuclear Power Operation Technology Corporation, Ltd.

**Min Li** - China Nuclear Power Operation Technology Corporation, Ltd.

-

## OPERATION OPTIMIZATION OF NUCLEAR ISLAND EQUIPMENT OF CPR1000 UNIT UNDER HIGH TEMPERATURE OF SEA WATER

Technical Paper Publication: ICONE32-0661

Yangyu Yang - Yangjiang Nuclear Power Co.,Ltd.

Qiuyang Chen - Suzhou Nuclear Power Research Institute Co., Ltd.

Hui Shao - Suzhou Nuclear Power Research Institute Co., Ltd.

Jian Zhang - Suzhou Nuclear Power Research Institute Co., Ltd.

.....

Research on the Nuclear Power Plant Operation Trend Prediction Method Based on Phase Space Reconstruction

Technical Paper Publication: ICONE32-0890

Longfei Shan - Harbin Engineering University Yongkuo Liu - Harbin Engineering University



Xin Ai - Harbin Engineering University Jiarong Gao - Harbin Engineering University Repair of weld crack defects in the water chamber spacer

plate of a high-pressure heater of a nuclear power plant Technical Paper Publication: ICONE32-1568

Yuanping Yang - Huaneng Shandong Shidao Bay Nuclear Power Co. Ltd.

Gang Ma - Huaneng Shandong Shidao Bay Nuclear Power Co. Ltd. Xiao Chen - Huaneng Shandong Shidao Bay Nuclear Power Co. Ltd. An Xu - Huaneng Shandong Shidao Bay Nuclear Power Co. Ltd. Huafeng Xu - Huaneng Shandong Shidao Bay Nuclear Power Co. Ltd.

Haixuan Sun - Huaneng Shandong Shidao Bay Nuclear Power Co. Ltd.

Research on the Risk-informed Integrated Operational Decision-making Method for Nuclear Power Plants Technical Paper Publication: ICONE32-1768

Yingfei Ma - Harbin Engineering University Qiang Zhao - Harbin Engineering University Wenkai Wei - Harbin Engineering University He Wang - Harbin Engineering University

Track2-17 Nuclear Fuel Cycle (II)

10:30 am -12:00 pm , C-105B

### Session Chair:

Session Co-Chair:

Searching For a Suitable Fuel for TRU Utilization and MA Transmutation in PWR

Technical Paper Publication: ICONE32-0051

Bin Ye - Southwest University of Science and Technology Junyan Liu - Southwest University of Science and Technology Feng Zhu - Southwest University of Science and Technology Shiyu Liu - Southwest University of Science and Technology Junjie Mao - Southwest University of Science and Technology Xiaoqian Dai - Southwest University of Science and Technology Research and Suggestions on Technical Requirements for Spent Fuel Package Loading and Unloading Docks Technical Paper Publication: ICONE32-0141

Zhong Gui - CGNPC Uranium Resources Co., Ltd. Zi Yao Du - CGNPC Uranium Resources Co., Ltd.

### RESEARCH PROJECTS OF ENGINEERING SCALE EXCTRACTION CHROMATOGRAPHY SYSTEM FOR MA(III) RECOVERY

Technical Paper Publication: ICONE32-0323

Sou Watanabe - Japan Atomic Energy Agency Kenta hasegawa - Japan Atomic Energy Agency Yoichi Arai - Japan Atomic Energy Agency Yuichi Sano - Japan Atomic Energy Agency Masayuki Takeuchi - Japan Atomic Energy Agency

Preliminary Design Study on Maintenance Container for Nuclear Centrifugal Extractor

Technical Paper Publication: ICONE32-0553

Huo Mingqing - CNNC Long'an Co., Ltd.Wei Meng - CNNC Long'an Co., Ltd.Liu Haijun - CGNPC Uranium Resources Co., Ltd.

## SELECTIVE ADSORPTION AND RADIATION RESISTANCE OF POTASSIUM CADMIUM FERROCYANIDE FOR PALLADIUM

.....

Technical Paper Publication: ICONE32-0639

Zhennan Wu - Shanghai Jiao Tong University Jianing Xing - Shanghai Jiao Tong University Yan Wu - Shanghai Jiao Tong University Yuezhou Wei - Shanghai Jiao Tong University

### 

## STUDY ON EXTRACTION OF RUTHENIUM(III) FROM NITRIC ACID USING A TRIAMIDE LIGAND: NTAAMIDE(N-OCT)

Technical Paper Publication: ICONE32-0644

Jianing Xing - Shanghai Jiao Tong University Luyu Zhang - Shanghai Jiao Tong University



Hanyue Ma - Shanghai Jiao Tong UniversityHao Wu - Shanghai Jiao Tong UniversityYan Wu - Shanghai Jiao Tong University

Track1-20 Nuclear Power Management System(MIX) II 10:30 am –12:00 pm , C-106A

### Session Chair:

Session Co-Chair:

Research on Airtightness Test of Habitable Zone in Main Control Room of HPR1000

Technical Paper Publication: ICONE32-0641

**FUNAN XU** - East China Branch of China Nuclear Power Engineering Co., Ltd.

**ZHANSHUANG YU** - School of Energy and Power Engineering, Chongqing University

**YING WU** - School of Energy and Power Engineering, Chongqing University

Research on construction cost risk management of nuclear power engineering

Technical Paper Publication: ICONE32-0732

Yi Li - China Nuclear Power Engineering Co., Ltd.; University of International Business and Economics

Peng Liu - China Nuclear Power Engineering Co.,Ltd.

Discussion on Risk Management of the First Nuclear Power Demonstration Project of "Hualong One"

Technical Paper Publication: ICONE32-0963

Peng Liu - China Nuclear Power Engineering Co.,Ltd.Yi Li - China Nuclear Power Engineering Co.,Ltd. ; University of International Business and Economics

.....

Operational Analysis And Optimization of the Pebble Bed HTGR Fuel Burnup Measurement System

Technical Paper Publication: ICONE32-0968

Huimin Sun - Huaneng Nuclear Energy Technology Research Institute Co.,LTD Jifeng Han - Sichuan University

Tingting He - Huaneng Shandong Shidao Bay Nuclear Power Staion

**Dongdong Wang -** Huaneng Shandong Shidao Bay Nuclear Power Co.,LTD

Chen Wang - Huaneng Shandong Shidao Bay Nuclear Power Co..LTD

Jingkai Dong - Huaneng Shandong Shidao Bay Nuclear Power Co.,LTD

Shengyu Sang - Huaneng Shandong Shidao Bay Nuclear Power Co.,LTD

Xiaotao Xing - Huaneng Shandong Shidao Bay Nuclear Power Co.,LTD

The Construction and Operation of Fourth-Generation Nuclear Power High-Temperature Gas-Cooled Reactors from the Perspective of Inherent Safety

Technical Paper Publication: ICONE32-1190

Gang Ma - Huaneng Shandong Shidao Bay Nuclear Power Co., Ltd.

Yuanping Yang - Huaneng Shandong Shidao Bay Nuclear Power Co., Ltd.

xiao Chen - Huaneng Shandong Shidao Bay Nuclear Power Co., Ltd.

.....

Risk Quantitative Assessment And Management Of Nuclear Power Plant EPC General Contracting Measuring Instruments

Technical Paper Publication: ICONE32-1604

**Song DAI -** China Nuclear Power Engineering Co., Ltd. **xingguo LU -** China Nuclear Power Engineering Co., Ltd.

Track 7-17 Advanced simulation methods

10:30 am -12:00 pm , C-106B

Session Chair:

Session Co-Chair:

DEVELOPMENT OF A SYSTEM-CFD COUPLING METHOD BASED ON PRESSURE CORRECTION ITERATION FOR MULTI-SCALE SIMULATION IN REACTOR THERMAL-HYDRAULIC ANALYSIS

-124-



Technical Paper Publication: ICONE32-0219

Youlai Zeng - Xi'an Jiaotong University Junli Gou - Xi'an Jiaotong University

.....

## PREDICTION TECHNIQUE FOR HEAT TRANSFER IN HELICALLY COILED TUBES ACROSS A WIDE RANGE VIA ARTIFICIAL NEURAL NETWORKS

Technical Paper Publication: ICONE32-0569

Guitao Yang - Shanghai Jiao Tong University Wei Zhang - Shanghai Jiao Tong University Bo Yuan - Shanghai Jiao Tong University Junsen Fu - Shanghai Jiao Tong University Yao Xiao - Shanghai Jiao Tong University Hanyang Gu - Shanghai Jiao Tong University

Numerical Investigation of Debris Bed Formation and Coolability Based on the Optimized MPS-DEM Method

.....

Technical Paper Publication: ICONE32-0577

Wen Ding - Xi'an Jiaotong Uinversity
Xinkun Xiao - Xi'an Jiaotong Uinversity
Ronghua Chen - Xi'an Jiaotong Uinversity
Wenxi Tian - Xi'an Jiaotong Uinversity
Suizheng Qiu - Xi'an Jiaotong Uinversity

## APPLICATION OF MACHINE LEARNING MODELS IN THE ANALYSIS OF SUPERCRITICAL CARBON DIOXIDE CYCLE SYSTEM

Technical Paper Publication: ICONE32-0612

Donghui ZHANG - CNNP Xiapu Nuclear Power Co.,Ltd Yang YU - Naval University of Engineering Yongfa ZHANG - Naval University of Engineering

Prediction of Frozen Startup Temperature in High-Temperature Alkali Metal Heat Pipes Based on Feedforward Neural Network

Technical Paper Publication: ICONE32-0982

Changhe Liu - Shanghai Jiao Tong University Ziang Guo - Shanghai Jiao Tong University Ziyin Liu - Shanghai Jiao Tong University Fengjun Zhong - Beihang University Limin Liu - Shanghai Jiao Tong University Hanyang Gu - Shanghai Jiao Tong University

Evolutionary Multi-criterion Optimization of Operational

Parameters for Ocean Nuclear Power Plants Based on Surrogate Models

Technical Paper Publication: ICONE32-1805

Zhen Liu - Harbin Engineering University

Biao Liang - Harbin Engineering University

Jiangkuan Li - Harbin Engineering University

**Peng Ding -** China Nuclear Power Technology Research Institute Co., Ltd.

**Chengjie Duan -** China Nuclear Power Technology Research Institute Co., Ltd.

Ruifeng Tian - Harbin Engineering University

Sichao Tan - Harbin Engineering University

Jiaoshen Xu - China Nuclear Power Engineering Co., Ltd.

A Simplified ANN Approach for Interfacial Area Concentration Predic-tion in Rod Bundles Using SHAP Feature Selection

Technical Paper Publication: ICONE32-1813

Mohamed Salem Taaryet - Harbin Engineering University Xu Han - Harbin Engineering University Jianjun Wang - Harbin Engineering University

Track 7-21 Fusion and research reactors 10:30 am –12:00 pm , C-107A

Session Chair:

Session Co-Chair:

Experimental Study of the Behavioral Characteristics of Microbubble Swarms in a Solution Reactor Technical Paper Publication: ICONE32-0057

Xutong Lang - Harbin Engineering UniversityYu Liu - Nuclear Power Institute of ChinaZiqiang Zou - Nuclear Power Institute of China



Dong Liu - Harbin Engineering University Junming Zhang - Harbin Engineering University Ming Ding - Harbin Engineering University Xiaxin Cao - Harbin Engineering University Zhifang Qiu - Nuclear Power Institute of China

.....

### RESEARCH ON THE RECONSTRUCTION METHOD OF HFETR CORE POWER DISTRIBUTION BASED ON BP NEURAL NETWORK

Technical Paper Publication: ICONE32-0298

Yutong Zou - Nuclear Power Institute of China
Liqing Qiu - Nuclear Power Institute of China
Guohua Wang - Nuclear Power Institute of China
Chang Liu - Nuclear Power Institute of China
Yuhao He - Nuclear Power Institute of China

Calculation and analysis of frictional work heat generation and heat dissipation in supercritical carbon dioxide pipe network simulation

Technical Paper Publication: ICONE32-0584

Lingbo Meng - Harbin Engineering University Yiming Xiong - Harbin Engineering University Yingjie Li - Harbin Engineering University Ali Ayaz - Harbin Engineering University Jilin Sun - Harbin Engineering University Genglei Xia - Harbin Engineering University

A topology-optimized leaf vein-like heat sink based on natural convection substitution model

Technical Paper Publication: ICONE32-0648

ChunBo Zhang - Harbin Engineering University GeNing He - Nuclear Power Institute of China DongHui Li - Nuclear Power Institute of China ZiWei Zhang - Harbin Engineering University JiDong Cong - Harbin Engineering University ZhaoMing Meng - Harbin Engineering University

Research on the multi-physical coupling characteristics of neutronics, thermal-hydraulics, and material corrosion in the MTR Research Reactor

Technical Paper Publication: ICONE32-0709

Qiuxia Xie - China Nuclear Power Technology Research Institute

Yijun Zhang - China Nuclear Power Technology Research Institute

**Xiang Chai -** School of Nuclear Science and Engineering, Shanghai Jiao Tong University

Sitao Peng - China Nuclear Power Technology Research Institute

**Xiaojing Liu -** School of Nuclear Science and Engineering, Shanghai Jiao Tong University

.....

## ANALYSIS ON THE LOCA ACCIDENT OF WATER COOLED SOLID BREEDER BLANKET OF THE FUSION REACTOR UNDER PWR CONDITIONS

Technical Paper Publication: ICONE32-1427

Shuaiyu Han - Nuclear Power Institute of China

Chao Tian - Nuclear Power Institute of China

Futing Jing - Nuclear Power Institute of China

Jie Cheng - Harbin Engineering University

.....

**Track 5-6 Materials and Chemistry** 

10:30 am -12:00 pm , C-107B

Session Chair:

Session Co-Chair:

# THE STUDY OF THE CORROSION BEHAVIOR OF HAYNES H214 ALLOY IN KCI-MgCl2 MOLTEN SALT

Technical Paper Publication: ICONE32-0253

Xiao Zeng - China Nuclear Power Engineering CO., LTD
Fengyang Quan - China Nuclear Power Engineering CO., LTD
Wei LI - China Nuclear Power Engineering CO., LTD
Yidan YUAN - China Nuclear Power Engineering CO., LTD

CHARACTERIZATION AND APPLICATION OF HYDROGEN IONS IN SMALL-SCALE SODIUM-WATER REACTION TESTS



Technical Paper Publication: ICONE32-1533

Yichi Li - China institute of atomic energy
Bin Hou - China institute of atomic energy
Yan Zhao - China institute of atomic energy
Jianxiang Yao - China institute of atomic energy

# A Summary of Adsorption of Fission Products on the Graphite Dust in HTGRs

### Technical Paper Publication: ICONE32-1643

Rui Nie - Institute of Nuclear and New Energy Technology, Collaborative Innovation Center of Advanced Nuclear Energy Technology, Key Laboratory of Advanced Reactor Engineering and Safety of Ministry of Education, Tsinghua University, China Yu Wang - Institute of Nuclear and New Energy Technology, Collaborative Innovation Center of Advanced Nuclear Energy Technology, Key Laboratory of Advanced Reactor Engineering and Safety of Ministry of Education, Tsinghua University, China Ziling Zhou - Institute of Nuclear and New Energy Technology, Collaborative Innovation Center of Advanced Nuclear Energy Technology, Key Laboratory of Advanced Reactor Engineering and Safety of Ministry of Education, Tsinghua University, China Naizhe Zhang - Institute of Nuclear and New Energy Technology, Collaborative Innovation Center of Advanced Nuclear Energy Technology, Key Laboratory of Advanced Reactor Engineering and Safety of Ministry of Education, Tsinghua University, China

Xuegang Liu - Institute of Nuclear and New Energy Technology,
Collaborative Innovation Center of Advanced Nuclear Energy
Technology, Key Laboratory of Advanced Reactor Engineering
and Safety of Ministry of Education, Tsinghua University, China
Feng Xie - Institute of Nuclear and New Energy Technology,
Collaborative Innovation Center of Advanced Nuclear Energy
Technology, Key Laboratory of Advanced Reactor Engineering
and Safety of Ministry of Education, Tsinghua University, China
Jianzhu Cao - Institute of Nuclear and New Energy Technology,
Collaborative Innovation Center of Advanced Nuclear Energy
Technology, Key Laboratory of Advanced Reactor Engineering
and Safety of Ministry of Education, Tsinghua University, China
Minghua Lyu - Department of Nuclear Environmental Science

Research, China Institute for Radiation Protection **Peng Li -** School of Physics and Electronics Engineering, Shanxi University, China

.....

# Study on the phase equilibria of the U-Zr-O ternary system with CALPHAD method

Technical Paper Publication: ICONE32-1670

**Fengyue zhao -** China Nuclear Power Technology Research Institute, China

Yangli Chen - China Nuclear Power Technology Research Institute, China

**Yong Ouyang -** China Nuclear Power Technology Research Institute, China

Xinhai Zhao - China Nuclear Power Technology Research Institute, China

**Yuncong Ding -** School of Nuclear Science and Engineering, Shanghai Jiao Tong University, China

A first-principles study of the adsorption behavior of fission product Cs on U3Si2 surfaces

Technical Paper Publication: ICONE32-1679

ZhongYi Zou - East China University of Technology Chuan Li - Tsinghua University Aixing Wang - East China University of Technology LiJing Huang - Tsinghua University

WenYi Wang - Tsinghua University

**Research progress of cement radioactivity in China** Technical Paper Publication: ICONE32-2144

**Chuncen Wu** - School of Energy and Power Engineering, Chongqing University, China

**Feng Wang -** Key Laboratory of Low-Grade Energy Utilization Technology and System Education, Chongqing University, China **Zhong Wu -** Chongqing Radiation Environment Supervision and Management Station, China

**Shang Geng -** School of Energy and Power Engineering, Chongqing University, China

**Hengyan Du -** Chongqing Radiation Environment Supervision and Management Station, China



**Yifan Song -** School of Energy and Power Engineering, Chongqing University, China

Yuhang Wang - School of Energy and Power Engineering, Chongqing University, China

**Dongyi Xiao -** School of Energy and Power Engineering, Chongqing University, China

**Chen Yang -** Chongqing Radiation Environment Supervision and Management Station, China

**Mingxiao Wang -** Chongqing Radiation Environment Supervision and Management Station, China

**Guoqiang Wang -** Key Laboratory of Low-Grade Energy Utilization Technology and System Education, Chongqing University, China

**Tianya Huang -** Chongqing Radiation Environment Supervision and Management Station, China

**Xue Zhao -** Chongqing Radiation Environment Supervision and Management Station, China

Fei Li - Chongqing Radiation Environment Supervision and Management Station, China

Guang Li - Chongqing Radiation Environment Supervision and Management Station, China

Track 5-7 Nuclear Security and Radiation Detection 10:30 am –12:00 pm , C-108A

### Session Chair:

Session Co-Chair:

Electronic System Design on the n/γSignal Pulse Shape Discrimination (PSD) for SiPM-array based CLYC Detector

Technical Paper Publication: ICONE32-0314

Ximin Zhang - Xian Jiaotong University Shuhuan Liu - Xian Jiaotong University Yunfeng Sun - Xian Jiaotong University Fanjun Meng - Xian Jiaotong University Shijie Zhu - Xian Jiaotong University Xuan Wang - Xian Jiaotong University Chao Wang - Xian Jiaotong University Tian Xing - Xian Jiaotong University

-128-

Rami Ahmed - Xian Jiaotong University Junye Zhou - Xian Jiaotong University

Zhiliang Hu - China Spallation Neutron Source

Guang Hu - Xian Jiaotong University

### INTENSE RADIOLUMINESCENCE FROM ARGON EXCITED BY ALPHA PARTICLES IN SOLAR BLIND REGION

Technical Paper Publication: ICONE32-0403

Shengqiang Chen - Harbin Engineering University
Yushou Song - Harbin Engineering University
Jichao Tang - Harbin Engineering University
Mingqi Zhang - Harbin Engineering University
Huilan Liu - Harbin Engineering University

## LARGE-SIZE CSPBBR3 COMPOSITE FILMS PREPARED BY IN-SITU GROWTH METHOD FOR FLEXIBLE, STABLE AND HIGH-PERFORMANCE X-RAY SCINTILLATORS

Technical Paper Publication: ICONE32-0531

yuanjie Sun - Harbin Engineering University
yue Zhang - Harbin Engineering University
zhe Liu - Heilongjiang Institute of Atomic Energy
zhigang Li - Harbin Engineering University
hongtao Zhao - Harbin Engineering University

### RADIATION SOURCE SEARCH STRATEGY BASED ON REINFORCEMENT LEARNING WITH SPIKING RESPONSE MODEL

Technical Paper Publication: ICONE32-0684

Jianwen Huo - Southwest University of Science and Technology, China

Yunlei Guo - Southwest University of Science and Technology, China

Xiaolu Li - Southwest University of Science and Technology, China

**Zhonbing Zhou -** Southwest University of Science and Technology, China

.....



Autonomous Radiation Field Reconstruction and Localization Method Using a Mobile Robot Based on Sparse Measurement Data

Technical Paper Publication: ICONE32-0946

**HongWei Liu** - School of Information Engineering, Southwest University of Science and Technology

**Zhongbing Zhou -** School of Information Engineering, Southwest University of Science and Technology

**Xulin Hu** - School of Information Engineering, Southwest University of Science and Technology

**Jianwen Huo -** School of Information Engineering, Southwest University of Science and Technology

.....

Application Analysis of AIoT in the Field of Nuclear Security

Technical Paper Publication: ICONE32-1060

Sun Lizhi - HuaNeng ShanDong ShiDao Bay Nuclear Power Co.Ltd

.....

Design and Optimization of an Isotope Identification System Based on Inverse Compton Scattering and Nuclear Resonance Fluorescence for Non-Destructive Testing

Technical Paper Publication: ICONE32-1381

Hongze Zhang - Tsinghua University Zhijun Chi - Tsinghua University Yingchao Du - Tsinghua University Wenhui Huang - Tsinghua University Chuanxiang Tang - Tsinghua University

Track 5-8 Cybersecurity and Instrumentation & amp; amp; Control 10:30 am -12:00 pm , C-108B

### Session Chair:

Session Co-Chair:

Research on risk assessment method of industrial control system of nuclear facilities based on analytic Hierarchy process

Technical Paper Publication: ICONE32-0146

**xiaocong zhang -** The Fourth Research and Design Engineering Corporation of CNNC, Nuclear Security Technology Innovation Center of Hebei Provence

min xie - China National Nuclear Corporation

**Liang Ma** - The Fourth Research and Design Engineering Corporation of CNNC, Nuclear Security Technology Innovation Center of Hebei Provence

**chenliang Yuan -** The Fourth Research and Design Engineering Corporation of CNNC, Nuclear Security Technology Innovation Center of Hebei Provence

meixuan Wang - The Fourth Research and Design Engineering Corporation of CNNC, Nuclear Security Technology Innovation Center of Hebei Provence

.....

### GNN-BASED TRANSIENT FAULT DETECTION FOR HTR-PM ABNORMAL FEEDWATER FLOW

Technical Paper Publication: ICONE32-0702

**Wenji Zhang -** Institute of Nuclear and New Energy Technology of Tsinghua University

**Tianhao Zhang** - Institute of Nuclear and New Energy Technology of Tsinghua University

**Duo Li** - Institute of Nuclear and New Energy Technology of Tsinghua University

**Chao Guo** - Institute of Nuclear and New Energy Technology of Tsinghua University

**Jitao Li** - Institute of Nuclear and New Energy Technology of Tsinghua University

**Xiaojin Huang -** Institute of Nuclear and New Energy Technology of Tsinghua University

.....

Cybersecurity Design For Non-classified DCS In High Temperature Reactor Nuclear Power Plants

Technical Paper Publication: ICONE32-0768

Yuan XIANG - China Nuclear Control System Engineering Co.,Ltd

.....

ATTENTION-BASED DISCRIMINATIVE FEATURE LEARNING FOR FAULT DIAGNOSIS IN NUCLEAR



### POWER PLANTS

Technical Paper Publication: ICONE32-1076

Jize Guo - Tsinghua university

Chao Guo - Tsinghua university

Tianhao Zhang - Tsinghua university

Xiaojin Huang - Tsinghua university

Research on Cybersecurity Regulatory Policies and

Standards for Nuclear Power Instrumentation and Control Systems

Technical Paper Publication: ICONE32-1214

YUN GUO - Huaneng Shandong Shidao Bay Nuclear Power Co., Ltd

YUEYONG HOU - Huaneng Shandong Shidao Bay Nuclear Power Co., Ltd

XIANGCHEN MI - Tianjin huaneng yangliuqing power CO.,Ltd

JING QIAN - Zhejiang huaneng power supply CO.,Ltd

.....

Research on DCS Related Optimizations and its Impact on Nuclear Safety

Technical Paper Publication: ICONE32-2031

Haibo Zhang - China Nurclear Power Engineering Co., LTD.Chunyong WU - China Nurclear Power Engineering Co., LTD.Teng Teng - China Nurclear Power Engineering Co., LTD.

Track 5-9 Human Factors and Operational Experience 10:30 am –12:00 pm , C-109A

Session Chair:

Session Co-Chair:

### DEVELOPMENT OF THE EVALUATION PROCESS AND AUTOMATED SOFTWARE FOR NUCLEAR SUPPORTS BASED ON NUCLEAR STANDARDS

Technical Paper Publication: ICONE32-0333

Jiayi Tian - Zhejiang Yuansuan Technology Co., Ltd. Yujiang Xie - Zhejiang Yuansuan Technology Co., Ltd. Yu Tan - Zhejiang Yuansuan Technology Co., Ltd.

-130-

Yang Dai - Zhejiang Yuansuan Technology Co., Ltd.
Jiesheng Min - Zhejiang Yuansuan Technology Co., Ltd.
Yonggeng Zhang - Zhejiang Yuansuan Technology Co., Ltd.

The Development of Nuclear Industry in China Aiming at Carbon Peaking and Neutrality: Value, Risks and the Response of Law

Technical Paper Publication: ICONE32-0686

Jiu Liu - Harbin Engineering University Yuming Shang - Harbin Engineering University Yuetong Gao - Harbin Engineering University Yi Liu - Harbin Engineering University Zhengyi Zhang - Harbin Engineering University Siyan Chen - Harbin Engineering University Le Shen - Anhui University

## PROTECTION STRATEGY FOR HICS AGAINST INTERNAL HAZARDS BASED ON ALARP IN UK HPR1000 NUCLEAR POWER PLANT

Technical Paper Publication: ICONE32-0837

Xiaoming Tang - China Nuclear Power Plant Engineering Co., He Zhu - State Key Laboratory of Nuclear Power Safety Technology and Equipment, China Nuclear Power Plant Engineering Co.

# Research on the risk management of equipment transportation in Nuclear Power Plant Project

Technical Paper Publication: ICONE32-1314

kaili WANG - China Nuclear Power Engineering Co., LtdNinghui HAN - China Nuclear Power Engineering Co., Ltd

## RESEARCH ON EQUIPMENT RELIABILITY IMPROVEMENT BASED ON EXTERNAL EXPERIENCE FEEDBACK MANAGEMENT

.....

Technical Paper Publication: ICONE32-1321

Shuang Zhang - Suzhou Nuclear Power Research Institute Co., Ltd.
Wenwen Zhao - Suzhou Nuclear Power Research Institute Co., Ltd.
Shuaifei Guo - Suzhou Nuclear Power Research Institute Co., Ltd.



Research and Practice on Closed-loop Management of Experience Feedback from Operation to Engineering in NPPS

Technical Paper Publication: ICONE32-1689

Wenwen zhao - Suzhou Nuclear Power Research Institute Co., Ltd. Shuang zhang - Suzhou Nuclear Power Research Institute Co., Ltd. Kuan zhang - Suzhou Nuclear Power Research Institute Co., Ltd.

Track 12-3 Equipment Design and Seismic Resistance Analysis

### 10:30 am -12:00 pm , C-109B

Session Chair:

Session Co-Chair:

Study on the Difference between the Site of HPR1000 NX and the Standard Seismic Design

Technical Paper Publication: ICONE32-0068

**Qing Da Liang -** CNPE Hebei Branch **Bing Han -** CNPE Hebei Branch **Xi Yang -** CNPE Hebei Branch

Jian Hui Liu - CNPE Hebei Branch

Study on the differences in coupling of nuclear safetyclass plant

.....

Technical Paper Publication: ICONE32-0069

Liang Qingda - CNPE Hebei Branch

Wang Yan - CNPE Hebei Branch

Zhang Xiongqian - CNPE Hebei Branch

Liu Jianhui - CNPE Hebei Branch

### MULTI-OBJECTIVE OPTIMAL DESIGN OF STEAM GENERATOR IN NUCLEAR POWER PLANT

.....

Technical Paper Publication: ICONE32-0086

Zheng Liu - Wuhan Second Ship Design and Research Institute Yong Li - Wuhan Second Ship Design and Research Institute Zesheng Niu - Wuhan Second Ship Design and Research Institute

Shaoyou Liu - Wuhan Second Ship Design and Research

### Institute

Jianjun Wang - Harbin Engineering University Sichao Tan - Harbin Engineering University

Strength analysis of large-span dome steel formwork based on different construction schemes
Technical Paper Publication: ICONE32-0110
Guozhen xu - China Nuclear Power Engineering Co., Ltd.
Zhimao Feng - China Nuclear Power Engineering Co., Ltd.
Lijian Cai - China Nuclear Power Engineering Co., Ltd.
Ying Ma - China Nuclear Power Engineering Co., Ltd.

Xiaoyi Yang - China Nuclear Power Engineering Co., Ltd.

Design and Dynamic Response Analysis of Base Isolation for Nuclear Island Building

Technical Paper Publication: ICONE32-0271

Xiaoyi Yang - China Nuclear Power Engineering Co., Ltd.
Jian Chen - China Nuclear Power Engineering Co., Ltd.
Dan Zhao - China Nuclear Power Engineering Co., Ltd.
Chencheng Shi - China Nuclear Power Engineering Co., Ltd.
Hehuan Ren - China Nuclear Power Engineering Co., Ltd.

Study on the application of vibration resistance mass in pipe vibration optimization

Technical Paper Publication: ICONE32-0521

Shuai Liu - The nuclear power institute of china
Wanyou Li - Harbin Engineering University
Rui Zhang - The nuclear power institute of china
Furui Xiong - The nuclear power institute of china
Xiaoming Bai - The nuclear power institute of china
Xiaozhou Jiang - The nuclear power institute of china
Xuan Huang - The nuclear power institute of china

Attain Huang The nuclear power institute of emiti

**Research on parameter configuration and equipment layout optimization of nuclear island cold chain system** Technical Paper Publication: ICONE32-2074

Zhirui Liu - Harbin Engineering University
Di Wu - Harbin Engineering University
Jincheng Su - China Nuclear Power Engineering Co.,Ltd.



Xiaopan Jia - China Nuclear Power Engineering Co.,Ltd. Jie Cheng - Harbin Engineering University Jianjun Wang - Harbin Engineering University

# Track11-3 Research on Fission Products or Analysis of HPR 1000

### 10:30 am -12:00 pm , C-112

### Session Chair:

Session Co-Chair:

Research on the Threshold of Habitable Radiation Dose Rate for Emergency Facilities in Nuclear Power Plants Technical Paper Publication: ICONE32-0025

Qian Chen - Suzhou Nuclear Power Research Institute Co.,Ltd. Yichao Huang - Suzhou Nuclear Power Research Institute Co.,Ltd.

**Yuhao Yin -** Suzhou Nuclear Power Research Institute Co.,Ltd. **Li Cao -** Yangjiang Nuclear Power Co.,Ltd.

.....

Daming Feng - Yangjiang Nuclear Power Co., Ltd.

### DEVELOPMENT OF POWER LOSS OPERATING PROCEDURE IN HPR1000 NUCLEAR POWRE PLANTS

Technical Paper Publication: ICONE32-0290

**zhang jianwen -** State Key Laboratory of Nuclear Power Safety Monitoring Technology and Equipment, China

**fu rushi -** State Key Laboratory of Nuclear Power Safety Monitoring Technology and Equipment, China

wang taike - China Nuclear Power Engineering Company, LTD kong kaihe - China Nuclear Power Engineering Company, LTD jiao zhenying - China Nuclear Power Engineering Company, LTD wang zhenying - China Nuclear Power Engineering Company, LTD tian baocong - China Nuclear Power Engineering Company, LTD

.....

Numerical Simulation of Fission Products Release Following Fuel Cladding Failure in the Lead-based Fast Reactor

Technical Paper Publication: ICONE32-0715

Yining Wang - Xi'an Jiaotong University Rongxiao Hu - Xi'an Jiaotong University Xinkun Xiao - Xi'an Jiaotong University Ronghua Chen - Xi'an Jiaotong University Wenxi Tian - Xi'an Jiaotong University

Research on code development and application in simulating Molten Corium-Concrete Interaction (MCCI) during severe accident

.....

Technical Paper Publication: ICONE32-0957

Zijie Wu - China Nuclear Power Technology Research Institute Xinhai Zhao - China Nuclear Power Technology Research Institute

Yabing Li - China Nuclear Power Technology Research Institute Chao Guo - China Nuclear Power Technology Research Institute shaoxiong Xia - China Nuclear Power Technology Research Institute

Yangli Chen - China Nuclear Power Technology Research Institute

Yong Ouyang - China Nuclear Power Technology Research Institute

.....

EFFECT OF SUBMERGENCE DEPTH ON REMOVAL EFFICIENCY OF AEROSOL POOL SCRUBBING IN DIFFERENT FLOW PATTERNS

Technical Paper Publication: ICONE32-1249

Qiang Lv - Shanghai Jiao Tong University

**Yichen Chen** - China Nuclear Power Technology Research Institute Co., Ltd.

Lily Tong - Shanghai Jiao Tong University

Xuewu Cao - Shanghai Jiao Tong University

Severe Accident Equipment Availability Analysis for HRP1000 Nuclear Power Plant

Technical Paper Publication: ICONE32-1681

Cong Wang - China Nuclear Power Engineering Co., Ltd Jing Liu - China Nuclear Power Engineering Co., Ltd Yu Liu - China Nuclear Power Engineering Co., Ltd Gaopeng Wang - China Nuclear Power Engineering Co., Ltd

-132-



Xinli Yu - China Nuclear Power Engineering Co., Ltd Shipeng Niu - China Nuclear Power Engineering Co., Ltd

## Track 12-4 Fault Diagnosis and Alarm System Design 10:30 am –12:00 pm , C-113

### Session Chair:

Session Co-Chair:

### RESERCH ON THE DESIGN OF THE INTELLIGENT FIRE PROTECTION SYSTEM FOR NUCLEAR POWER PLANT

Technical Paper Publication: ICONE32-0008

Chen Zhang - China Nuclear Power Engineering Co., Ltd., China Linna Zhang - China Nuclear Power Engineering Co., Ltd., China

Research on Data Acquisition System for Monitoring and Early Warning of Disaster-Causing Blockages in Thermal Traps of Nuclear Power Plants

Technical Paper Publication: ICONE32-0549

Hongyi Chen - China Nuclear Power Engineering Co., Ltd.
Wenjie Zhang - China Nuclear Power Engineering Co., Ltd.
Yazhuo Zhao - China Nuclear Power Engineering Co., Ltd.
Yushan Li - China Nuclear Power Engineering Co., Ltd.

Research on a robust temporal fault diagnosis method for nuclear power plants based on post interpretability enhancement

Technical Paper Publication: ICONE32-0850

Shiqi Zhou - Shanghai Jiao Tong University

Meng Lin - Shanghai Jiao Tong University

**Shilong Huang -** Shanghai Nuclear Reactor Engineering Simulation Technology Co., Ltd

Kai Xiao - Nuclear Power Institute of China

.....

Research on Compound Fault Diagnosis Model of Rotating Equipment in Nuclear Power Plant based on ResNet

Technical Paper Publication: ICONE32-0869

Wenhao Ran - Key Laboratory of Nuclear Safety and Advanced Nuclear Energy Technology, Ministry of Industry and Information Technology, Harbin Engineering University
Hong Xia - Key Laboratory of Nuclear Safety and Advanced Nuclear Energy Technology, Ministry of Industry and Information Technology, Harbin Engineering University

**Chunjie Zhao** - Key Laboratory of Nuclear Safety and Advanced Nuclear Energy Technology, Ministry of Industry and Information Technology, Harbin Engineering University

Yihu Zhu - Key Laboratory of Nuclear Safety and Advanced Nuclear Energy Technology, Ministry of Industry and Information Technology, Harbin Engineering University

**Peiqi Jiang -** Key Laboratory of Nuclear Safety and Advanced Nuclear Energy Technology, Ministry of Industry and Information Technology, Harbin Engineering University

.....

Research on Simplifying the Artificial Intelligence Algorithms Development for Status Monitoring and Fault Diagnosis of Typical Nuclear Equipment

Technical Paper Publication: ICONE32-1063

Haidong Wang - Shanghai Nuclear Engineering Research & Design Institute Co., Ltd.

Junwei Hou - Shanghai Nuclear Engineering Research & Design Institute Co., Ltd.

**Zhaosheng Zhang -** Shanghai Nuclear Engineering Research & Design Institute Co., Ltd.

Xiaochen Shi - Shanghai Nuclear Engineering Research & Design Institute Co., Ltd.

.....

Research on Performance Test of Intelligent Alarm System for Nuclear Power Plant Based on Multi-Level Flow Model

Technical Paper Publication: ICONE32-1155

Chenxi ZHANG - Shenzhen University Ming YANG - Shenzhen University Sijuan CHEN - Shenzhen University Jianhua CHEN - Shenzhen University Faqiang QIAN - Shenzhen University



Track1-9 Operation and Maintenance Mode Optimization 3:30 pm –5:00 pm , C-101AB

### Session Chair:

Session Co-Chair:

## MIGRATION AND DISTRIBUTION OF FOREIGN OBJECTS IN THE STEAM GENERATORS SECONDARY SIDE AT PRESSURIZED WATER REACTOR NUCLEAR POWER PLANTS

### Technical Paper Publication: ICONE32-0243

Liu Yong - Suzhou nuclear power institute Co., Ltd Chen Jie - China nuclear power operation Co.,Ltd Zhao Qingsen - Suzhou nuclear power institute Co., Ltd Tian Fujun - China nuclear power operation Co.,Ltd Peng Weidi - Suzhou nuclear power institute Co., Ltd Xia Peng - China nuclear power operation Co.,Ltd Chen Yujia - Suzhou nuclear power institute Co., Ltd

The Research Of Operation Condition Analysis And Comprehensive Experimen Debugging Technology In VVER Nuclear Power Unit After Cogeneration

Technical Paper Publication: ICONE32-0319

**Bing Huang -** Jiangsu Nuclear Power Corporation **Hongye Yang -** Jiangsu Nuclear Power Corporation **Xianggui Zhang -** Jiangsu Nuclear Power Corporation **Yujun Bao -** Jiangsu Nuclear Power Corporation **Chenliang Zhao -** Jiangsu Nuclear Power Corporation

### RESEARCH ON LIMITING CONDITION FOR OPERATION AND MONITORING METHODS OF CONTAINMENT AIR AVERAGE TEMPERATURE

Technical Paper Publication: ICONE32-0360

Zongqiang Yang - China Nuclear Power Engineering Co., Ltd., China
Hong Huang - China Nuclear Power Engineering Co., Ltd., China
Di Yang - China Nuclear Power Engineering Co., Ltd., China
Zhuangzhuang Yu - China Nuclear Power Engineering Co.,
Ltd., China

Ke Fan - CGN Huizhou Nuclear Power Co., Ltd.

------

-134-

Study on Nuclear Power Plant Optimal Recovery Guideline Validation Method and Key Technology Technical Paper Publication: ICONE32-0482

QIAN SUN - China Nuclear Power Engineering Co., Ltd. YA XU - China Nuclear Power Engineering Co., Ltd.

### RESEARCH ON COMPUTER-BASED PROCEDURES WITH PROCEDURE-BASED AUTOMATION IN NUCLEAR POWER PLANT

Technical Paper Publication: ICONE32-0528

jinxiao yuan - China Nuclear Power Engineering Co., Ltd jie chen - China Nuclear Power Engineering Co.,Ltd shaohua wang - China Nuclear Power Engineering Co.,Ltd sui fan - China Nuclear Power Engineering Co.,Ltd

Research on the Optimization of Equipment Cooling Water / Service Water System Maintenance Windows in Nuclear Power Plants

Technical Paper Publication: ICONE32-0587

Qiang Wang - Suzhou Nuclear Power Research Institute Co.,Ltd. Shijun Chen - Suzhou Nuclear Power Research Institute Co.,Ltd. Peifeng Chen - Suzhou Nuclear Power Research Institute Co.,Ltd. Chuang Yin - Suzhou Nuclear Power Research Institute Co.,Ltd. Zichun Wang - Suzhou Nuclear Power Research Institute Co.,Ltd. Lihui Chen - Suzhou Nuclear Power Research Institute Co.,Ltd. Jian Zhang - Suzhou Nuclear Power Research Institute Co.,Ltd. changsheng cheng - Suzhou Nuclear Power Research Institute Co.,Ltd.

Feasibility Study on Water Filling of Primary Circuit and Reactor Cavity by Low-Head Safety Injection Pump of Nuclear Power Unit

Technical Paper Publication: ICONE32-1821

**Shu-qiang Wang -** Daya Bay Nuclear Power Operations and Management Co., Ltd.

Zhao Zhang - Suzhou Nuclear Power Research Institute

Jun Li - Daya Bay Nuclear Power Operations and Management Co., Ltd.

Feng Xue - Suzhou Nuclear Power Research Institute Ting Luo - Suzhou Nuclear Power Research Institute



## Track2-9 Fast Reactor Physics (IV) 3:30 pm –5:00 pm , C-102

### Session Chair:

Session Co-Chair:

High-Fidelity Source Term Calculation Approach for Liquid-Fueled Molten Salt Reactors via Multi-Physics Coupling

Technical Paper Publication: ICONE32-1232

Xiaojie Xuan - Shanghai Institute of Applied Physics, Chinese Academy of Sciences

**Shaopeng Xia -** Shanghai Institute of Applied Physics, Chinese Academy of Sciences

**Maosong Cheng -** Shanghai Institute of Applied Physics, Chinese Academy of Sciences

.....

Measurement of key nuclides in thorium-based fuels based on white light neutron sources

Technical Paper Publication: ICONE32-1291

Yongjie Luo - Shanghai Institute of Applied Physics (SINAP), CAS Jianhui Wu - Shanghai Institute of Applied Physics (SINAP), CAS Xiangzhou Cai - Shanghai Institute of Applied Physics (SINAP), CAS Jifeng Hu - Shanghai Institute of Applied Physics (SINAP), CAS Jingen Chen - Shanghai Institute of Applied Physics (SINAP), CAS

Experiment Research and Data Benchmarking of YBS Critical Experiment Facility Lead reactor core Technical Paper Publication: ICONE32-1376

Xingjian LI - China Institute Of Atomic Energy Qingfu ZHU - China Institute Of Atomic Energy Qi ZHOU - China Institute Of Atomic Energy

ZHAODONG XIA - China Institute Of Atomic Energy

tong NING - China Institute Of Atomic Energy

zhenyang ZHANG - China Institute Of Atomic Energy

zihan DU - China Institute Of Atomic Energy

Optimization of Calculation Methods for the Production Yield of 99Mo in Research Reactor Irradiation Technical Paper Publication: ICONE32-1544

yan yang - Institute of Nuclear Physics and Chemistry, China Academy of Engineering Physics

xiaoyu guo - Institute of Nuclear Physics and Chemistry, China Academy of Engineering Physics

**simao guo** - Institute of Nuclear Physics and Chemistry, China Academy of Engineering Physics

yuchuan guo - Institute of Nuclear Physics and Chemistry, China Academy of Engineering Physics

**guanbo wang -** Institute of Nuclear Physics and Chemistry, China Academy of Engineering Physics

**jie fan -** Institute of Nuclear Physics and Chemistry, China Academy of Engineering Physics

**zhenpeng wang -** Institute of Nuclear Physics and Chemistry, China Academy of Engineering Physics

xuanting xie - Institute of Nuclear Physics and Chemistry, China Academy of Engineering Physics

**bin tang -** Institute of Nuclear Physics and Chemistry, China Academy of Engineering Physics

### CONCEPTUAL DESIGN OF A LOW EXCESS REACTIVITY HEAT PIPE COOLED REACTOR CORE

Technical Paper Publication: ICONE32-1692

Kunfeng Ma - Shanghai Jiao Tong University

Shengtao Han - Shanghai Jiao Tong University

Ruixiang Wang - Shanghai Jiao Tong University

Qufei Song - Shanghai Jiao Tong University

Hui Guo - Shanghai Jiao Tong University

Hanyang Gu - Shanghai Jiao Tong University

Optimization Design of High Throughput Reactor Detector

.....

Technical Paper Publication: ICONE32-1715

Fan WANG - China Institute of Atomic Energy Shixi WANG - China Institute of Atomic Energy Qiang YANG - China Institute of Atomic Energy Yong YANG - China Institute of Atomic Energy

.....



Track 7-9 Nuclear reactor safety analysis (I) 3:30 pm –5:00 pm , C-103

### Session Chair:

Session Co-Chair:

## RESEARCH ON INNUENCE FACTORS OF HEAT TRANSFER PERFORMANCE OF CLOSED-LOOP PASSIVE CONTAINMENT COOLING SYSTEM BASED ON

Technical Paper Publication: ICONE32-1729

Weiyu Chu - Harbin Engineering Universuty

Guoqiang Zhang - China Nuclear Power Engineering Co.,Ltd

Qiwei Tian - China Nuclear Power Engineering Co.,Ltd

Zhaoming Meng - Harbin Engineering Universuty

Hui Liang - Harbin Engineering Universuty

Zhongning Sun - Harbin Engineering Universuty

Haifu Shi - China Nuclear Power Engineering Co.,Ltd

.....

Accident Sequence Analysis Study of Deep Pool Reactors under Loss of Flow Accident

Technical Paper Publication: ICONE32-1758

Feng Shou - Harbin Engineering University

Zhang Yankun - Harbin Engineering University

Zhu Di - Harbin Engineering University

Sun Rulei - Harbin Engineering University

Gao Puzhen - Harbin Engineering University

Tian Ruifeng - Harbin Engineering University

Tan Sichao - Harbin Engineering University

Preliminary study on spray cooling under the engineering conditions of IVR strategy

.....

Technical Paper Publication: ICONE32-1780

Qiang Guo - CNPE Yong Guo - CNPE Zhuo Liu - CNPE Wei Li - CNPE Yidan Yuan - CNPE Yu Jin - CNPE Xiao Zhao - CAS

### Research on Diverse Protection of Typical Reactivity Faults in DBC-2 of HPR1000

Technical Paper Publication: ICONE32-1927

Yingjie Feng - China Nuclear Power Technology Research Institute

Kaiwen Liang - China Nuclear Power Technology Research Institute

Yuting Wu - China Nuclear Power Technology Research Institute

Kun Xiong - China Nuclear Power Technology Research Institute

### RESEARCH ON REACTOR SYSTEM LOCA MODELING ON DYNAMIC ANALYSIS

Technical Paper Publication: ICONE32-2003

Jianhao Zhang - The nuclear power institute of china Shuai Liu - The nuclear power institute of china Furui Xiong - The nuclear power institute of china Xuan Huang - The nuclear power institute of china Zhipeng Feng - The nuclear power institute of china

Xiaoming Bai - The nuclear power institute of china

Crud Related Risk Assessment Methodology Development under PWR Conditions

Technical Paper Publication: ICONE32-2092

Guoqiang WANG-PNNL

.....

**Track 8-9 Magnetohydrodynamics** 

3:30 pm -5:00 pm , C-104A

Session Chair:

Session Co-Chair:

The Study of Amplitude Effect on Added Mass and Fluid Damping Based on Eccentric Cylindrical Annulus Technical Paper Publication: ICONE32-0157

Gang Rong - CNPRI

-136-



### Shibin Zhu - CNPRI

## ANALYSIS OF TEMPERATURE FIELD CHARACTERISTICS AND INFLUENCING FACTORS INSIDE ELECTROMAGNETIC PUMP

.....

Technical Paper Publication: ICONE32-0204

Zhanming Zhou - Harbin Engineering University Xiaobo Zeng - Harbin Engineering University Yinyuan Tang - Harbin Engineering University Jie Cheng - Harbin Engineering University Jianjun Wang - Harbin Engineering University

# Numerical simulation of heat transfer phenomenon of helical cruciform fuel under subcooled boiling and CHF

Technical Paper Publication: ICONE32-0292

Yuanjie Zhang - Southeast University Bin Han - Southeast University

Xiaoliang Zhu - Southeast University

Numerical study of magnetohydrodynamics based on the recursive regularized lattice Boltzmann method

Technical Paper Publication: ICONE32-0896

**Ziyi Xiong -** Sino-French Institute of Nuclear Engineering and Technology, Sun Yat-sen University

Lili Zhang - Sino-French Institute of Nuclear Engineering and Technology, Sun Yat-sen University

**Shaolong Guo -** Sino-French Institute of Nuclear Engineering and Technology, Sun Yat-sen University

.....

Analysis of fluid pressure fluctuation of main helium fan and study on high disturbance immunity control of magnetic suspension bearing

Technical Paper Publication: ICONE32-1371

**Honglei Sha -** School of Aerospace Engineering, Tsinghua University

Zhanbo Du - Tianjin EMAGING Technology Limited

Yuxin Ren - School of Aerospace Engineering, Tsinghua University

Yu Hu - Tianjin EMAGING Technology Limited

## SIMULATION OF THE ELECTROMAGNETIC COIL TEMPERATURE DISTRIBUTION IN A CYLINDRICAL LINEAR INDUCTION PUMP

Technical Paper Publication: ICONE32-1516

Lixin Yang - Beijing Jiaotong University Heyao Li - Beijing Jiaotong University Zhenhua Yang - Beijing Jiaotong University

.....

Track 9-9 Radiation Protection and Safety Management-

3:30 pm -5:00 pm , C-104B

### Session Chair:

Session Co-Chair:

Research on radiation field and dose assessment of pressure vessel openning operation for HPR1000 nuclear plant

Technical Paper Publication: ICONE32-0004

Yingnan Tian - China Nuclear Power Enginnering Company
Yedi Chang - China Nuclear Power Enginnering Company
Jingyi Shen - China Nuclear Power Enginnering Company
Aijun Mi - China Nuclear Power Enginnering Company
Yawei Mao - China Nuclear Power Enginnering Company
Xiaoxia Wang - China Nuclear Power Enginnering Company
Bingheng Wang - China Nuclear Power Enginnering Company
Siyang Xie - China Nuclear Power Enginnering Company
Ya Xu - China Nuclear Power Enginnering Company
Yuqi Wang - China Nuclear Power Enginnering Company

Research and Application on Optimization Design Method for Radiation Protection of HPR1000 Nuclear Power Plant

Technical Paper Publication: ICONE32-0020

Yonghai Zhou - China Nuclear Power Engineering Co., Ltd Weifeng Lyu - China Nuclear Power Engineering Co., Ltd Jie Liu - China Nuclear Power Engineering Co., Ltd Runchun Guo - China Nuclear Power Engineering Co., Ltd Guanghao Zeng - China Nuclear Power Engineering Co., Ltd



Radiation Protection design for the replace of evaporation system of radioactive waste liquid

Technical Paper Publication: ICONE32-0071

Zhang Yongkang - Nuclear Power Institute of China Liu Maomao - Nuclear Power Institute of China

Analysis of the Impact on Iron Dosimeter Missing in a Reactor Vessel Surveillance Capsule

Technical Paper Publication: ICONE32-0183

Zhongming Fu - Shandong Nuclear Power Plant Company
Hao Wang - Shandong Nuclear Power Plant Company
Jun Qi - Shandong Nuclear Power Plant Company
Tao Cui - Shandong Nuclear Power Plant Company
Guojian Li - State Nuclear Power Plant Service Company
Liangzhi Cao - School of Nuclear Science and Technology,
Xi'an Jiaotong University

Yaping Zhang - School of Nuclear Science and Technology, Xi'an Jiaotong University

.....

A Preliminary Deep Learning Framework for Predicting Multi-Group Photon Fluence Buildup Factors in Radiation Shielding

Technical Paper Publication: ICONE32-0602

Junyi Chen - Tsinghua University Chenghao Cao - Tsinghua University Ruihan Li - Tsinghua University Ben Qi - Tsinghua University Jingang Liang - Tsinghua University

.....

Third Generation PWR Radiation Environmental Condition Optimization

Technical Paper Publication: ICONE32-1699

Jingyi Shen - China Nuclear Power Engineering Co., LTD Yingnan Tian - China Nuclear Power Engineering Co., LTD Wei You - China Nuclear Power Engineering Co., LTD Xiaoxia Wang - China Nuclear Power Engineering Co., LTD Guiling Gao - China Nuclear Power Engineering Co., LTD

### Track1-18 Optimization of Operation and Maintenance Methods (MIX)

### 3:30 pm -5:00 pm , C-105A

Session Chair:

Session Co-Chair:

Analysis of The Influence of Different Foundation Conditions on the Floor Response Spectrum of Nuclear Island Plant Buildings

Technical Paper Publication: ICONE32-0087

ZHONG HU - Hualong Nuclear Power Technology Co.,Ltd.

JUNFENG WANG - Hualong Nuclear Power Technology Co.,Ltd.

YATING ZHANG - Hualong Nuclear Power Technology Co.,Ltd.

Research and Application of Dynamic Vibration Absorber in Noise Control of AP1000 Nuclear Power Unit Main Control Room

Technical Paper Publication: ICONE32-0238

Mingli Liu - Shandong Nuclear Power Co.Ltd

Huanhuan Bai - Nuclear and Radiation Safety Center of MEE

Hao Wang - Shandong Nuclear Power Co.Ltd

Huiren Zhang - Shandong Nuclear Power Co.Ltd

Chuandong Li - Shandong Nuclear Power Co.Ltd

.....

Modal and Seismic Analyses for Nuclear-Grade HVAC Damper in Nuclear Power Plant

Technical Paper Publication: ICONE32-0369

**Zhe Lyu -** China Nuclear Power Engineering Co.,Ltd. Zhengzhou Branch

**Xipeng Ma -** China Nuclear Power Engineering Co.,Ltd. Zhengzhou Branch

Lihui Jiao - China Nuclear Power Engineering Co.,Ltd. Zhengzhou Branch

APPLICATION OF OPERABILITY AND MAINTAINABILITY IN NUCLEAR POWER PLANT LAYOUT DESIGN

-138-

ne 32<sup>nd</sup> International Conference on Nuclear Engineering

Technical Paper Publication: ICONE32-0476

Yuanxia ZHOU - CNPDC Wenhua NIU - CNPDC Weiting HE - CNPDC

Yikun ZHOU - CNPDC

.....

Numerical Simulation Study on Environmental Conditions in the Habitable Area of the Main Control Room of a Nuclear Power Station

Technical Paper Publication: ICONE32-1034

SHANSHAN QIU - China Nuclear Power Engineering Co., Ltd. LILI ZHANG - China Nuclear Power Engineering Co., Ltd.

ANALYSIS OF THE CAUSE OF R ROD PERTURBATION AND SOLUTION RESEARCH BASED ON CPR1000 NUCLEAR POWER PLANT

Technical Paper Publication: ICONE32-1649

Desheng Jin - CNPRI Wei Zhang - CNPRI Yating Tian - CNPRI Tianming Ruan - CNPRI Xiong Zheng - CNPRI

.....

### CANDU FUEL CHANNEL LIFE EXTENSION – CANADIAN PERSPECTIVE

Technical Paper Publication: ICONE32-2235

Alex Vlahov - Kinectrics Andy Wallace - Kinectrics Nick Brekel - Kinectrics Tanya Hunt - Kinectrics

Steven Xu - Kinectrics

\_\_\_\_\_

Track1-19 Outage Optimization and Power Supply Reliability

3:30 pm -5:00 pm , C-105B

Session Chair:

Session Co-Chair:

## ANALYSIS OF SINGLE-TRAIN FAST STARTING TECHNOLOGY FOR EMERGENCY DIESEL GENERATORS IN NUCLEAR POWER PLANTS

Technical Paper Publication: ICONE32-0030

Hongzhou Li - Commissioning Center of China Nuclear Power Engineering Co., Ltd. China

.....

## RESEARCH ON TRANSIENT CHARACTERISTICS DURING THE RELOADING PROCESS OF EMERGENCY DIESEL GENERATOR SETS IN NUCLEAR POWER PLANTS

Technical Paper Publication: ICONE32-0774

Long SHENG - China NuclearPower Engineering Co., Ltd.

Jiaru XIE - China Nuclear Power Engineering Co., Ltd.

**Zhi WANG -** School of Software Engineering, Xi'an Jiaotong University

Yi LUO - China Nuclear Power Engineering Co.,Ltd.

Study on project risk assessment and management of island nuclear plant

Technical Paper Publication: ICONE32-0814

Jianbin Niu - China Nuclear Power Engineering Corporation Hong Gao - China Nuclear Power Engineering Corporation Dong Zhao - China Nuclear Power Engineering Corporation

RESEARCH ON APPLICATION OF WIRELESS COMMUNICATION TECHNOLOGY IN MAINTENANCE OPERATION OF NUCLEAR POWER PLANT UNDER RADIATION ENVIRONMENT

Technical Paper Publication: ICONE32-0817

Long Tang - China Nuclear Operation and Maintenance Technology Co., LTD

Xiangen Lou - China Nuclear Operation and Maintenance Technology Co., LTD

**Binghan Gao -** CNNC Nuclear Power Operation Management Co., LTD

Junfu Zhan - China Nuclear Operation and Maintenance Technology Co., LTD

-139-



The Feasibility Study of CNP1000 Nuclear Power Plant Refueling Outage Path Optimization Based on Mid-loop Condition

Technical Paper Publication: ICONE32-0930

sheng zhu - Nuclear Power Operations Research Institute
Qianwen Qin - Nuclear Power Operations Research Institute
Jianjun Wang - Nuclear Power Operations Research Institute
Zhongwu Chen - Nuclear Power Operations Research Institute
Fenglin Tian - Nuclear Power Operations Research Institute

**Research on Dynamic Programming of Equipment Load Power Supply Sequence for PWR in Response to DEC** Technical Paper Publication: ICONE32-0965

Yi Ke - China Nuclear Power Engineering Co., Ltd.

Research on the Application Strategies of Periodic Safety Review for HPR1000

Technical Paper Publication: ICONE32-1458

Xuelong LI - China Nuclear Power Engineering Co., Ltd.
Yuanli LIU - China Nuclear Power Engineering Co., Ltd.
Haiying LUO - China Nuclear Power Engineering Co., Ltd.
Jinkai WANG - China Nuclear Power Engineering Co., Ltd.
Qing SHI - China Nuclear Power Engineering Co., Ltd.

Trank 9-10 Radiation Protection and Safety Management-□

3:30 pm –5:00 pm , C-106A

Session Chair:

Session Co-Chair:

Optimization of LASSO Reconstruction Scheme to Identify Radioactive Sources based on Monitoring Air Dose Rates Technical Paper Publication: ICONE32-0124

.....

Wei Shi - City University of Hong Kong

Masahiko Machida - Japan Atomic Energy Agency Susumu Yamada - Japan Atomic Energy Agency

Koji Okamoto - The University of Tokyo

Study on Treatment Technology of Radioactive Laundry Wastewater

Technical Paper Publication: ICONE32-0320

Weixi Guo - CNNC No.7 Research and Design Institute Co. Ltd Huan Wang - CNNC No.7 Research and Design Institute Co. Ltd Xutao Pei - CNNC No.7 Research and Design Institute Co. Ltd Xiaomin Ma - CNNC No.7 Research and Design Institute Co. Ltd

## KEY RADTIONUCLIDES IMPACT ANALYSIS ON IRRADIATION DOSE ASSESSMENT IN REACTOR BUILDINGS AFTER SEVERE ACCIDENTS

Technical Paper Publication: ICONE32-0808

Zhou Jing - China Nuclear Power Design Co., Ltd.

**Pan Xiangni** - Nuclear Chemistry and Nuclear Fuel Engineering, School of Nuclear Science and Technology, University of South China

Niu Wenhua - China Nuclear Power Design Co., Ltd.

Lv Weifeng - China Nuclear Power Design Co., Ltd.

Zhou Yonghai - China Nuclear Power Design Co., Ltd.

.....

## IMPACT ANALYSIS ON THE COLLECTIVE DOSE CAUSED BY ZIRCONIUM OXIDE PEELING OFF FROM FUEL CLADDING

Technical Paper Publication: ICONE32-1271

Shuhua Yin - China Nuclear Power Engineering Co., Ltd
LIU Jie - China Nuclear Power Engineering Co., Ltd
ZHOU Jing - China Nuclear Power Engineering Co., Ltd

FEM methodologies for the simplified thermal analysis of waste package for ILW radioactive waste Technical Paper Publication: ICONE32-1425

Francesco Rizzo - Sapienza DIAEE Domenico Rosa - Sapienza DICMA Franco Medici - Sapienza DICMA Luca Di Palma - Sapienza DICMA Andrea Tonti - INAIL Fabio Giannetti - Sapienza DIAEE Gianfranco Caruso - Sapienza DIAEE

-140-



Development of a Radiation Protection Training System Based on Three-Dimensional Dose Field and Virtual Reality Technology

Technical Paper Publication: ICONE32-1757

Jie Liu - china Nuclear Power Enginering co., Ltd Shuhua Yin - China Nuclear Power Engineering Co., Ltd. Xuehu Wei - China Nuclear Power Engineering Co., Ltd. Jing Zhou - China Nuclear Power Engineering Co., Ltd.

Track 7-18 Small modular reactors and Gen IV reactors (I)3:30 pm –5:00 pm , C-106B

### Session Chair:

### Session Co-Chair:

Numerical simulation of thermal fluctuation characteristics for liquid lead-bismuth in T-junction tube

Technical Paper Publication: ICONE32-1067

Shuqi Meng - Harbin Engineering University

**Yisong Hu** - China Nuclear Power Technology Research Institute Co.,Ltd

Jiming Lin - China Nuclear Power Technology Research Institute Co.,Ltd

**Dechang Cai -** China Nuclear Power Technology Research Institute Co.,Ltd

Li Li - Harbin Engineering University

Sub-Channel Model-Based Simulation of Flow Channel Blockage Accidents in Liquid Heavy Metal Cooled Fast Reactor Assemblies

Technical Paper Publication: ICONE32-1140

Hanhong Zhao - China Nuclear Power Technology Research Institute Co.,Ltd.

**Fang Chen -** China Nuclear Power Technology Research Institute Co.,Ltd.

Yating Tian - China Nuclear Power Technology Research Institute Co.,Ltd.

**Bin Qiu -** China Nuclear Power Technology Research Institute Co.,Ltd.

Shuqi Meng - China Nuclear Power Technology Research

Institute Co.,Ltd.

## PILOT STUDY OF DETECTION SYSTEM FOR SMALL LEAKAGE OF SODIUM WATER ACCIDENT IN MULTI-MODULE STEAM GENERATOR-Abstract

.....

Technical Paper Publication: ICONE32-1630

Jundong Qian - China Institute of Atomic Energy Bin Hou - China Institute of Atomic Energy Huanjun Zhu - China Institute of Atomic Energy

.....

Experimental study on natural circulation characteristics of decay heat removal of penetrating decay heat exchanger in pool-type fast reactor

Technical Paper Publication: ICONE32-1661

Weilong Gao - China Institute of Atomic Energy
Daoxi Cheng - China Institute of Atomic Energy
Mingdi Xing - China Institute of Atomic Energy
Shicheng Fan - China Institute of Atomic Energy
Weiming Zhai - China Institute of Atomic Energy
Ping Zhou - China Institute of Atomic Energy
Song Yu - China Institute of Atomic Energy
Xiaoyao Ma - China Institute of Atomic Energy
Ruizhi Li - China Institute of Atomic Energy

.....

Model Research of Effective Thermal Conductivity Calculation for High-Temperature Gas-cooled Pebblebed Reactor

Technical Paper Publication: ICONE32-1796

Maoping Ran - Chongqing University

Xiaoyong Wu - China Nuclear Energy S&T Limited

Bo Yuan - Chongqing University

Qinglong Wen - Chongqing University

.....

### ANALYSIS AND IMPROVEMENT OF NATURAL CIRCULATION CAPACITY OF LIQUID METAL COOLANTS

Technical Paper Publication: ICONE32-1949

Zongyan Bai - Southeast University, China. Shilei Dun - Southeast University, China.

.....



Track 7-22 Thermal-hydraulic HX and equipment (I) 3:30 pm –5:00 pm , C-107A

### Session Chair:

Session Co-Chair:

## EFFECT OF KEY PARAMENTERS ON REACTOR COOLANT PUMP SELECTION IN MILLION KILOWATT NUCLEAR POWER PLANT

Technical Paper Publication: ICONE32-0861

ShaoBin LI - China Nuclear Power Design Co.,Ltd.
Hanping LI - China United Gas Turbine Technology CO.,LTD
Yubin ZHANG - China Nuclear Power Design Co.,Ltd.
Dingqing GUO - China Nuclear Power Design Co.,Ltd.
Qin ZHOU - China Nuclear Power Design Co.,Ltd.
Ziyang HUANG - China Nuclear Power Design Co.,Ltd.
Bosen XIE - China Nuclear Power Design Co.,Ltd.

NUMERICAL INVESTIGATION ON TURBULENT MIXING CHARACTERISTICS OF CLOSED PARALLEL LONGITUDINAL SINUSOIDAL WAVY NARROW CHANNELS

Technical Paper Publication: ICONE32-1029

Ruizhi Hao - Beijing University of Chemical TechnologyTao Lu - Beijing University of Chemical TechnologyQi Lu - Nuclear Power Institute of China

.....

Jian Deng - Nuclear Power Institute of China

STUDY ON PINCH POINT ISSUES IN SUPERCRITICAL CARBON DIOXIDE BRAYTON SIMPLE RECUPERATIVE CYCLE

Technical Paper Publication: ICONE32-1472

**Jingsong Li** - China Nuclear Power Operation Technology Corporation, LTD.

**Tianqing Zhang -** China Nuclear Power Operation Technology Corporation, LTD.

**Zijian Wang -** China Nuclear Power Operation Technology Corporation, LTD.

Wei Zhang - China Nuclear Power Operation Technology

Corporation, LTD.

## Numerical Simulation and Performance Optimization of Wire Mesh Demisters

.....

Technical Paper Publication: ICONE32-1792

Shuting Zhong - Harbin Engineering University

Zhen Liu - Harbin Engineering University

Yuang Tan - Harbin Engineering University

Rulei Sun - Harbin Engineering University

Ruifeng Tian - Harbin Engineering University

Sichao Tan - Harbin Engineering University

.....

Multi-objective Optimization of Printed Circuit Heat Exchanger with Response Surface Model and NSGAII Technical Paper Publication: ICONE32-1811

Qianglong Wang - Wuhan Second Ship Design and Research Institute

Hao Xie - Wuhan Second Ship Design and Research Institute

Shuaijie Lu - Wuhan Second Ship Design and Research Institute

Feifei Song - Wuhan Second Ship Design and Research Institute Han Xu - Xi'an Jiaotong University

Zhexian Liu - Wuhan Second Ship Design and Research Institute

Wenxi Tian - Xi'an Jiaotong University

.....

RESEARCH ON THE OPTIMIZATION OF TPMS STRUCTURES HEAT EXCHANGERS AND HEAT TRANSFER PERFORMANCE

Technical Paper Publication: ICONE32-1956

NAILIANG ZHUANG - Nanjing University of Aeronautics and Astronuatics

**KAIWEN QIN -** Nanjing University of Aeronautics and Astronuatics

**XIAOPENG ZHAO -** AVIC Xi'an Flight Automatic Control Research Institute

HANGBIN ZHAO - Nanjing University of Aeronautics and Astronuatics



Numerical Study on the Cooling Performance of Triply Periodic Minimal Surface-based Sandwich Plate Heat Exchanger

Technical Paper Publication: ICONE32-2126

Yang Xianyin - Zhejiang University

Chen Lihua - Zhejiang University

Qiu Yunlong - Huanjiang Laboratory

## Track 5-10 Simulation and Data-Driven Methods

### 3:30 pm –5:00 pm , C-107B

### Session Chair:

Session Co-Chair:

Multi-robot collaborative source searching method based on information exploration and exploitation

Technical Paper Publication: ICONE32-0188

**Mingrun Ling -** Southwest University of Science and Technology

Junling Wang - Southwest University of Science and Technology

Xiaolu Li - Southwest University of Science and Technology Jianwen Huo - Southwest University of Science and Technology

Review of the application of principal component analysis technology in nuclear power plant accident diagnosis and equipment fault monitoring

Technical Paper Publication: ICONE32-0189

Jianfa Li - China Nuclear Power Engineering Co., Ltd Guangming Fan - Harbin Engineering University Xiaobo Zeng - Harbin Engineering University Zhaoming Meng - Harbin Engineering University

## HYBRID DE-CPO OPTIMIZED BACKPROPAGATION NEURAL NETWORK FOR ACCURATE SOURCE TERM ESTIMATION IN SEVERE NUCLEAR ACCIDENTS

Technical Paper Publication: ICONE32-0842

Jiayue Song - North China Electric Power University

Li Yang - North China Electric Power University Hao Zhou - North China Electric Power University Sheng Fang - Tsinghua University Xinpeng Li - North China Electric Power University

An intelligent analysis approach for identifying the flow patterns in porous media based on principal component analysis Technical Paper Publication: ICONE32-0994

Jiabin Gui - Xi'an Jiaotong University Liangxing Li - Xi'an Jiaotong University Yiwen Guo - Xi'an Jiaotong University Zhenxin Lei - Xi'an Jiaotong University Shang Shi - Xi'an Jiaotong University Xiangyu Li - Royal Institute of Technology

PI-KAN: A Physics-Data Dual-Driven Algorithm for LOCA Scenario Prediction and Solution

Technical Paper Publication: ICONE32-1248

**Yufei Xie -** Sino-German College of Intelligent Manufacturing, Shenzhen Technology University;Sun Yat-sen University

**Gejia Zhu -** China Resources Power Investment Co., Ltd. Northern Branch

Yue Li - Sino-German College of Intelligent Manufacturing, Shenzhen Technology University

Lei Zhang - Sino-German College of Intelligent Manufacturing, Shenzhen Technology University

Wenlin Wang - Sino-German College of Intelligent Manufacturing, Shenzhen Technology University

**Guohua Wu** - Sino-German College of Intelligent Manufacturing, Shenzhen Technology University

Ping Zheng - China Great Wall Technology Group Co., Ltd

Haichuan Zhang - Sino-German College of Intelligent

Manufacturing, Shenzhen Technology University

Introduction and Application of an Integrated Accident Diagnosis Method for Nuclear Emergency Technical Paper Publication: ICONE32-1605

**Fangqing YANG -** china nuclear power engineering Co., Ltd **Yanhua CHENG -** china nuclear power engineering Co., Ltd



**Danjing WEI -** china nuclear power engineering Co., Ltd **Yuan HU -** china nuclear power engineering Co., Ltd

Track 5-11 Structural Integrity and Transport Safety 3:30 pm –5:00 pm , C-108A

### Session Chair:

Session Co-Chair:

RESEARCH ON THE INFLUENCE OF PRESTRESS ON THE IMPACT RESISTANCE PERFORMANCE OF REINFORCED CONCRETE STRUCTURES IN NUCLEAR ENGINEERING

Technical Paper Publication: ICONE32-0589

Ge GAO - China Nuclear Power Engineering Co.,Ltd. MengYan SONG - China Nuclear Power Engineering Co.,Ltd. MengSha LIU - China Nuclear Power Engineering Co.,Ltd. RongPeng LI - China Nuclear Power Engineering Co.,Ltd. Di JIANG - China Nuclear Power Engineering Co.,Ltd.

Research on the Ultimate BearingCapacity of the Containment of a Third Generation Nuclear Power PlantCoupled with High Temperature and High Pressure

Technical Paper Publication: ICONE32-1021

Chunlong Zhang - China Nuclear Power Engineering Co.,LTD Jintao Zhao - China Nuclear Power Engineering Co.,LTD Jian Meng - China Nuclear Power Engineering Co.,LTD

Modeling method for design of turbine missile protection system based on MBSE

------

Technical Paper Publication: ICONE32-1092

Shimin Sun - China General Nuclear Clean Energy Company Hong Lv - China General Nuclear Design Company

.....

# CALIBRATION OF THE 2D PLANAR NEUTRON IMAGING DETECTOR

Technical Paper Publication: ICONE32-1293

**Yiyang Long -** Institute of Nuclear Science & Technology, Sichuan University **Penghui Wang -** Institute of Nuclear Science & Technology, Sichuan University

**Guofeng Qu** - Institute of Nuclear Science & Technology, Sichuan University

Jifeng Han - Institute of Nuclear Science & Technology, Sichuan University

## STRUCTURAL PERFORMANCE STUDY OF A GENERATION III NUCLEAR POWER PLANT REACTOR PIT STRUCTURE UNDER STEAM EXPLOSION LOADS

Technical Paper Publication: ICONE32-1443

Xiting WU - China Nuclear Power Engineering Co., Ltd. ziqiao liu - China Nuclear Power Engineering Co., Ltd yulin liu - China Nuclear Power Engineering Co., Ltd

Research on weak areas of steel containment penetrating sleeve under complex conditions

Technical Paper Publication: ICONE32-1726

Chunlong ZHANG - China Nuclear Power Engineering Co.,LTD Yu LIU - China Nuclear Power Engineering Co.,LTD Jinytao ZHAO - China Nuclear Power Engineering Co.,LTD Jian MENG - China Nuclear Power Engineering Co.,LTD

SENSITIVITY ANALYSIS OF SHIELDING EFFECT BY PARAMETER CHANGES IN DUCTILE IRON TRANSPORT CASK FOR SPENT FUEL ASSEMBLIES Technical Paper Publication: ICONE32-1933

Nanfeng Cao - China Nuclear Power Engineering Co., Ltd
Wenhua Niu - China Nuclear Power Engineering Co., Ltd
Yujia Chen - China Nuclear Power Engineering Co., Ltd
Huaisen Mo - China Nuclear Power Engineering Co., Ltd
Quan Gong - China Nuclear Power Engineering Co., Ltd

Track 5-12 Facility Specific and Environmental Considerations

3:30 pm -5:00 pm , C-108B

Session Chair:

Session Co-Chair:

-144-



Analysis of Polydisperse Aerosol Concentration Attenuation Characteristics within the Containment Vessel

Technical Paper Publication: ICONE32-0120

Junyan Chen - Nuclear Power Institute of China Chao Tian - Nuclear Power Institute of China Zian Zhai - Nuclear Power Institute of China Haifeng Gu - Harbin Engineering University

## THE RESEARCH ON HYDROCHEMICAL ENVIRONMENT ESTABLISHMENT OF CONTAINMENT SUMP IN POST ACCIDENT

Technical Paper Publication: ICONE32-0264

Yanlin CHEN - China Nuclear Power Engineering Co., Ltd
Jiaqi PAN - China Nuclear Power Engineering Co., Ltd
Guangfei WANG - China Nuclear Power Engineering Co., Ltd
Yu FENG - China Nuclear Power Engineering Co., Ltd
Huiyun MA - China Nuclear Power Engineering Co., Ltd
Ting HOU - China Nuclear Power Engineering Co., Ltd

### RESEARCH ON FIRE FIGHTING DESIGN OF NUCLEAR ISLAND CABLE IN NUCLEAR POWER PLANT

Technical Paper Publication: ICONE32-0355

Zhijing Li - China Nuclear Power EngineeringMeiyi Lv - China Nuclear Power EngineeringHui Bai - China Nuclear Power Engineering

.....

Research on dynamics of travelling fire and fixed fire in a shaft of nuclear power plants

Technical Paper Publication: ICONE32-0447

Haiqing Deng - China Nuclear Power Design Co., Ltd. Guanghua Yang - China Nuclear Power Design Co., Ltd.

## STUDY ON THE POSITION RECONSTRUCTION ALGORITHM OF 2D PLANAR NEUTRON DETECTOR BASED ON ARTIFICIAL NEURAL NETWORKS

Technical Paper Publication: ICONE32-1289

**Penghui Wang -** Institute of Nuclear Science & Technology, Sichuan University

**Yiyang Long -** Institute of Nuclear Science & Technology, Sichuan University

**Guofeng Qu** - Institute of Nuclear Science & Technology, Sichuan University

Jifeng Han - Institute of Nuclear Science & Technology, Sichuan University

Study on the Force Test of the Water Intake Sewage Interception Facilities of Coastal Nuclear Power Plant Technical Paper Publication: ICONE32-1351

YING QIU - China Nuclear Power Engineering Co., Ltd.
XIAONA ZHANG - China Nuclear Power Engineering Co., Ltd.
ZHITAO GUAN - China Nuclear Power Engineering Co., Ltd.
YANLONG WANG - China Nuclear Power Engineering Co., Ltd.
WEI BAI - China Nuclear Power Engineering Co., Ltd.
JING LI - China Nuclear Power Engineering Co., Ltd.

.....

Track 5-13 Radiation, Source Term, and Diverse Topics 3:30 pm –5:00 pm , C-109A

### Session Chair:

Session Co-Chair:

Inverse modelling of radionuclide releases following Fukushima accident using multi-source observations Technical Paper Publication: ICONE32-0140

Sheng Fang - Tsinghua University Xinwen Dong - Tsinghua University Yuhan Xu - Tsinghua University Hao Hu - Tsinghua University

Development of Seismic-induced fire assessment method for HPR1000 Nuclear Power Plants

Technical Paper Publication: ICONE32-0821

Guanghua YANG - China Nuclear Power Design Co.,Ltd(ShenZhen) Zhaoying REN - China Nuclear Power Design Co.,ltd(ShenZhen) Xujia CHEN - China Nuclear Power Design Co.,ltd(ShenZhen)



Study on analysis method of low temperature protection for nuclear power plant in severe cold area Technical Paper Publication: ICONE32-0881

Yi YANG - China Nuclear Power Engineering Co.,Ltd Siyang XIE - China Nuclear Power Engineering Co.,Ltd Depeng ZHAO - China Nuclear Power Engineering Co.,Ltd Jialing LIU - China Nuclear Power Engineering Co.,Ltd

Research on the Radiochemical Analysis Method for Plutonium Content in Aerosol Samples Based on the NH4HF2 Dissolution Method

Technical Paper Publication: ICONE32-1470

Qimeng Fan - Xi'an Research Institute of Hi-tec

Hanlin Li - Xi'an Research Institute of Hi-tec

Chen Xie - Xi'an Research Institute of Hi-tec

Kuo Zhao - Xi'an Research Institute of Hi-tec

Tao Xiong - Xi'an Research Institute of Hi-tec

Investigation of source term research in high flux reactor Technical Paper Publication: ICONE32-1869

Xiaoyuan Zheng - Tsinghua University
Yu Wang - Tsinghua University
Rui Nie - Tsinghua University
Feng Xie - Tsinghua University
Jiaozhu Cao - Tsinghua University
Lei Shi - Tsinghua University

Current situation of physical thermal safety analysis for

radioisotope production

Technical Paper Publication: ICONE32-2040

Li Zhaobing - Key Laboratory of Radiation Physics and Technology of' the Ministry of Education, Institute of Nuclear Science and Technology, Sichuan University

Luo Yong - Huaneng Nuclear Energy Technology Research Institute

**Fu Baoqin -** Key Laboratory of Radiation Physics and Technology of' the Ministry of Education, Institute of Nuclear Science and Technology, Sichuan University

Zhang Xingtian - Huaneng Nuclear Energy Technology -146Research Institute

Wei Wenbin - Huaneng Nuclear Energy Technology Research Institute

.....

Track 12-5 Intelligent and Digital Design-I 3:30 pm –5:00 pm , C-109B

Session Chair:

Session Co-Chair:

Research on Autonomous Monitoring Technology for Nuclear Power Plants Based on Deep Learning Technical Paper Publication: ICONE32-0031

Jing Zhang - China Nuclear Power Engineering Co., Ltd. Mingqian Li - China Nuclear Power Engineering Co., Ltd. Jinxiao Yuan - China Nuclear Power Engineering Co., Ltd.

Research on the Implementation Method of Intelligent Terminals in Nuclear Power Plants Based on Edge Computing

Technical Paper Publication: ICONE32-0400

jing Zhang - China Nuclear Power Engineering Co., Ltd.
Na Yang - China Nuclear Power Engineering Co., Ltd.
Lei Song - China Nuclear Power Engineering Co., Ltd.
Yilong Liu - Xi'an Jiaotong University

PLANNING, DESIGN AND PRACTICE OF PHM TECHNOLOGY APPLICATION IN SMART NUCLEAR POWER PLANTS

.....

Technical Paper Publication: ICONE32-0143

**Decheng Yu -** China Nuclear Power Engineering Co., Ltd. **Mingqian Li -** China Nuclear Power Engineering Co., Ltd.

### DEVELOPMENT OF AI AUTOMATIC PIPING LAYOUT DESIGN SYSTEM

Technical Paper Publication: ICONE32-0235

Shiro Takahashi - Hitachi Keita Okuyama - Hitachi Tomoyasu Inoue - Hitachi-GE

52<sup>nd</sup> International Conference on Nuclear Engineering

Michiaki Kurosaki - Hitachi-GE Eisuke Wakabayashi - Hitachi-GE Shonosuke Yukita - Hitachi Industry & Control Solutions

.....

### RESEARCH ON AUTOMATIC ANNOTATION TECHNOLOGY OF NUCLEAR ISLAND PIPELINE BASED ON E3D

Technical Paper Publication: ICONE32-0436

**bing li -** China Nuclear Power Engineering Co., Ltd **haijing tian -** China Nuclear Power Engineering Co., Ltd

## DESIGN OF A SMART CENTRALIZED CONTROL AND MANAGENMENT PLATFORM FOR A NUCLEAR POWER PLANT FRESHWATER PLANT

.....

Technical Paper Publication: ICONE32-0497

Cao Chengyan - China Nuclear Power Engineering Co.,Ltd.Li Xichen - China Nuclear Power Engineering Co., Ltd.Chen Jun - China Nuclear Power Engineering Co., Ltd.

Research on Annual Intelligent Fresh Air Ventilation, Cold and Heat Recovery, Dehumidification Technology for Nuclear Power Plants

Technical Paper Publication: ICONE32-0794

Fenglin Zhang - China Nuclear Power Engineering Co., Ltd, China
Jie Wang - China Nuclear Power Engineering Co., Ltd, China
Bei Hu - China Nuclear Power Engineering Co., Ltd, China
Yanni Xu - Zhuhai Gree Electric Appliance Co., China

Track11-4 Macro Control and Consequence Assessment of Accidents

.....

3:30 pm -5:00 pm , C-112

Session Chair:

Session Co-Chair:

Research on the Long-term Time Series Prediction Method for Nuclear Accident Management Technical Paper Publication: ICONE32-0100

Guoyang Ma - China Nuclear Power Operation Technology

Corporation, LTD.

**Xiong Huang -** China Nuclear Power Operation Technology Corporation, LTD.

**Mingliang Xie** - China Nuclear Power Operation Technology Corporation, LTD.

Yanqing Pan - Fujian Fuqing Nuclear Power Co.,Ltd.

Fanpeng Kong - Fujian Fuqing Nuclear Power Co.,Ltd.

**Qing Li** - China Nuclear Power Operation Technology Corporation, LTD.

A Study of the Trends in the Response of Nuclear Power Plants to Extreme External Natural Hazards

Technical Paper Publication: ICONE32-0119

HAIFU SHI - China Nuclear Power Engineering Co., Ltd GUOQIANG ZHANG - China Nuclear Power Engineering Co., Ltd

HUIJUAN WANG - CNNC Changan Insurance Brokers Co., Ltd.

YIJIE QIAN - China Nuclear Power Engineering Co., Ltd SONGWEI LI - China Nuclear Power Engineering Co., Ltd

••••••

Identification and protection of accident monitoring information under fire condition in nuclear power plants Technical Paper Publication: ICONE32-0384

**zhang jianwen -** State Key Laboratory of Nuclear Power Safety Monitoring Technology and Equipment, China

ma tingwei - China Nuclear Power Engineering Company, LTD
wang taike - China Nuclear Power Engineering Company, LTD
kong kaihe - China Nuclear Power Engineering Company, LTD
wang zhenying - China Nuclear Power Engineering Company, LTD

tian baocong - China Nuclear Power Engineering Company, LTD

**liu zhiyun -** State Key Laboratory of Nuclear Power Safety Monitoring Technology and Equipment, China

.....

Research and application of automatic diagnosis system for nuclear power plant accident response based on intelligence and digitalization

Technical Paper Publication: ICONE32-0764

-147-



Li wei - Jiangsu Nuclear Power Co. LTD Gu minqiang - Jiangsu Nuclear Power Co. LTD

Uncertainty and Sensitivity Analysis for Potential Accident Consequence Assessment with CEIRA Technical Paper Publication: ICONE32-0803

Qian Chen - Suzhou Nuclear Power Research Institute Co.,Ltd. Yuhao Yin - Suzhou Nuclear Power Research Institute Co.,Ltd. Yuanyuan Zhang - Suzhou Nuclear Power Research Institute Co.,Ltd. Tianhan Xu - Suzhou Nuclear Power Research Institute Co.,Ltd.

Study of Multiple Main Steam Lines Break Accident Based on Risk-informed for Nuclear Power Plants Technical Paper Publication: ICONE32-1015

Mengying LIU - China Nuclear Power Engineering Co., Ltd Xianwen ZENG - China Nuclear Power Engineering Co., Ltd Dekui ZHAN - China Nuclear Power Engineering Co., Ltd Dingqing GUO - China Nuclear Power Engineering Co., Ltd Xiaoshuang ZHAO - China Nuclear Power Engineering Co., Ltd

.....

Track 12-6 Intelligent and Digital Design-II 3:30 pm –5:00 pm , C-113

Session Chair:

Session Co-Chair:

Application Development of Core Damage Assessment System Based on Artificial Intelligence Algorithms on Nuclear Power Plant

Technical Paper Publication: ICONE32-0108

Xiong Huang - China Nuclear Power Operation Technology Corporation

**Yunfeng Gu** - China Nuclear Power Operation Technology Corporation

Yanqing Pan - Fujian Fuqing Nuclear Power Co. Ltd

**Guoyang Ma** - China Nuclear Power Operation Technology Corporation

Mingliang Xie - China Nuclear Power Operation Technology Corporation Fanpeng Kong - Fujian Fuqing Nuclear Power Co. Ltd
Jiaqing Chen - CNNP Operations Maintenance Technology Co. Ltd
Xiaolong Li - CNNP Operations Maintenance Technology Co. Ltd
Qing Li - China Nuclear Power Operation Technology
Corporation

.....

Research on Digital Transformation of Quality Management Technical Paper Publication: ICONE32-0573

**Zhe LV** - China Nuclear Power Engineering Co.,LTD. **Xingguo LU** - China Nuclear Power Engineering Co.,LTD.

The Construction and Practice of Digital Transformation

in Nuclear Power Engineering

Technical Paper Publication: ICONE32-0797

Minghua ZHU - China Nuclear Power Engineering Co., Ltd.
Shouqin ZHANG - China Nuclear Power Engineering Co., Ltd.
Xidao MAO - China Nuclear Power Engineering Co., Ltd.
Yuanfan MAO - Nuclear Power Institute of China

## RESEARCH AND APPLICATION OF ELECTRICAL DIGITAL DESIGN SYSTEM IN NUCLEAR POWER PLANTS

Technical Paper Publication: ICONE32-0909

University

Long SHENG - China Nuclear Power Engineering Co., Ltd.Jiaru XIE - China Nuclear Power Engineering Co., Ltd.Zhi WANG - School of Software Engineering, Xi'an Jiaotong

Xiaobin ZHOU - China Nuclear Power Engineering Co., Ltd.

.....

RESEARCH ON DATA ASSET MANAGEMENT TECHNOLOGY FOR NUCLEAR POWER DIGITAL TWIN

Technical Paper Publication: ICONE32-1573

Min Li - China Nuclear Power Operation Technology Corporation Limited

Xu Gong - China Nuclear Power Operation Technology Corporation Limited

Huajian Fang - China Nuclear Power Operation Technology Corporation Limited

-148-



The **32**<sup>nd</sup> International Conference on Nuclear Engineering

### **RESEARCH ON DIGITAL METHODS FOR** EQUIPMENT DYNAMIC LOAD TESTING

Technical Paper Publication: ICONE32-1824

Shuai Liu - The nuclear power institute of china Wanyou Li - Harbin Engineering University, China Furui Xiong - The nuclear power institute of china Xuan Huang - The nuclear power institute of china Yixiong Zhang - The nuclear power institute of china Zhipeng Feng - The nuclear power institute of china Xiaoming Bai - The nuclear power institute of china Xiaozhou Jiang - The nuclear power institute of china -(

¢

 $\oplus$ 

**-**