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456 The Jupiter High ^{240}Pu Critical Benchmark—*John D. Bess (JFoster & Assoc.), David C. Shepherd (Missouri University of Science & Technology), Alexander T. McSpaden (LANL), Masahiro Fukushima (JAEA), Akito Oizumi (JAEA & LANL)*

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850 GOTHIC Benchmark to Forsmark 1 & 2 Boiling Water Reactor Thermal Stratification Experiment—*Matthew Madsen (Numerical Advisory Solutions), Jeffrey W. Lane (Numerical Advisory Solutions), Linn Bydell (Vattenfall), YJ Choi (EPRI), Matt Nudi (EPRI), Thomas M. Moore (Numerical Advisory Solutions)*

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906 Preliminary Analysis on Overpressure Protection of i-SMR—*Jihong Min (KEPCO E&C), Mina Kim (KEPCO E&C), Jaeha Kim (KEPCO E&C), Eunju Lee (KEPCO E&C), Ungsoo Kim (KEPCO E&C)*

910 Feasibility Assessment of Uprating the NuScale SMR to 420 MW Using MELCOR—*Chang Hyun Song (MIT), Sung Joong Kim (Hanyang University), Mohammad A. Allaf (University of Wisconsin-Madison), Koroush Shirvan (MIT)*

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935 Coupled Sodium Heat Pipe and Air-Cooled System for Nuclear Microreactors—*Trevor A. Melsheimer (Texas A&M University College Station), Brent P. Hollrah (TAMU), Abdulbasit Aloufi (TAMU), Mitchell A. Stephenson (TAMU), Joseph Seo (TAMU), Yassin A. Hassan (TAMU)*

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948 A Validation and Verification Benchmark Study Featuring High-Fidelity Simulations and 3D Measurements of Magnetic Resonance Imaging—*Duy-Thien Nguyen (US DOE, Oak Ridge National Laboratory), Mike Benson (US DOE, Oak Ridge National Laboratory), Daniel Borup (Borup Solutions)*

952 Uncertainty Quantification of Operator actions for IVR-ERVC strategy under extended SBO for a Typical PWR—*Tran Nguyen (Dalat Nuclear Research Institute, 1 Nguyen Tu Luc Street, Ward 8, Dalat, Vietnam), Aya Diab (Mechanical Power Engineering Department, Faculty of Engineering, Ain Shams University, Cairo, Egypt)*

956 Preliminary Identification of Future Needs with respect to Heavy Liquid Metal Core and Pool Thermal Hydraulics—*Ferry Roelofs (NRG PALLAS), Heleen Doolaard (NRG PALLAS), Shubham Dalvi (NRG PALLAS), Lilla Koloszar (Von Karman Institute for Fluid Dynamics), Maria Faruoli (Von Karman Institute for Fluid Dynamics), Muhsin C. Akkurt (Von Karman Institute for Fluid Dynamics), Silvania Lopes (Von Karman Institute for Fluid Dynamics), Ivan Di Piazza (ENEA Centro Ricerche Brasimone), Vincent Moreau (CRS4), Manuela Profir (CRS4), Karsten Litfin (KIT), Steven Keijers (SCK CEN), Julio C. Pacio (SCK CEN), Paul Schuurmans (SCK CEN)*

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962 Preliminary Thermal-Hydraulic Analysis of the Sodium Flow Investigation Experiment (SoFIE) Utilizing SAM—*Nathaniel D. McNichols (Oregon State University), Guillaume P. Mignot (Oregon State University), Wade R. Marcum (Oregon State University)*

966 Coupling and Mixing Efficiency in Marine MSFR—*Yongse Kim (Korea Advanced Institute of Science and Technology), Jeehyun Seong (KAIST)*

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984 A Physics-Informed Neural Network Approach for Reliable Surrogate Modeling for PWR LOOP Accidents—*Fabiano Thulu (Young Members Group), Zeyun Wu (Virginia Commonwealth University), Yunfei Zhao (University of Maryland at College Park)*

988 Transformer-Based Deep-Learning Turbulence Modeling for Coarse-Mesh Reactor Simulations—*Eric Cervi (Argonne National Laboratory), Alexandre Millischer (Argonne National Laboratory), Ling Zou (Argonne National Laboratory), Rui Hu (Argonne National Laboratory)*

992 Development and Deployment of Hybrid ML Models for Critical Heat Flux Prediction in Annulus Geometries—*Aidan J. Furlong (North Carolina State University), Xingang Zhao (University of Tennessee Knoxville), Robert K. Salko (Oak Ridge National Laboratory), Xu Wu (North Carolina State University)*

996 Aggregation of Published Non-Uniform Axial Power Data for Phase II of the OECD/NEA AI/ML Critical Heat Flux Benchmark—*Reece Bourisaw (Kansas State), Reid McCants (Kansas State University), Jean-Marie Le Corre (Westinghouse Electric Co.), Anna Iskhakova (Kansas State University), Arsen Iskhakov (Kansas State)*

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1004 Modeling of Two-Phase Boiling Flow Instabilities in Parallel Helical Channels—*Prasad Vegendla (Argonne National Laboratory)*

1008 Toward Direct Numerical Simulation of Direct Contact Condensation-Induced Chugging Phenomenon—*Nicholas J. Mecham (North Carolina State University), Taylor E. Grubbs (North Carolina State University), Om Jagtap (North Carolina State University), Koichi Tanimoto (Mitsubishi Heavy Industries, Ltd.), Yoshiyuki Kondo (Mitsubishi Heavy Industries, Ltd.), Nam T. Dinh (North Carolina State University), Igor A. Bolotnov (North Carolina State University)*

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1026 Molten Salt Natural Circulation Loop Filling: Failure of Transparent Pipe Section Leading to Salt Leakage—*Thomas s. Carson (TAMU), Joseph Seo (TAMU), Hansol Kim (TAMU), Yassin A. Hassan (TAMU)*

1029 Design of Instrumented Simulated Nuclear Fuel Pins with SiC Claddings—*Matt G. Lindsay (University of Wisconsin Madison), Tiago A. Moreira (University of Wisconsin-Madison), Mark H. Anderson (University of Wisconsin Madison)*

1033 Prototypical BWR Turbine Trip Power Transient CHF Experiment—*Keegan D. Murray (University of Wisconsin - Madison), Matthew G. Lindsay (University of Wisconsin-Madison), Tiago A. Moreira (University of Wisconsin-Madison), Mark H. Anderson (University of Wisconsin-Madison)*

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1042 Subchannel Assessment Considering Core Flow Asymmetry in Major Transients—*Ilsuk Lee (Korea Institute of Nuclear Safety), Taehoon Kim (Korea Institute of Nuclear Safety), Hyungjoo Seo (Korea Institute of Nuclear Safety), Sangmin Park (Korea Institute of Nuclear Safety), Minki Cho (Korea Institute of Nuclear Safety), Joosuk Lee (Korea Institute of Nuclear Safety)*

1045 Verification of a Preliminary Ray Tracing Particle Tracking Algorithm Within the MOOSE Framework—*Mohamed M. Elkamash (University of Illinois Urbana-Champaign), Logan Harbour (INL), April J. Novak (University of Illinois Urbana-Champaign)*

1049 Accident Simulation based on Multi-dimensional Multi-physics Core Transient Analysis Code System—*Daegwang Hong (KEPCO Nuclear Fuel), Jinwoo Park (KEPCO Nuclear Fuel), Juhyun Park (KEPCO Nuclear Fuel)*

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