PHYSOR 2002 Conference Program

October 6 (Sunday)

Workshops

1. Particle Transport Methods

a) PENTRAN S_N Code System (9:00 AM ~ 12:00 Noon)

b) Automated Variance Reduction with A^3MC for Shielding Problems (1:20 PM ~ 4:30 PM)

2. Fourth OECD/NRC BWR TT Benchmark Workshop (1:00 PM ~ 6:00 PM)

October 7 (Monday), 9:00 AM ~ 12:30 PM

Opening Session

- **Opening Address, Congratulatory Addresses**
- **Eugene P. Wigner Award Presentation by ANS Reactor Physics Division**

Plenary Session – Keynote Speeches

- **Prof. Dan G. Cacuci**
  Professor, University of Karlsruhe
  Director, Institute for Reactor Safety, Forschungszentrum Karlsruhe (FZK)
  Title : On Perturbation Theory and Reactor Kinetics : From Wigner's Pile Period to Accelerator Driven Systems (Eugene P. Wigner Lecture)

- **Dr. Yoon I. Chang**
  Associate Lab Director at Large, Argonne National Laboratory
  Title : Advanced Nuclear Energy System for the Twenty-First Century

- **Prof. Genki Yagawa**
  Professor, University of Tokyo
  Director, Center for Promotion of Computational Science and Engineering,
  Japan Atomic Energy Research Institute (JAERI)
  Title : Supercomputing Programs and Activities for Computational Science and Engineering in Japan

- **Dr. David J. Diamond**
  Division Head, Nuclear Energy & Infrastructure Systems Division, Brookhaven National Laboratory
  Title : Research Needs for Generation IV Nuclear Energy Systems

October 7 (Monday), 2:00 PM ~ 3:40 PM

Session 1A. Deterministic Transport Methods I

1A-01 Transport Calculations for Gamma-Ray by Invariant Embedding Method
A. Shmizu

1A-02 On The Efficiency of Approximate S_N Albedo Boundary Conditions for Monoenergetic X,Y-Geometry Criticality Calculations
H. Alves Filho and R. C. Barros

1A-03 Acceleration of Response Matrix Method by Cross Section Scaling
A. Yamamoto

1A-04 Positive Linear and Nonlinear Surface Characteristic Schemes for the Neutron Transport Equation in Unstructured Geometries
S. Santandrea and R. Sanchez

Session 1B. Advanced Reactor Concepts and Design I

1B-01 Innovative BWR Core Design with Top-Entry Control Rods
R. Chiang, H. A. Upton, and M. Kanno

1B-02 Physics Design Codes for NHR-200 Heating Reactor
Z. Zhou, Z. Zhang, Q. Du, and Y. Hu

1B-03 Benchmarks for the Scattering Kernel of Graphite
F. C. Difilippo, J. P. Renier, and A. I. Hawari

1B-04 Modelling of HTRs: from a Homogenous to an Exact Heterogeneous Core with Monte Carlo
D. Ridikas and R. Plukiene

Session 1C. Physics Measurements, Instrumentation and Their Analysis I

1C-01 The Spectral Indices of the IPEN/MB-01 Reactor: Measurements and Calculation
U. Bitelli and A. Santos

1C-02 Interpretation of Subcritical Source-Driven Noise Analysis Measurements
T. E. Valentine

1C-03 Measurement and Analysis of High Energy Gamma Ray and Neutron in MOX Fuel Lattices for Subcriticality Estimation
Y. Nauchi, T. Kameyama, T. Matsumura, T. Suzaki, and Y. Miyoshi

1C-04 A Method to Reset a 3D On Line Core Model on Incore Measurements
A. Dall'Osso

Session 1D. Reactor Thermal-Hydraulics

1D-01 ECC Water Bypass in the Downcomer with DVI of APR1400 under LBLOCA
D. W. Lee and H. C. No

1D-02 Application of RELAP5/MOD3.2 to the Prediction of Two-Phase Mixture Level Swell and Liquid Entrainment from the Two-Phase Mixture Surface during Depressurization in a Vessel
C. H. Kim, H. C. No, and M. H. Chun

1D-03 Computational Fluid Dynamics for the Analysis of Light Water Reactor Flows
C. P. Tzanos

1D-04 A Steam Generator Code on the Basis of the General Coolant Channel Module CCM
A. Hoeld

October 7 (Monday), 4:00 PM ~ 6:05 PM

Session 2A. Monte Carlo Methods

2A-01 Coupling of Forward and Adjoint Monte Carlo Calculations for Continuous Energy by Next-Event Estimation
J. E. Hoogenboom and D. Legrady

2A-02 MCNP/WIMS Monte Carlo Burnup Simulations Applied to TRIGA Research Reactor
R. Jeraj, T. Zagar, and M. Ravnik

2A-03 Use of ENDF/B-VI.5 and JEF-2.2 Evaluations for the 3-D VENUS-2 Benchmark
N. Messaoudi and H. ait Abderrahim

2A-04 An Improved MCNP-ORIGEN Depletion Program (MCODE) and Its Verification for High-Burnup Applications
Z. Xu, P. Hejzlar, M. J. Driscoll, and M. S. Kazimi

2A-05 ATR WG-MOX Fuel Pellet Burnup Mesurement by Monte Carlo-Mass Spectrometric Method
G. S. Chang

Session 2B. Homogenization and Nodal Methods I

2B-01 Error Decomposition of Approximations for BWR Core Calculations
T. Horiuchi, T. Takeda, T. Kitada, S. Kosaka, and H. Ikeda

2B-02 A Study on Generic Two-Group Cross-section Representation Methodology
B. Zhang, T. Ida, and Y. Chao

2B-03 Flexible Exposure and Nodal Mesh Treatment in the 3D Nodal Simulator MGRAC: Application to a MTR Case with Axially Movable Assemblies
F. Reitsma and E. Muller

2B-04 Comparative Study of Nodal Cross Section Models Applied to MTR Core Analysis
W. R. Joubert, F. Reitsma, and D. I. Tomasevic

2B-05 Reducing Rod Cusping Effect in Nodal Expansion Method Calculations
A. Dall'Osso

Session 2C. OECD/NRC BWR TT Benchmarks I

2C-01 OECD/NRC BWR Turbine Trip Transient Benchmark as a Basis for Comprehensive Qualification and Studying Best Estimate Coupled Codes
K. Ivanov, A. Olson, and E. Sartori

2C-02 Application of TRAC/BF1-ENTREE to OECD NEA/NSC BWR Turbine Trip Benchmark
A. Hotta and H. Shirai

2C-03 Analysis of the Boiling Water Reactor Turbine Trip Benchmark with the Code DYN3D
U. Grundmann and U. Rohde

2C-04 Best-Estimate Transient Analysis with SKETCH-INS/TRAC-BF1, Assessment against OECD/NEA BWR Turbine Trip Benchmark
H. Utsuno and F. Kasahara

2C-05 Computation of BWR Turbine Trip with CRONOS2 and FLICA4
E. Royer and N. Todorova

Session 2D. Radiation Protection and Shielding

2D-01 Neutronic Flux Calculation for the Inner Wall of a BWR Vessel
M. A. Lucatero, J. Palacios, and R. T. Perry

2D-02 Shielding Design for a Research Facility in the IEA-R1 Reactor
G. S. de A. e Silva, P. R.P. Coelho, and P. de T. D. Siqueira

2D-03 RG 1.190 - Calculational and Dosimetry Methods for Determining Pressure Vessel Fluence
L. Lois and J. Carew

2D-04 Sectoring Methods for High Energy Proton Shielding Calculation on Satellite Structure
M. W. Shin, B. I. Park, and M. H. Kim

2D-05 About the Use of Units Displacement per Atom and Fluence for Definition of the Damage Exposure in Reactor Materials
V. P. Kryuchkov, A. M. Voloschenko, Y. V. Konobeev, E. E. Petrov, V. A. Khoromsky, V. I. Tsofin, and C. G. Rozanov

October 8 (Tuesday), 8:00 AM ~ 10:05 AM

Session 3A. Deterministic Transport Methods II

3A-01 A Time-Dependent Neutron Transport Code Coupled with the Thermal-Hydraulics Code ATHLET
A. Pautz and A. Birkhofer

3A-02 Numerical Calculation of the Delayed-α Eigenvalue Using a Standard Criticality Code
J. E. Hoogenboom

3A-03 About Computation Tool for an Estimation of Neutron-Physical Calculation Uncertainty
N. I. Laletin and A. A. Kovalishin

3A-04 RT*k*/S_N Solutions of the 2D Multigroup Transport Equations in Hexagonal Geometry
E. del Valle and E. H. Mund

3A-05 Some New Algorithms for Solving the Coupled Electron-Photon Transport Problems by the Discrete-Ordinates Method
A. M. Voloschenko and S. V. Gukov

Session 3B. Thorium Cycle

3B-01 Physical Characteristics of the Light Water Reactor Core Fuelled with (Th+Pa+U)-Ceramics (High Fuel Burn-up via DUPIC Processes Application)
G. Kulikov, A. Shmelev, V. Apse, E. Kryuchkov, G. Tikhomirov, M. Ternovykh, M. Saito, and V. Artisyuk

3B-02 Final Report on the IAEA Coordinated Research Program on the Potential of Thorium-based Fuel Cycles to Constrain Plutonium and to Reduce the Long-Term Waste Radio-Toxicity
H. J. Ruetten and A. Stanculescu

3B-03 Neutronic Study of an Innovative BWR Thorium-Uranium Fuel
J. L. Francois and A. Nunez-Carrera

3B-04 A Qualitative Assessment of Thorium-Based Fuels in Supercritical Pressure Water Cooled Reactors
K. D. Weaver and P. E. MacDonald

3B-05 Alternatives of Homogeneous Thorium-Uranium Fuel Cycle Utilizations for PWR
H. K. Joo, J. M. Noh, J. W. Yoo, Y. J. Kim, and M. H. Kim

Session 3C. OECD/NRC BWR TT Benchmarks II

3C-01 Transient 3-D Neutron Kinetic Analysis with CORETRAN of a Core Thermal-Hydraulic Boundary Condition Model - Peach Bottom 2 Turbine Trip Benchmark Phase 2
H. Ferroukhi, W. Barten, and P. Coddington

3C-02 BWR Turbine Trip Calculations with the CATHARE Code
B. Rameau and G. Mignot

3C-03 OECD/NRC BWR Turbine Trip Benchmark: Simulation by POLCA-T Code
D. Panayotov

3C-04 Transients Modal Analysis Using TRAC/BF1-MODKIN
G. Verdu, R. Miro, D. Ginestar, and V. Vidal

3C-05 Analysis of Exercises 1 and 2 of the OECD/NRC BWR Turbine Trip (TT) Benchmark by the Coupled Code System ATHLET-QUABOX/CUBBOX
S. Langenbuch, K. Schmidt, and K. Velkov

Session 3D. Non-Power Reactor Applications

3D-01 Neutron Spallation Source
V. Kumar, H. Kumawat, U. Goyal, and V. S. Barashenkov

3D-02 Calculating the Tumour-Specific Optimal Source Neutron Energy for Boron Neutron Capture Therapy with Particle Production and Adjoint Monte Carlo Techniques
V. A. Nievaart, R. L. Moss, J. L. Kloosterman, and T. van der Hagen

3D-03 Neutron Scattering Corrections in Neutron Radiography
J. Y. Park, J. Lee, and J. Lindsay

3D-04 A " Non-Coincident " Neutron Coincidence Collar Response Simulation
P. de T. D. Siqueira, P. R.P. Coelho, H. Yoriyaz, and R. Cabezas

3D-05 Application of ADS for Creation of Long-Term Radiation Barrier in MOX-Fuel
E. F. Kryuchkov, V. B. Glebov, V. A. Apse, and A. N. Shmelev

October 8 (Tuesday), 10:20 AM ~ 12:00 Noon

Session 4A. VENUS-2 Benchmark

4A-01 Three-Dimensional Modellings for the VENUS-2 MOX Core
B. C. Na, N. Messaoudi, and G. H. Roh

4A-02 VENUS-2 3-D MOX Core Benchmark, Results of Framatome ANP
W. Timm, D. Porsch, W. Hofmann, and St. Misu

4A-03 Benchmarking of the Multigroup, Fine Mesh, SP_3 Methods in PARCS with the VENUS-2 MOX Critical Experiments
T. Kozlowski, C. H. Lee, and T. J. Downar

4A-04 Analysis of VENUS-2 MOX Core Measurements with a Monte Carlo Code MVP
Y. Nagaya, K. Okumura, and T. Mori

Session 4B. Advanced Reactor Concepts and Design II

4B-01 Core Design of a Cartridge Type Pebble Bed Reactor
D. F. Da Cruz, J. B. de Haas, and A. I. van Heek

4B-02 Fluidized Bed Nuclear Reactor as a IV Generation Reactor
F. Sefidvash

4B-03 Study on Long Life Core with Uranium Fuel for LSBWR
N. Yoshida, M. Kawakami, K. Hiraiwa, M. Nakamaru, and H. Heki

4B-04 A Prototype Beta Compensated Reactor (BCR) Driven By Electron Accelerator
D. Ridikas, H. Safa, and B. Bernardin

Session 4C. Physics Measurements, Instrumentation and Their Analysis II

4C-01 Feasibility Study of the Least-Squares Method for Three-Dimensional Core Power Distribution Monitoring in PWR's
K. Lee and C. H. Kim

4C-02 Development of a Method for Measuring the MTC by Noise Analysis and its Experimental Verification in Ringhals-2
C. Demaziere and I. Pazsit

4C-03 Subcriticality Monitoring with a Digital Reactivity Meter
N. Suzuki, Y. Shimazu, and H. Unesaki

4C-04 Development of an MCNP-Based Calculational Model For Segmented Type Self-Powered Neutron Detectors
S. Feher, J. Kophazi, G. Por, Sz. Czifrus, and P. de Leege

Session 4D. Computational Reactor Safety I

4D-01 Sensitivity Analysis of the QUENCH-04 Nuclear Safety Experiment Using the Adjoint Sensitivity Analysis Procedure (ASAP) in RELAP5/MOD3.2 Code System
D. G. Cacuci, M. Ionescu-Bujor, and X. Jin

4D-02 Power Level Effect in a PWR Rod Ejection Accident
D. J. Diamond, B. P. Bromley, and A. L. Aronson

4D-03 Three Dimensional Kinetics Code RANCER and Analysis of NEACRP Rod Ejection Benchmarks
S. Aoki and Y. Tahara

4D-04 Computer Code Package COMPACK-LHW for M.T.R. Research Reactor Core Calculations
H. Mazrou, T. Hamidouche, K. Ibrahim, and A. Bousbia-Salah

October 8 (Tuesday), 1:30 PM ~ 3:10 PM

Session 5A. Fuel/Core Design Codes : Verification and Validation I

5A-01 Qualification of the APOLLO2.5/CEA93.V6 Code for UOX and MOX fuelled PWRs
A. Santamarina, C. Chabert, A. Courcelle, O. Litaize, G. Willermoz, D. Biron, and L. Daudin

5A-02 The Comprehensive Methodology for Challenging BWR Fuel Assembly and Core Design Used at Framatome ANP
St. Misu, H. D. Kiehlmann, H. Spierling, F. Wehle, H. Moon, and R. G. Grummer

5A-03 Code and Methods Improvement in HTGR Modelling at CEA
F. Damian, X. Raepsaet, and F. Moreau

5A-04 The KARATE Program System
C. Hegedus, G. Hegyi, G. Hordosy, A. Kereszturi, M. Makai, C. Maraczy, F. Telbisz, E. Temesvari, and P. Vertes

Session 5B. Advanced Reactor Concepts and Design III

5B-01 Physics and Safety Features of the AMBIDEXTER Nuclear Energy Complex
S. K. Oh, J. S. Kim, Y. J. Ryu, and Y. J. Lee

5B-02 Micro-Particles Fuel Autonomous Melted Salt Reactor (MARS)
P. N. Alekseev, I. A. Belov, N. N. Ponomarev-Stepnoy, S. A. Subbotin, Y. N. Udjansky, A. V. Chibinjaev, T. D. Schepetina, and P. A. Fomichenko

5B-03 Comparison of Th-232 and U-238 Fuel Performance in a Tight Lattice High Conversion BWR
Y. Xu, T. J. Downar, and H. Takahashi

5B-04 Design of Small Reduced-Moderation Water Reactor (RMWR) with Natural Circulation Cooling
T. Okubo, M. Suzuki, T. Iwamura, R. Takeda, K. Moriya, and M. Kanno

Session 5C. Nuclear Physics and Data Measurement

5C-01 Capture Cross Section Measurements of ^{161}Dy, ^{162}Dy, ^{163}Dy, and ^{164}Dy in the Neutron Energy Region between 10 and 90 keV
G. N. Kim, H. D. Kim, J. K. Ahn, T. I. Ro, Y. K. Min, M. Igashira, S. Mizuno, and T. Ohsaki

5C-02 Statistical Assignment of Neutron Orbital Angular Momentum to a Resonance
S. Y. Oh, J. H. Chang, and L. C. Leal

5C-03 New Compilation of Neutron Resonance Parameters
Z. N. Soroko, S. I. Sukhoruchkin, and D. S. Sukhoruchkin

5C-04 Measurements of Neutron-Induced Reaction Cross-Sections for ^{58}Ni, ^{63}Cu and ^{59}Co from Threshold to 20 MeV
A. J. Plompen, V. Avrigeanu, C. Borcea, L. Olah, and V. Semkova

Session 5D. Computational Reactor Safety II

5D-01 Bifurcation Analyses of In-phase and Out-of-phase Oscillations in BWRs
Q. Zhou and R. Uddin

5D-02 RETRAC-PC: A Computer Code for Nuclear Research Reactor Transients Behaviour
T. Hamidouche, H. Mazrou, K. Ibrahim, and A. Bousbia-Salah

5D-03 Development of PWR Integrated Safety Analysis Methodology Using Multi-Level Coupling Algorithm
D. Ziabletsev, M. Avramova, and K. Ivanov

5D-04 Development and Application of a Fast Running Model for the Description of Coolant Mixing Inside the Pressure Vessel of Pressurized Water Reactors
S. Kliem, H. Prasser, T. Hohne, and U. Rohde

October 8 (Tuesday), 3:30 PM ~ 5:35 PM

Session 6A. Fuel/Core Design Codes : Verification and Validation II

6A-01 The ENHS Core Benchmark
D. Barnes, M. Milosevic', H. Sagara, K. Wang, E. Greenspan, J. Vujic, Z. Shayer, K. Grimm, R. Hill, S. G. Hong, and Y. I. Kim

6A-02 Validation of CASCADE-3D for PWR MOX Core Design - An On-going Process
D. Porsch, H.-D. Berger, and L. Hetzelt

6A-03 New Developments in Standards for Reactor Design
D. M. Cokinos

6A-04 AER Benchmark Site
M. Makai

6A-05 BN-600 Hybrid Core Benchmark Analyses
Y. I. Kim, A. Stanculescu, P. Finck, R. N. Hill, K. N. Grimm, G. Rimpault, T. Newton, Z. H. Li, P. Mohanakrishnan, M. Ishikawa, H. Song, M. Farakshin, and V. Stogov

Session 6B. Homogenization and Nodal Methods II

6B-01 An Advanced Nodal Discretization for the Quasi-Diffusion Low-Order Equations
R. Nes and T. S. Palmer

6B-02 Homogenization Methodology for the Low-Order Equations of the Quasidiffusion Method
D. Y. Anistratov

6B-03 A Nonlinear Iteration Method Based on One Node Expansion
G. Shi, Y. Hu, and J. Lee

6B-04 Comparative Analysis of Static and Kinetic Calculational Features in the Analytic Function Expansion Nodal Method
D. S. Kim and N. Z. Cho

6B-05 Performance of the Analytic Coarse Mesh Finite Difference Method with Heterogeneous Nodes
N. Garcia-Herranz, O. Cabellos, J. M. Aragones, and C. Ahnert

Session 6C. OECD/NRC BWR TT Benchmarks III

6C-01 Peach Bottom 2 Turbine Trip Simulation using Best Estimate Coupled 3-D Core and Thermal-Hydraulic System, TRAC-BF1/COS3D
A. Ui and T. Miyaji

6C-02 Analysis of the OECD Peach Bottom Turbine Trip 2 Transient Benchmark with the Coupled Neutronic and Thermal-Hydraulics Code TRAC-M/PARCS
D. Lee, T. J. Downar, A. Ulses, B. Akdeniz, and K. N. Ivanov

6C-03 Methodology for Optimal Grouping of Thermal Hydraulic Channels in 3D Kinetics
G. Verdu, S. Gallardo, O. Rosello, A. Sanchez, and A. Gomez

6C-04 Peach Bottom BWR Turbine Trip Benchmark: PSI Analysis of Exercise 1 Using RETRAN-3D
W. Barten, P. Coddington, and H. Ferroukhi

6C-05 SIMULATE-3K Peach Bottom 2 Turbine Trip 2 Benchmark Calculations
L. A. Belblidia, G. M. Grandi, and C. Jonsson

Session 6D. Analysis of Integral Experiments

6D-01 IRPhE - International Reactor Physics Experiments Database
J. Gado, J. B. Briggs, P. D'hondt, and E. Sartori

6D-02 Analyses of Experiments in the JOYO Fast Reactor Using the ERANOS and JNC Code Systems
K. Yokoyama, J. Tommasi, and G. Rimpault

6D-03 Experimental Investigation of Pin Removal Reactivity Worths for a Westinghouse SVEA-96+ Assembly in the PROTEUS Research Reactor
A. Meister, M. Murphy, A. Luthi, R. Seiler, P. Grimm, R. van Geemert, F. Jatuff, R. Chawla, and R. Jacot-Guillarmod

6D-04 Evaluation of the Activation and Burn-up Experiments carried out in the BN-350 Reactor
Y. Khomjakov, A. Kotchetkov, M. Semenov, A. Tsiboolia, N. Nerozin, V. Pavlovich, and E. Smetanin

6D-05 Channel Bowing Effects on Pin Power Distributions in a Westinghouse SVEA-96+ Assembly
P. Grimm, F. Jatuff, A. Luthi, M. Murphy, R. Seiler, R. van Geemert, T. Williams, and R. Chawla

October 9 (Wednesday), 8:00 AM ~ 10:05 AM

Session 7A. Deterministic Transport Methods III

7A-01 The Eigenfunction Expansion Nodal Methods for the Even-Parity Transport Equation with Anisotropic Scattering
S. G. Hong, S. J. Kim, Y. J. Kim, and Y. I. Kim

7A-02 Solving of Multigroup Non-Stationary Transport Equation in Axial R-Z Geometry on Grids Formed by the Arbitrary Convex Quadrangles
A. V. Voronkov and E. P. Sychugova

7A-03 Development and Application of the Regional Angular Refinement Technique and its Application to Non-conventional Problems
G. Longoni and A. Haghighat

7A-04 Boundary Integral Approach to Neutron Transport Problems
G. G. M. Coppa, B. Montagnini, and P. Ravetto

7A-05 Multigroup Neutral Particle Transport Theory Revisited : The Development of an Analytical Benchmark
B. D. Ganapol

Session 7B. Spatial Kinetics Methods

7B-01 Analysis of Control Rod Ejection Accident in MOX and MOX/UOX Cores with Time-Dependent Multigroup Pin-by-Pin SP_3 Methods
C. H. Lee, T. Kozlowski, and T. J. Downar

7B-02 Theory and Application of the In-Core Neutron Noise Induced by Fluctuating Core Boundaries
V. Arzhanov and I. Pazsit

7B-03 Multigroup Diffusion Kinetics Benchmark of an ADS System in Slab Geometry
B. D. Ganapol, E. H. Mund, P. Ravetto, and M. M. Rostagno

7B-04 Analyses of Experiments for Relationship between Flux Tilt in Two-Energy-Group and Eigenvalue Separation
C. H. Pyeon, T. Misawa, H. Unesaki, and S. Shiroya

7B-05 Multi-Point Kinetics Equations Using Generalized Perturbation Theory
K. Kobayashi

Session 7C. Analysis of Critical & Subcritical Experiments I

7C-01 Experimental Study on Accelerator Driven Subcritical Reactor by Using the Kyoto University Critical Assembly (KUCA)
S. Shiroya, H. Unesaki, H. Nakamura, C. Ichihara, K. Kobayashi, T. Misawa, T. Ikeda, S. Nakano, M. Komeda, and K. Miyoshi

7C-02 Analysis of the MISTRAL Experiment with APOLLO2 Qualification of Neutronic Parameters of UOX and MOX Cores
O. Litaize, A. Santamarina, and C. Chabert

7C-03 BN-600 Hybrid Core Mock-up at BFS-2 Critical Facility
A. Kochetkov, I. Matveenko, V. Matveev, A. Tsiboolia, A. Shono, T. Hajama, and M. Ishikawa

7C-04 Experimental Analysis Results on BN-600 Mock-up Core Characteristics at the BFS-2 Critical Facility
A. Shono, K. Sugino, T. Hazama, M. Ishikawa, Y. Khomyakov, M. Semenov, and G. Manturov

7C-05 Critical Masses of Highly Enriched Uranium Diluted with Matrix Material
R. Sanchez, D. Loaiza, and R. Kimpland

Session 7D. Subcritical Reactor Physics and Analysis I

7D-01 Preliminary Neutronic Analyses of the TRIGA-ADS Demonstration Facility
C. Rubbia, M. Carta, N. Burgio, C. Ciavola, A. D'Angelo, A. Dodaro, A. Festinesi, S. Monti, A. Santagata, F. Troiani, M. Salvatores, M. Delpech, Y. Kadi, S. Buono, A. Ferrari, A. H. Martinez, L. Zanini, and G. Imel

7D-02 Lead-Bismuth Target Design for Transmutation Reactors
Y. Gohar, P. Finck, J. Herceg, L. Krajtl, W. D. Pointer, J. Saiveau, T. Sofu, A. Hanson, M. Todosow, M. Koploy, and P. Mijatovic

7D-03 Transport Effects for Source-Oscillated Problems in Subcritical Systems
S. Dulla, P. Ravetto, and M. M. Rostagno

7D-04 MEA - Modified Energy Amplifier Proposal
S. A. Pereira and A. dos Santos

7D-05 Possible Experiment for Study of ADS Dynamics
D. G. Naberejnev, M. Salvatores, F. G. Kondev, G. Palmiotti, G. Imel, T. Bauer, and F. Harmon

Session 7E. Poster Session I

7E-01 Summation Calculation of Delayed Neutron Emission and its Application to Reactor Kinetics
K. Oyamatsu

7E-02 Application of Variance-to-Mean Method to Accelerator-Driven Subcritical System
Y. Yamane, Y. Kitamura, H. Kataoka, K. Ishitani, and S. Shiroya

7E-03 Absolute Measurement of the Subcriticality by Using the Third Order Moment of the Number of Neutrons Detected
Y. Kitamura, T. Endo, Y. Yamane, T. Misawa, and H. Unesaki

7E-04 Nuclear Characteristics Evaluation for a Supercritical Experiment Facility Using Low-Enriched Uranium Solution Fuel, TRACY
K. Nakajima

7E-05 Benchmark on the 3-D VENUS-2 MOX Core Measurements by DANTSYS Code System
D. H. Kim, J. D. Kim, C. S. Gil, and J. H. Chang

7E-06 Study on In-core Fuel Management and Optimization for Uranium Zirconium Hydride Research Reactor
W. Chen, X. Jiang, Y. Zhang, Z. Xie, and D. Chen

7E-07 Critical Experiment and Analyses for the Conceptual Design Study of Fast Reactor Equipped with Li-6 Reactivity Control Systems LEM and LIM
S. Okajima, T. Yamane, S. Iijima, H. Tsunoda, O. Satoh, and M. Kambe

7E-08 Multi-Assembly Neutron Transport Modeling Based on the Method of Characteristics
T. Ito, Y. kanayama, and Y. Inaba

7E-09 Two-dimensional Baffle/Reflector Constants Based on Transport Equivalent Diffusion Parameters
Y. Tahara and H. Sekimoto

7E-10 A Simple and Flexible Coarse Mesh Method for Reactor Core Simulator
T. Matsumura, T. Kameyama, and Y. Nauchi

7E-11 Calculation of Neutron Flux Distribution in the Hexagonal Fuel Assembly and the PWR Assembly Code TPFAP-HEX
Y. Zhang, Z. Xie, W. Chen, S. Zhang, L. Chen, and D. Wang

7E-12 Response Matrix Solution Using Boundary Condition Perturbation Theory for the Diffusion Approximation
M. S. McKinley and F. Rahnema

7E-13 Integer Permutation Programming and the Loading Pattern Optimization Code SUPERLPOS Used at SNERDI
S. Si

7E-14 A Comparative Neutronics Analysis by Using the ENDF/B-VI and JEF2.2 Libraries for the ENHS Benchmark Problem
S. G. Hong, Y. I. Kim, and Y. J. Kim

7E-15 Core Benchmarks for Verification of Production Neutronic Codes as Applied to VVER-1000 with MOX Fuel Plutonium from Surplus Russian Nuclear Weapons
S. S. Alyoshin, P. A. Bolobov, S. N. Bolshagin, S. A. Bychkov, M. A. Kalugin, L. V. Maiorov, A. M. Pavlovichev, Y. A. Styrine, A. G. Kalashnikov, and A. A. Tsyboulia

7E-16 BWR Control Blade Depletion Modeling in MICROBURN-B2
H. Moon, R. G. Grummer, and St. Misu

7E-17 A Simplified Model for Fuel Isotope Evolution in ATW Systems - Liquid Metal Cooled Fast Reactor
M. Cheon, J. Ahn, E. Greenspan, D. Barnes, and P. L. Chambre

7E-18 Conceptual Core Design of Passively Safe Small Reactor for Distributed Energy System, PSRD-100
N. Odano, T. Ishida, K. Sawada, S. Fujita, and H. Imai

7E-19 Analysis of Cobalt-60 Production Experiment in the Fast Reactor PHENIX
S. Ohki and J. Tommasi

7E-20 The ERANOS Code and Data System for Fast Reactor Neutronic Analyses
G. Rimpault, D. Plisson, J. Tommasi, R. Jacqmin, J. Rieunier, D. Verrier, and D. Biron

7E-21 Analysis of Innovative U233-Np-Th Core as a Np-burner
O. Aizawa

7E-22 Is It Expedient to Use the Fast Reactors for Transmutation of the Long-Lived Radionuclides?
B. R. Bergelson, A. S. Gerasimov, G. V. Kiselev, E. F. Kryuchkov, and V. G. Tikhomirov

7E-23 Preliminary Evaluation of Coolant Temperature Distribution in HYPER Fuel Assemblies
N. I. Tak, T. Y. Song, W. S. Park, and C. H. Kim

7E-24 Reactivity Estimation for Source-Driven Systems Using First-Order Perturbation Theory
Y. Kim, W. S. Yang, T. A. Taiwo, and R. N. Hill

7E-25 Feasibility of Long-Life LWR Cores Using Th-Bearing Fuel in Tight Lattices
H. Matsumoto, E. Greenspan, and J. Vujic

7E-26 Neutronic Design of Irradiation Device for Neutron Transmutation Doping in HANARO
B. J. Jun, Y. D. Song, M. S. Kim, and B. C. Lee

7E-27 The Application of the Delayed Neutron Measurements to the Fuel Failure Detection System in HANARO
M. S. Kim, S. J. Park, Y. K. Kim, Y. S. Choi, and B. J. Jun

October 9 (Wednesday), 10:20 AM ~ 12:00 Noon

Session 8A. Loading Pattern Optimization and Fuel Design I

8A-01 Loading Pattern Search by Branching and Bounding Batch Patterns Enumerated Under Constraints
Y. A. Chao, S. Si, H. Q. Lam, D. Sato, F. D. Popa, and D. C. Little

8A-02 Optimization of BWR Fuel Lattice Radial Design Using Tabu Search
C. Martin-del-Campo, J. L. Francois, and R. Francois

8A-03 Application of Genetic Algorithm in Research and Test Reactor Core Loading Pattern Optimization
P. Gang, P. Feng, and F. Rong

8A-04 Optimization of BWR Fuel Reloads Using Tabu Search
A. Castillo, G. Alonso, L. B. Morales, J. L. Francois, C. M. del Campo, and E. del Valle

Session 8B. OECD/NEA C5G7 MOX Benchmark I

8B-01 Results for the C5G7 Benchmark Problem Using a Subelement Option of the Variational Nodal Method
M. A. Smith, N. Tsoulfanidis, E. E. Lewis, G. Palmiotti, and T. A. Taiwo

8B-02 Use of the Surface Harmonics Method for Calculation of 2D Benchmark C5G7 MOX
V. F. Boyarinov

8B-03 Homogenization-Free Reactor Core Analysis with General First Collision Probabilities Method
T. S. Poveschenko

8B-04 Contribution to the NEA C5G7 MOX Benchmark
F. Moreau, R. Sanchez, and S. Santandrea

Session 8C. Analysis of Critical & Subcritical Experiments II

8C-01 Validation of Neutron Data for Pb and Bi Using Critical Experiments
A. Tsiboolia, Y. Khomyakov, A. Kochetkov, I. Matveenko, I. Mikhailova, M. Semenov, A. Lopatkin, and V. Semirnov

8C-02 Benchmark Experiments for Physics Parameters of Nitride Fuel LMFBR at FCA
S. Iijima, M. Andoh, and H. Oigawa

8C-03 Benchmark Characterization for the Diluted Highly Enriched Uranium Experiments with Waste Matrix Materials
D. Loaiza, R. Sanchez, and R. Brewer

8C-04 Kinetic Transient Experiments for the RBMK Design
V. M. Kachanov, E. V. Burlakov, A. N. Kuzmin, and V. E. Jitarev

Session 8D. Criticality Safety and Burnup Credit I

8D-01 Isotopic Concentration and Criticality Analyses of BWR Spent Nuclear Fuel Using CASMO
D. Fujiwara and S. Kosaka

8D-02 Status of the REBUS-PWR International Programme
B. Lance, A. Renard, D. Marloye, J. Basselier, K. van der Meer, P. Baeten, L. Sannen, and M. Gysemans

8D-03 Burnup Importance Function and Its Application to OECD/NEA/BUC Phase II-A and II-C Models
H. Okuno, K. Tonoike, and T. Sakai

8D-04 Experimental Validation of the Depletion Code System "DARWIN" for Spent Fuel Isotopic Predictions in Fuel Cycle Applications
B. Roque, N. Thiollay, P. Marimbeau, A. Barreau, A. Tsilanizara, C. Garzenne, F. Marcel, H. Toubon, and C. Garat

October 9 (Wednesday), 1:30 PM ~ 3:10 PM

Session 9A. Loading Pattern Optimization and Fuel Design II

9A-01 SCIENCE Nuclear Code Package and Its Usage in Reload Design of Daya Bay Nuclear Power Station
H. Zhang and C. Xiong

9A-02 On the Use of Artificial Neural Networks in Loading Pattern Optimisation of Advanced Gas-Cooled Reactors
A. K. Ziver, C. C. Pain, J. N. Carter, C. de Oliveira, A. H. Goddard, and R. S. Overton

9A-03 Benchmark Results of Burn-up Calculation for LWR Next Generation Fuels
K. Okumura, H. Unesaki, T. Kitada, and E. Saji

9A-04 Thermal Performance Evaluation of PLUS-7 Fuel Assembly
J. T. Kwon, K. Y. Nahm, J. S. Lim, and C. O. Park

Session 9B. OECD/NEA C5G7 MOX Benchmark II

9B-01 Deterministic Two-Dimensional MOX Fuel Assembly Transport Calculations Without Spatial Homogenization
B. Ivanov, K. Ivanov, and R. J. Stamm'ler

9B-02 2-D and 3-D Whole-Core Transport Calculations of the OECD Benchmark Problem C5G7 MOX by CRX
N. Z. Cho, G. S. Lee, and C. J. Park

9B-03 Analysis of C5G7 MOX Benchmark Using MARPIJ and COBAYA Codes
O. Cabellos, J. M. Aragones, N. Garcia-Herranz, and C. Ahnert

9B-04 A Comparison between Monte Carlo and Discrete Ordinates Calculations for the C5G7 MOX Benchmark
C. Y. Han and J. K. Kim

Session 9C. Research and Test Reactors

9C-01 Nuclear Data Uncertainty Propagation on the Jules Horowitz Reactor Neutronic Parameters
J. Di Salvo, v. Brun, A. Courcelle, C. Doderlein, B. Pouchin, and G. Willermoz

9C-02 Uncertainty Analysis for Quality Control Procedure in Fission Mo-99 Production
D. K. Cho and M. H. Kim

9C-03 Reactivity Effects of a Research Reactor (HOR) During the Transition of a HEU to LEU Core
P. de Leege, H. Gibcus, and F. Reitsma

9C-04 Neutronic Design of an Accelerator Driven Sub-Critical Research Reactor
M. P. Pesic

Session 9D. Criticality Safety and Burnup Credit II

9D-01 New Acceleration Method of Source Convergence for Loosely Coupled Multi Unit System by Using Matrix K Calculation
T. Kuroishi and Y. Nomura

9D-02 A Monte Carlo Normalized Diffusion Method for Criticality Analysis of Spent Fuel Storage Lattices
G. Ilias and F. Rahnema

9D-03 Semi-Automated Search for Maximum k_{eff} of Multi-Constituent Systems
Y. Karni, D. Regev, E. Greenspan, S. Goluoglu, L. Petrie, and C. Hopper

9D-04 A New Generalized Multigroup Method
I. K. Attieh and R. E. Pevey

Session 9E. Poster Session II

9E-01 Technique for the Identification of Dominant Delayed Neutron Precursors
D. J. Loaiza and E. Haskin

9E-02 CONDOR Calculation Package
E. Villarino

9E-03 CANDU Three-Dimensional Neutron Transport Calculations with DRAGON
W. Shen

9E-04 Adjoint Equation of Nodal Green's Function Method
F. Li, Y. Wang, Z. Luo, W. Liu, and S. Han

9E-05 Safety Parameters of Advanced RBEC-M Lead-Bismuth Cooled Fast Reactor
K. Mikityuk, A. Vasiliev, P. Fomichenko, and P. Alekseev

9E-06 Measurements of Production and Distribution of Radionuclides in the Spallation Target
W. Pohorecki, J. Janczyszyn, S. Taczanowski, and A. Polanski

9E-07 Monte-Carlo Simulation of Time-dependent Processes in External-driven Subcritical Systems
S. Taczanowski and M. Kopec

9E-08 Nuclear Design Study on Once-Through Thorium Fuel Cycle for PWR
M. H. Kim, K. M. Bae, and K. H. Kim

9E-09 Thorium-based Transmuter Fuels for Use in Light Water Reactors
J. Herring and K. D. Weaver

9E-10 A Preliminary Model for Start Up of a Pulsed Annular Core
R. Narain

9E-11 Predictive Mathematical Modeling Excore Neutron Detectors Using a Neural Network
Y. S. Choi, K. H. Cha, M. G. Park, C. S. Lee, and Y. Kim

9E-12 Improvements of Cross Section Libraries for KASKAD-S
Y. S. Cho, Y. O. Lee, and J. H. Chang

9E-13 The Use of Discrete Ordinates Method for Calculation of the Photoneutron Production in Targets Bombarded by Electron Beam
A. M. Voloschenko, Y. V. Pomazan, and N. T. Kulagin

9E-14 Characteristics of Neutron Beam from IR Beam Port of HANARO for its Application to Dynamic Neutron Radiography
I. C. Lim, M. S. Kim, K. Y. Nam, C. M. Sim, B. C. Lee, H. Y. Choi, and S. Y. Hwang

9E-15 MONSTR/RELAP5: Code System for Comprehensive Modeling of Transients and Accidents in Pressurized Water-Cooled Nuclear Reactors
A. Vasiliev, K. Mikityuk, P. Fomichenko, and A. Chibinyaev

9E-16 Simulation of All Speed Two-Phase Flows
M. L. Moreira and P. De Sampaio

9E-17 BWR Stability Analysis with SIMULATE-3K
G. M. Grandi and K. S. Smith

9E-18 The Measurement of Neutron Flux and Spectrum at the Irradiation Facility for BNCT of HANARO
S. J. Park, M. S. Kim, B. C. Lee, and B. J. Jun

9E-19 Monte Carlo Simulation of the 3 MW TRIGA MARK II Benchmark Experiments
M. Q. Huda and T. K. Chakrobortty

9E-20 Results of a C5G7 Benchmark Computed using WIMS-SH+SHM-SQARE Complex
N. Laletin, A. Kovalishin, and N. Sultanov

9E-21 LOOP2: Comprehensive Transient Code for Advanced Nuclear Reactors
K. Mikityuk, A. Vasiliev, P. Fomichenko, and P. Alekseev

9E-22 MUDICO-2D- Two-Dimensional Multigroup Diffusion Code for Static Studies and Kinetic Parameters Calculation in Light Water Research Reactors
K. Ibrahim, H. Mazrou, T. Hamidouche, and H. Benkharfia

9E-23 AFENX: A Reactor Core Analysis Code Based on Analytic Function Expansion Nodal Method
N. Z. Cho and D. S. Kim

9E-24 PARCS: Purdue Advanced Reactor Core Simulator
T. J. Downar, D. A. Barber, R. M. Miller, C. Lee, T. Kozlowski, D. J. Lee, Y. Xu, J. Gan, H. G. Joo, J. Y. Cho, K. Lee, and A. P. Ulses

9E-25 KATRIN 1.0: Three-Dimensional Multigroup Discrete-Ordinates Transport Code
A. M. Voloschenko

9E-26 The SAPHYR System: An Overview
C. Fedon-Magnaud

9E-27 MASTER: Reactor Core Design and Analysis Code
B. O. Cho, H. G. Joo, J. Y. Cho, and S. Q. Zee

9E-28 Reactor Laboratory Course for Students with Kyoto University Critical Assembly (KUCA)
T. Misawa, K. Kobayashi, C. Ichihara, H. Unesaki, and S. Shiroya

9E-29 Computer Assisted Learning for Reactor Physics Education and Training of Nuclear Plant Designers, Operators and Maintainers
J. Brushwood, P. A. Beeley, R. Beadnell, J. L. Robertson, and J. M. Warden

October 9 (Wednesday), 3:30 PM ~ 5:35 PM

Session 10A. High-Performance Computing

10A-01 The Application of a Threads Parallel Computing Model to the U.S. NRC Neutron Kinetics Code PARCS
D. J. Lee and T. J. Downar

10A-02 Development and Parallelization of the Three-Dimensional Characteristics Solver MCI of DRAGON
M. Dahmani, G. J. Wu, R. Roy, and J. Koclas

10A-03 Development and Application of the Multigroup Simplified P_3 (SP_3) Equations in a Distributed Memory Environment
G. Longoni, A. Haghighat, and G. Sjoden

10A-04 Spherical Harmonics Finite Element Solution of the Least-Squares Neutron Transport Equation
E. Varin, G. Samba, and R. Roy

10A-05 Determination of Radiation Fields in Light Water Reactor Internals using PENTRAN^{TM}
V. N. Kucukboyaci and A. Haghighat

Session 10B. Fast Reactor Physics and Analysis

10B-01 Feasibility Study on Small Long-Life Pb-Bi Cooled Reactor with Capability of Load Following by Flow Rate Adjustment
V. Toshinsky and H. Hayashi

10B-02 CANDLE Burnup for Different Cores
H. Sekimoto and K. Tanaka

10B-03 The Possibilities of Fast Power Reactors to Create High Intensity Radioactive Sources
V. P. Evdokimov, V. M. Poplavsky, T. O. Saraeva, Y. S. Khomyakov, A. M. Tsiboulia, D. N. Abdurashitov, and V. N. Gavrin

10B-04 A Once for Life Core Design for the Encapsulated Nuclear Heat Source (ENHS) Reactor
S. G. Hong, E. Greenspan, Y. G. Kim, and Y. I. Kim

10B-05 A New Method of Hydride Loading into Fast Reactor for its Multipurpose Uses
T. Sugawara and T. Iwasaki

Session 10C. Physics of Delayed Neutrons

10C-01 A Review of Delayed Neutron Data for Calculating Effective Delayed Neutron Fractions
A. D'Angelo and J. L. Rowlands

10C-02 Experimental Validation of Effective Delayed Neutron Fraction in LWR-MOX Core
O. Litaize and A. Santamarina

10C-03 An Interpretation of Energy Dependence of Delayed Neutron Yields in the Resonance Region
T. Ohsawa and F. Hambsch

10C-04 Adjustment of Total Delayed Neutron Yields of ^{235}U, ^{238}U and ^{239}Pu by Using Results of In-Pile Measurements of Effective Delayed Neutron Fraction
T. Sakurai and S. Okajima

10C-05 Derivation of ν_d Data from β_{eff} Measurements : Interest and Limits
E. Fort, J. F. Lebrat, and R. Jacqmin

Session 10D. Subcritical Reactor Physics and Analysis II

10D-01 ADS Fuel Cycle Supplemented with DUPIC Processes: Achievement of High Fuel Burn-Up
G. Kulikov, A. Shmelev, V. Apse, M. Saito, and V. Artisyuk

10D-02 Application of the Multipoint Method to the Kinetics of Accelerator-Driven Systems
P. Ravetto, M. M. Rostagno, G. Bianchini, M. Carta, and A. D'Angelo

10D-03 Fast Reactor Core-Reflector Interface Effects Revisited
J. F. Lebrat, R. Jacqmin, F. Gabrielli, M. Carta, V. Peluso, G. Buzzi, G. Bianchini, A. D'Angelo, G. Aliberti, and G. Palmiotti

10D-04 An Investigation of Subcriticality Level in Accelerator-Driven System
Y. Kim, W. S. Park, R. N. Hill, T. A. Taiwo, and W. Yang

10D-05 Theory and Analysis of the Feynman-Alpha Method for Deterministically and Randomly Pulsed Neutron Sources
I. Pazsit and M. Ceder

October 10 (Thursday), 8:00 AM ~ 10:05 AM

Session 11A. Lattice Physics Methods and Verification I

11A-01 Improved Boundary Conditions for Assembly-Level Transport Codes
K. T. Clarno and M. L. Adams

11A-02 Evaluation of Cross Section Processing Codes COMBINE and WIMS for Pebble-Bed Reactor Fuel Cycle Analysis
S. E. Keller, F. Rahnema, C. de Oliveira, M. D. Eaton, A. M. Ougouag, H. D. Gougar, and W. K. Terry

11A-03 Treatment of the Double Heterogeneity with the Method of Characteristics
R. Sanchez and E. Masiello

11A-04 Inter-Comparison of Doppler Reactivity Coefficients for LWR UO_2 and MOX Cells
T. Takeda, M. Hattori, A. Santamarina, and C. Chabert

11A-05 APOLLO 2 : Test of Recently Implemented Methods Applied to the Calculation of a Large Scale Heterogeneous Cluster
J. Taieb, C. d'Aletto, P. Magat, S. Santandrea, A. de L'Hermite, and M. Ponce

Session 11B. MOX Fuel Core Analysis

11B-01 Full MOX Recycling in ALPWR : Lessons drawn through the MISTRAL Program
S. Cathalau, P. Fougeras, P. Blaise, N. Thiollay, A. Santamarina, O. Litaize, C. Chabert, T. Yamamoto, Y. Iwata, T. Umano, R. Kanda, P. Girieud, D. Biron, M. Tatsumi, T. Kan, Y. Ando, and K. Ishii

11B-02 BWR MOX Core Physics Experiments and Preliminary Analysis
T. Yamamoto, Y. Iwata, T. Umano, R. Kanda, S. Cathalau, P. Faugeras, N. Thiollay, P. Blaise, A. Santamarina, and J. L. Nigon

11B-03 OECD/NEA KRITZ-2 UO_2 and MOX Benchmarks
I. Remec, J. C. Gehin, P. D'Hondt, and E. Sartori

11B-04 Characteristics of VVER-1000 with 1/3 Core Loaded by MOX Fuel with Plutonium from Surplus Russian Nuclear Weapons
S. S. Alyoshin, S. N. Bolshagin, N. A. Bychkova, A. I. Osadchy, A. M. Pavlovichev, Y. A. Styrine, A. G. Kalashnikov, and G. N. Khokhlov

11B-05 Validation of a Pin-by-Pin Heterogeneous Method against LWR MOX Benchmarks
S. Akimushkin, A. Avvakumov, V. Malofeev, and A. Roslyakov

Session 11C. Cross Section Evaluation and Library I

11C-01 KRITZ-2 Benchmark Calculations Using Different Nuclear Data Libraries
N. Messaoudi, B. C. Na, and G. H. Roh

11C-02 Experimental Validation of Main Fission Products and Actinide Nuclear Data Improvements for JEFF-3
A. Courcelle, C. Chabert, O. Litaize, B. Roque, A. santamarina, and O. Serot

11C-03 Calculating Probability Tables for the Unresolved-Resonance Region Using Monte Carlo Methods
M. E. Dunn and L. C. Leal

11C-04 Re-evaluation of the ^{240}Pu Cross Sections in the Unresolved Resonance Energy Range; Special Care on the Sub-Threshold Fission Cross Section
O. Bouland

11C-05 The JEFF-3.0 Nuclear Data Library
R. Jacqmin, M. Kellett, and A. Nouri

Session 11D. Reactor Operation and Control I

11D-01 Optimization of BWR Control Rod Pattern for Relaxed Rod Sequence Exchange
H. Moon, A. Gu, R. G. Grummer, and St. Misu

11D-02 Nonlinear Stability Analysis with a Novel BWR Reduced Order Model
A. Dokhane, D. Hennig, R. Chawla, and R. Uddin

11D-03 The Importance of Different Time Characterizations in Investigating Density-Wave Oscillations
W. de Kruijf, R. Zboray, and T. van der Hagen

11D-04 Development of Axially Variable Strength Control Rods for The Power Maneuvering of PWRs
U. S. Kim and P. H. Seong

11D-05 A Receding Horizon Controller with a Parameter Estimator for Nuclear Reactor Power Distribution
M. G. Na, Y. R. Sim, and S. M. Lee

October 10 (Thursday), 10:20 AM ~ 12:00 Noon

Session 12A. Whole-Core Transport Calculations I

12A-01 SCOPE2: Object-Oriented Parallel Code for Multi-Group Diffusion/Transport Calculations in Three-Dimensional Fine-Mesh Reactor Core Geometry
M. Tatsumi and A. Yamamoto

12A-02 New Developments for the HOROWITZ Reactor's Neutronics Modelization and Validation
G. Willermoz, V. Brun, J. Di Salvo, C. Doderlein, and F. Moreau

12A-03 Assessment of CANDU Reactor Physics Effects Using a Simplified Whole-Core MCNP Model
K. S. Kozier

12A-04 A SAS2H/KENO-V Methodology for 3D Depletion Analysis
M. Milosevic, E. Greenspan, and J. Vujic

Session 12B. Plutonium Disposition and Actinide Burners I

12B-01 Modeling of Thermal and Gas-Dynamical Processes in Containers for Storage Weapons-Grade Plutonium
A. V. Voronkov, E. A. Zemskov, E. P. Sychugova, and A. G. Churbanov

12B-02 Neutronics Study on Transmutation Blanket of Fusion-fission Hybrid Reactor
C. Liangzhi, W. Ke, and W. Hongchun

12B-03 Analysis of the Transmutational Capabilities of a Novel Molten Salt Reactor
G. Csom, M. Szieberth, and S. Feher

12B-04 Coolant Loss Reactivity of a Lead-Bismuth Cooled Core for TRU Transmutation
Y. N. Kim, J. K. Kim, and W. S. Park

Session 12C. MASURCA Facility and MUSE Experiments I

12C-01 Neutronic Studies in Support to ADS: The MUSE Experiments in the MASURCA Facility
R. Soule

12C-02 First MUSE-4 Experimental Results Based on Time Series Analysis
C. Jammes, G. Perret, and G. Imel

12C-03 Dynamic Measurements and Control of an Accelerator Driven System (ADS)
G. Aliberti, G. Rimpault, R. Jacqmin, J. F. Lebrat, P. J. Finck, G. Imel, A. Reineiski, P. Ravetto, and J. C. Sens

12C-04 Foil Activation Studies of Spectral Variations in the MUSE4 Critical Configuration
M. Plaschy, R. Chawla, C. Destouches, C. Domergue, H. Serviere, P. Chaussonnet, J. M. Laurens, R. Soule, and G. Rimpault

Session 12D. Reactor Operation and Control II

12D-01 Nodal Perturbation Methodology for Operator-Aid System
G. B. Bruna, A. Cambriani, A. Grossetete, J. Mourlevat, A. Sargeni, and S. Thareau

12D-02 An Integrated Model for Reactor Control based on Discrete Function Theory
M. C. Kim and P. H. Seong

12D-03 Development of a Nuclear Plant Analyzer for CANDU Reactor
H. H. Kim, J. T. Seo, S. W. Kim, J. Y. Huh, M. T. Oh, S. C. Moon, B. S. Kim, and K. S. Do

12D-04 The Incore Quadrant Power Tilt Mitigation Experiences for Kori Nuclear Power Plant Unit 1
J. S. Kim, D. I. Chang, T. J. Kwon, Y. S. Jung, S. D. Kim, and K. K. Koh

October 10 (Thursday), 1:30 PM ~ 3:10 PM

Session 13A. Whole-Core Transport Calculations II

13A-01 Consistent Group Condensing Scheme for Multi-group MOC Calculation
J. Y. Cho, H. G. Joo, S. Y. Park, and S. Q. Zee

13A-02 Dynamic Implementation of the Equivalence Theory in the Heterogeneous Whole Core Transport Calculation
H. G. Joo, J. Y. Cho, H. Y. Kim, S. Q. Zee, and M. H. Chang

13A-03 Monte Carlo Reactor Physics Calculations for Critical Assemblies and LWR Full Core Models
W. Bernnat, M. Mattes, S. Langenbuch, and W. Zwermann

13A-04 Full-Core, 2-D, LWR Core Calculations with CASMO-4E
K. S. Smith and J. D. Rhodes, III

Session 13B. Plutonium Disposition and Actinide Burners II

13B-01 Transport-Burnup Code Systems and Their Application to IAEA ADS Benchmark
X. Jiang and Z. Xie

13B-02 Conceptual Development of Molten-Salt Reactor-Burner of Minor Actinides
A. Vasiliev, P. Alekseev, A. Dudnikov, P. Fomichenko, K. Mikityuk, and S. Subbotin

13B-03 Optimization of a Molten-Salt Transmuting Reactor
E. Rodriguez-Vieitez, M. D. Lowenthal, E. Greenspan, and J. Ahn

13B-04 Polonium Issue in Fast Reactor Lead Coolants and One of the Ways of Its Solution
G. L. Khorasanov, A. P. Ivanov, and A. I. Blokhin

Session 13C. MASURCA Facility and MUSE Experiments II

13C-01 The MUSE-4 Experiment: Prompt Reactivity and Neutron Spectrum Measurements
A. Billebaud, R. Brissot, D. Heuer, M. Kerveno, C. Le Brun, E. Liatard, J. Loiseaux, O. Meplan, E. Merle, F. Perdu, J. Vollaire, C. Destouches, P. Chaussonnet, and J. Laurens

13C-02 Steady State Calculations in Support of the MUSE-4 Experimental Programme
G. M. Thomas, R. Soule, W. Assal, P. Chaussonnet, C. Destouches, C. Jammes, J. Laurens, and M. Plaschy

13C-03 Measurement and Calculation of Control Rod Worths in MASURCA
J. L. Kloosterman, Y. Rugama, M. Szieberth, and C. Destouches

13C-04 First CIEMAT Measurements of the MUSE-4 Kinetic Response
D. Villamarin and E. Gonzalez-Romero

Session 13D. Fuel Management and Fuel Cycle I

13D-01 Assembly Gap Variation Methods for the Westinghouse ANC Nodal Code
D. C. Little and R. J. Fetterman

13C-02 Investigation on PWR-to-PWR Fuel Recycle by DUPIC Process
M. Iqbal and C. J. Jeong

13C-03 Influence of Moderator-to-Fuel Volume Ratio on Pu and MA Recycling in Equilibrium Fuel Cycles of PWR
A. Waris, H. Sekimoto, and G. Kastchiev

13C-04 Multi-objective In-core Fuel Management Optimization For PWR
B. Ali, Y. Hu, and W. Zheng

October 10 (Thursday), 3:30 PM ~ 5:35 PM

Session 14A. Lattice Physics Methods and Verification II

14A-01 Verification of PARAGON for LWR Design Applications
H. Matsumoto, Y. Tahara, and M. Ouisloumen

14A-02 A Decomposition Methodology for Quantitative Interpretation of Reactivity Effect Discrepancies in LWR-PROTEUS
R. van Geemert, F. Jatuff, and R. Chawla

14A-03 The Use of WIMS for Gas Cooled Reactor Calculations
J. L. Hutton

14A-04 The Next Generation WIMS Lattice Code : WIMS9
T. D. Newton and J. L. Hutton

14A-05 Benchmark Calculation of DENT-2D Code for PWR Fuel Assemblies
K. S. Kim, H. Y. Kim, and S. Q. Zee

Session 14B. Coupled Neutron Kinetics and Thermal-Hydraulics

14B-01 The Coupled Kinetic and Thermal-hydraulic Three Dimensional Code System NLSANMT/COBRA-IV for PWR Core Transient Analysis
C. Liao and Z. Xie

14B-02 Application of Coupled RELAP5-3D Code for Analysis of RBMK-1500 Reactor Neutron Kinetic - Thermal-Hydraulics Transients
E. Bubelis, A. Kaliatka, and E. Uspuras

14B-03 Insights into the JCO Criticality Incident using the Coupled Radiation/Multiphase Code FETCH
C. C. Pain, C. de Oliveira, M. D. Eaton, and A. J. Goddard

14B-04 CORETRAN Code Application for RBMK Reactor Safety Analysis
A. Jasiulevicius, A. Kubarev, and B. R. Sehgal

14B-05 Comparison of Nodal Diffusion Theory Methods for Analysis of Main Steam Line Break Accidents in PWR
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