Monday, April 26, 2004, 8:30 A.M.

Plenary Session - International Perspectives in Reactor Physics *Grand AB*

Jacques Bouchard (French Atomic Energy Commission - CEA)

Nicolai Ponomarev-Stepnoi (Kurchatov Institute)

Yosiaki Oka (University of Tokyo)

Burton Richter (Stanford Linear Accelerator Center)

Monday, April 26, 2004, 12:00 P.M.

Luncheon *Columbus IJKL*

Historical Perspectives on Reactor Physics Experiments, Massimo Salvatores

Monday, April 26, 2004, 1:30 P.M.

Session 1A International Collaboration in Reactor Physics *Columbus EF*

Session Organizers: Thomas J. Downar (Purdue University). Session Chairs: Thomas J. Downar (Purdue University), Jean-Pascal Hudelot (CEA Cadarache).

The Numerical Nuclear Reactor for High Fidelity Integrated Simulation of Neutronic, Thermal-Hydraulic and Thermo Mechanical Phenomena - Project Overview, David P. Weber (ANL)

Methods and Performance of a Three-Dimensional Whole-Core Transport Code DeCART, Han Gyu Joo (Korea Atomic Energy Research Institute)

Consistent Comparison of Monte Carlo and Whole-Core Transport Solutions for Cores with Thermal Feedback, Han Gyu Joo (Korea Atomic Energy Research Institute)

Evaluation of Turbulence Models for Flow and Heat Transfer in Fuel Rod Bundle Geometries, Tanju Sofu (ANL)

Methodology for Coupling Computational Fluid Dynamics with Integeral Transport Neutronics, Justin W Thomas, Zhaopeng Zhong (Purdue University), Tanju Sofu (ANL), Thomas J. Downar (Purdue University)

Coupled Calculations using the Numerical Nuclear Reactor for Integrated Simulation of Neutronic and Thermal-Hydraulic Phenomena, David P. Weber (ANL)

OSMOSE: An Experimental Program for the Qualification of Integral Cross Sections of Actinides, Jean-Pascal Hudelot (CEA Cadarache), Raymond Klann (ANL), Phillippe Fougeras (CEA Cadarache), Xavier Genin, Nicolas Drin (CEA Valrho), Louis Donnet (CEA)

MINERVE Reactor Characterization in Support of the OSMOSE Program: Spectral Indices, Raymond Klann (ANL), Jean-Pascal Hudelot, Muriel Antony (CEA Cadarache), Bradley Micklich, George Imel (ANL), Gregory Perret (CEA), Jean-Michel Girard, Valerie Laval (CEA Cadarache)

HTR-N Plutonium Cell Burnup Benchmark: Definition, Results & Intercomparison, Jim C. Kuijper (NRG)

Session 1B Monte-Carlo Methods and Developments *Columbus G*

Session Organizers: Forrest Brown (LANL), Richard Sanchez (CEA), Laurie Waters (LANL). Session Chairs: J. Eduard Hoogenboom (Delft University of Technology), William R. Martin (University of Michigan).

Monte Carlo Parameter Studies and Uncertainty Analyses with MCNP5, Forrest Brown (LANL), Robert Bruce Hayes (Washington TRU Solutions)

Theoretical and Practical Study of the Variance and Efficiency of a Monte Carlo Calculation due to Russian Roulette, J. Eduard Hoogenboom (Delft University of Technology)

Variance Reduction Techniques for the Monte Carlo Simulation of Neutron Noise Measurements, Máté Szieberth (Budapest University of Technology and Economics), Jan Leen Kloosterman (Delft University of Technology)

Two Dimensional Functional Expansion Tallies for Monte Carlo Simulations, David P. Griesheimer, William R. Martin (University of Michigan)

Point KENO V.a: A Continuous-Energy Monte Carlo Code for Criticality Safety Applications, Michael Dunn, Maurice Greene, Dan F. Hollenbach, L. M. Petrie (ORNL)

Eigenfunction Convergence and Transmutation Enhancements in MCNPX, Gregg McKinney, Holly Trellue, John Hendricks, Laurie Waters (LANL)

Continuously Varying Material Properties and Tallies for Monte Carlo Calculations, Forrest Brown (LANL), David P. Griesheimer, William R. Martin (University of Michigan)

Calculation of the Effective Delayed Neutron Fraction Using Monte Carlo Techniques, Steven C. Van Der Marck, Robin Klein Meulekamp (NRG)

Benchmark of MONTEBURNS against Measurements on Irradiated UOX and MOX Fuels, Christos Trakas, Lucien Daudin (FRAMATOME-ANP)

Session 1C Reactor Physics Benchmarks and Experiments   *Columbus H*

Session Organizers: Russell D. Mosteller (LANL), Robert Jacqmin (CEA Cadarache), Hironobu Unesaki (Kyoto University). Session Chairs: Rakesh Chawla (Paul Scherrer Institute), Farzad Rahnema (Georgia Institute of Technology).

Analysis of Benchmark Results for Reactor Physics of LWR Next Generation Fuels, Takanori Kitada (Osaka University), Keisuke Okumura (Japan Atomic Energy Research Institute), Hironobu Unesaki (Kyoto University), Etsuro Saji (Secretariat of The Nuclear Safety Commission)

Validation of Depletion Calculation through TAKAHAMA-3 Chemical Assays with JEFF3.0, Courcelle Arnaud, Alain Santamarina (CEA)

Analysis of the HTR-10 Initial Core with a Monte Carlo Code MVP, Yasunobu Nagaya, Keisuke Okumura, Takamasa Mori (JAERI), Wataru Nakazato (Tokyo Institute of Technology)

OECD/NEA International Benchmark on 3-D VENUS-2 MOX Core Measurements, Nadia Messaoudi (Belgian Nuclear Research Centre, SCK·CEN), Byung-chan Na (OECD/Nuclear Energy Agency)

BN-600 Full MOX Core Benchmark Analysis, Y. I. Kim (IAEA), R. Hill, K. Grimm (ANL), G. Rimpault (CEA Cadarache), T. Newton (Serco Assurance), Z. H. Li (CIAE), A. Rineiski (FZK/IKET), P. Mohanakrishnan (IGCAR), M. Ishikawa (Japan Nuclear Cycle Development Institute), K. B. Lee (KAERI), A. Danilytchev, V. Stogov (IPPE)

JOYO MK-III Performance Test at Low Power and Its Analysis, Gou Chiba (Japan Nuclear Cycle Development Institute)

High Moderation BWRs Fully Loaded with MOX Fuel: The BASALA Experimental Programme, Stephane Cathalau (French Atomic Energy Commission)

The Experimental Determination of the Relative Abundances and Decay Constants of Delayed Neutrons of the IPEN/MB-01 Reactor, Adimir Dos Santos, Ricardo Diniz, Rogerio Jerez, Luis Antonio Mai, Mitsuo Yamaguchi (Instituto de Pesquisas Energeticas e Nucleares)

The Experimental Determination of the Effective Delayed Neutron Parameters: Beff, Beff/LAMBDA and LAMBDA of the IPEN/MB-01 Reactor, Adimir Dos Santos, Ricardo Diniz, Leda C. C. B. Fanaro, Rogerio Jerez, Graciete S. A. Silva, Mitsuo Yamaguchi (Instituto de Pesquisas Energeticas e Nucleares)

Session 1D Reactor Analysis Methods   *Grand A*

Session Organizers: Giuseppe Palmiotti (ANL), Giovanni Bruna (Framatome ANP), Jasmina Vujic (UC Berkley). Session Chairs: Giovanni Bruna (Framatome ANP), Giuseppe Palmiotti (ANL).

Status of Reactor Analysis Methods and Codes in the U.S.A., Won Sik Yang, Temitope A. Taiwo (ANL)

Validation of WIMS9, Tim Newton, Les Hutton, Ray Perry (Serco Assurance)

Application of the DSA Preconditioned GMRES Formalism to the Method of Characteristics - First Results , Romain Le Tellier, Alain Hebert, Professor (Ecole Polytechnique de Montreal)

Improvement of the SPH Method for Multi-Assembly Calculations, Akio Yamamoto, Yasunori Kitamura, Yoshihiro Yamane (Nagoya University)

Method of Characteristics Applied to a MTR Whole Core Modeling, Alain Aggery, Corinne D'aletto, Jacques Di-salvo, Richard Sanchez, Simone Santandrea, Michel Soldevila, Guy Willermoz (CEA)

3D Characteristics Method with Linearly Anisotropic Scattering, Mohamed Dahmani, Robert Roy, Jean Koclas (École Polytechnique de Montréal)

A Mutual Resonance Shielding Model Consistent with Ribon Subgroup Equations, Alain Hebert (Ecole Polytechnique de Montreal)

Sensitivity Studies on Cross-Section Generation and Modeling for BWR Core Simulation Using SAPHYR Code System, Nadejda Todorova, Kostadin Ivanov (Pennsylvania State University), Emmanuel Rigaut, Eric Denis Royer (CEA)

About Axial Diffusion Coefficient Calculation Analysis, Tamara Semeonovna Poveschenko, Nickolay Ilyich Laletin (RRC 'Kurchatov Institute')

Monday, April 26, 2004, 5:00 P.M.

Special Session - Reactor Physics for Future Nuclear Systems — *Grand AB*

Hussein Khalil (Argonne National Laboratory)

Jean-Claude Gauthier (Framatome)

Tuesday, April 27, 2004, 8:30 A.M.

Plenary Session - Current Needs in Reactor Physics — *Grand AB*

Needs Related to the Nuclear Power Industry, Kord Smith (Studsvik-Scandpower)

Needs Related to Nuclear Fuel Cycle Initiatives, Christine Brown (British Nuclear Fuels plc)

Tuesday, April 27, 2004, 10:00 A.M.

Session 2A Deep-Burn Physics and Methodology — *Columbus EF*

Session Organizers: Alan Baxter (General Atomics), Giovanni Bruna (Framatome ANP), Alexander Stanceulescu (IAEA). Session Chairs: Giovanni Bruna (Framatome ANP).

Uncertaity Analysis and Optimization Studies on the Deep-Burner Modular Helium Reactor (DB-MHR) for Actinide Incineration, Giovanni B. Bruna, Rocco Labella, and Christos Trakas (FRAMATOME-ANP), Alan Baxter and Carmelo Rodriguez (General Atomics), Francesco Venneri (LANL)

PBMR Deep-Burn: A Pebble-Bed HTGR Burning Its Own 'Waste', Dirceu F. Da Cruz, J.B.M. De Haas, A.I. Van Heek (NRG)

HTGR Actinide Burner Feasibility Studies: Calculation Scheme Related Considerations, Frederic Damian (CEA), Patrick Blanc-Tranchant (CEA - Saclay), Xavier Raepsaet (CEA - Saclay), Jean-Christophe Klein (CEA - Cadarache), Florence Dolci, Oliver Koberl (CEA)

Studies of a Deep Burn Fuel Cycle for the Incineration of Military Plutonium in the GT-MHR using the Monte-Carlo Burnup Code, Alberto Talamo, Waclaw Gudowski (Royal Institute of Technology)

Spectral Shift Methodology for 'Deep-Burnup' of Uranium-Thorium-Hydride-Fuel, Zeev Shayer (University of Denver)

Cascade Reactor Concept for Neutron Multiplication of Subcritical Core, Kazumi Ikeda, Takako Shiraki (Mitsubishi Heavy Industries, Ltd.)

Session 2B Accelerator Applications and Spallation Physics — *Columbus G*

Session Organizers: Eric Pitcher (LANL), Stefano Monti (ENEA), Hiroyuki Oigawa (JAERI). Session Chairs: Eric Pitcher (LANL).

Research and Development Activities for Accelerator Driven System at JAERI, Kazufumi Tsujimoto, Toshinobu Sasa, Hiroyuki Oigawa (Japan Atomic Energy Research Institute)

The Utilization of Small Accelerators to Drive a Zero Power Sub Critical Reactor. A Review of R&D at IPEN-CNEN and IFUSP, José Rubens Maiorino (Institute for Energetic and Nuclear Research (IPEN)), Sérgio Anéfalos Pereira (Institute of Physics (IFUSP))

The TRADE Experiment: Status of the Project and Physics of the Spallation Target, Stefano Monti, Carlo Rubbia (ENEA), Massimo Salvatores (CEA/ANL), Nunzio Burgio, Mario Carta, Pietro Agostini, Fabrizio Pisacane, Alfonso Santagata (ENEA), Cecille Krakowiak-Aillaud (CEA), Yacine Kadi (European Organization for Nuclear Research), Eric Pitcher (LANL), Jean-Claude Steckmeyer (CNRS), Cornelis Broeders, Dankward Struwe (Karlsruhe), Adonai Herrera-Martinez (University of Cambridge)

Impact of Heterogeneous Cm Distribution on Proton Source Efficiency in Accelerator-driven Systems, Per Seltborg, Jan Wallenius, Waclaw Gudowski (Royal Institute of Technology)

Reactor-Accelerator Coupled Experiments (RACE): A Feasibility Study at TAMU, William S. Charlton, Venkat Krishna Taraknath Woddi (Texas A&M University)

Towards an Improved GELINA Neutron Target, Marek Flaska, Arjan Plompen, Willy Mondelaers (IRMM-JRC-EC), Danny Lathouwers, Tim Van Der Hagen Jr., Hugo Van Dam (Delft University of Technology)

Session 2C Reactor Physics and Materials Issues *Columbus H*

Session Organizers: Abderrafi M. Ougouag (INEEL). Session Chairs: Abderrafi M. Ougouag (INEEL).

Displacement Kerma Cross Sections for Neutron Interactions in Molybdenum, Abderrafi Ougouag, Charles A. Wemple, Clinton Van Siclen (INEEL)

Thermal Neutron Scattering Cross Sections of Thorium Hydride, Iyad I. Al-qasir, Ayman I. Hawari, Victor Hugo Gillette, Bernard W. Wehring, Tong Zhou (North Carolina State University)

EPRI BWRVIP 3-D RAMA Fluence Methodology Benchmarking, Steven Baker (TransWare Enterprises Inc.)

Ab Initio Generation of Thermal Neutron Scattering Cross Sections, Ayman I. Hawari, Iyad I. Al-qasir, Victor Hugo Gillette, Bernard W. Wehring, Tong Zhou (North Carolina State University)

Support Vector Machine in Classification of Positron Lifetime Spectra, Senada D. Avdic (Senada Avdic)

Research Reactor Application to Iridium-192 Production for Cancer Treatment, Maria Elisa C. M. Rostelato, Constancia Silva, Paulo Roberto Rela, Carlos Zeituni, Vladimir Lepki, Anselmo Feher (Nuclear Energy National Commission, CNEN - BRAZIL)

Session 2D Advances in LWR Analyses *Grand A*

Session Organizers: Marvin Adams (Texas A&M University). Session Chairs: Marvin Adams (Texas A&M University).

Renormalized Treatment of the Double Heterogeneity with the Method of Characteristics, Richard Sanchez (CEA)

Coarse-Mesh Discretized Low-Order Quasidiffusion Equations for Subregion Averaged Scalar Fluxes, Dmitriy Y. Anistratov (North Carolina State University)

Application of a Heterogeneous Coarse Mesh Transport Method to a MOX Benchmark Problem, Benoit Forget, Farzad Rahnema, Scott W. Mosher (Georgia Institute of Technology)

Spatially Consistent Coarse-Mesh Discretization of the Low-Order Quasidiffusion Equations, Hikaru Hiruta, Dmitriy Y Anistratov (North Carolina State University)

The Implementation of Pin-Cell Discontinuity Factors in PARCS Using an Artificial Neural Network with Application to MOX Fuel Analysis, Tomasz Kozlowski, Deokjung Lee, Thomas J. Downar (Purdue University)

Diagnostic Tool for Assessing Anomalous Trends in BWR Core Tracking, Anna Smolinska, John Rea, Atul Karve, Kenneth Gardner (Global Nuclear Fuel)

Tuesday, April 27, 2004, 1:00 P.M.

Plenary Session - Experimental Activities in Reactor Physics *Grand AB*

The International Program TRADE - TRIGA Accelerator Driven Experiments, George Imel (Argonne National Laboratory)

Eric Pitcher (Los Alamos National Laboratory)

Tuesday, April 27, 2004, 2:30 P.M.

Session 3A Reactor and Neutron Physics *Columbus EF*

Session Organizers: Enrique M. Gonzalez-Romero (CEEMT), Robert N. Hill (ANL). Session Chairs: Enrique M. Gonzalez-Romero (CEEMT), Robert N. Hill (ANL).

New Resonant Mixture Self-Shielding Treatment in the APOLLO2 Code, Mireille Coste-Delclaux (CEA)

Extension of KIN3D, a Kinetics Capability of VARIANT, for Modeling Fast Transients in Accelerator Driven Systems, Cristian Rabiti (Forschungszentrum Karlsruhe, Institut für Kern- und Energietechnik (FZK/IKET)), Andrei Rineiski (Forschungszentrum Karlsruhe)

Reactivity Assessment and Spatial Time-Effects from the MUSE Kinetics Experiments, Mario Carta, Antonio D'angelo, Vincenzo Peluso (ENEA), Gerardo Aliberti, Giuseppe Palmiotti, George Imel (ANL), Jean Francois Lebrat (CEA), Enrique M. Gonzalez-Romero (Centro de Estudios Energéticos Medioambientales y Tecnológicos), David Villamarin (CIEMAT), Sandra Dulla , Fabrizio Gabrielli, Piero Ravetto (Politecnico di Torino), Massimo Salvatores (ANL)

Monte Carlo Modeling of a Time-of-Flight (ToF) Experiment for Determination of Fe Scattering Cross Sections, Michael T. Wenner, Alireza Haghighat (University of Florida)

[Application of the Dynamic Control Rod Reactivity Measurement Method to Korea Standard Nuclear Power Plants](#), Eun-ki Lee, Il-tak Woo, Ho-chul Shin, Suk-Jin Ryu, Sung-Man Bae, Yong-Kwan Lee (Korea Electric Power Research Institute - KEPRI)

[Physics Study on Direct Use of U-ZrH1.6 Fuel in PWR](#), Zeev Shayer (University of Denver)

[CANDU Adjuster Rods Incremental Cross Sections Evaluation: A Perturbative Approach](#), Guy Marleau (Ecole Polytechnique de Montreal)

Session 3B Research Reactors   *Columbus G*

Session Organizers: Nelson Hanan (ANL), Hamid Ait Abderrahim (SCK-CEN). Session Chairs: Nelson Hanan (ANL).

[Modeling the MIT Reactor Neutronics for LEU Conversion Studies](#), Thomas H. Newton Jr., Zhiwen Xu, Edward E. Pilat, Mujid Kazimi (Massachusetts Institute of Technology)

[A New De-homogenisation Method for Local Power Reconstruction](#), Guy Pierre Willermoz, David Blanchet, Jacques Di-Salvo, Christoph Doderlein, Nicolas Huot (CEA)

[Safety Assessment of Reducing the Tantalum Content of High Flux Isotope Reactor Regulating and Safety Elements](#), Trent Primm (ORNL)

[Automated Three Dimensional Depletion Capability for the Pennsylvania State University Research Reactor](#), Chanatip Tippayakul, Kostadin Ivanov (Pennsylvania State University)

[HOR: Criticality Comparison Using a Nodal Code, Monte Carlo Codes and Plant Data](#), P.F.A. de Leege (Delft University of Technology)

[The Application of the Zr to the Thermal Neutron Fluence Monitoring at the Irradiation Experiments of the Research Reactor](#), Myong Seop Kim, Sang Jun Park, Byung Chul Lee, Heonil Kim, Byung Jin Jun (Korea Atomic Energy Research Institute)

[Determination of the Linear Power in MOX Fuel Rods Irradiated at BR2](#), Edgar Koonen, (SCK-CEN (Belgian Nuclear Research Center))

Session 3C Fuel Cycle Physics   *Columbus H*

Session Organizers: Alain Zaetta (CEA Cadarache), Michael Todosow (BNL). Session Chairs: Michael Todosow (BNL), Alain Zaetta (CEA Cadarache).

[The Physics of TRU Transmutation -- A Systematic Approach to the Intercomparison of Systems](#), Massimo Salvatores (CEA & ANL), Robert N. Hill (ANL), Igor Slessarev, Gilles Youinou (CEA Cadarache)

[Dynamic Analysis of the AFCI Scenarios](#), Abdellatif M. Yacout, Robert N. Hill, Luc Van Den Durpel, Phillip J. Finck (ANL), Erich Schneider, Charles G. Bathke (LANL), J. S. Herring (INEEL)

[Uncertainty Analysis on Back-end Fuel Cycle Main Parameters](#), Giovanni B. Bruna and Bertrand Carlier (FRAMATOME-ANP), Enrico Padovani and Alberto Michelotti (POLITECNICO di MILANO)

[Effectiveness of Different Burnable Poisons in a Long Cycle BWR](#), Yuichiro Inoue, Zhiwen Xu, Edward E. Pilat (Massachusetts Institute of Technology)

[Studies of Advanced Fuel Cycles in Indian PHWRs and AHWR](#), P. D. Krishnani, R. Srivenkatesan, Baltej Singh, Umasankari Kannan, Arvind Kumar, Sadhana Mukerji (Bhabha Atomic Research Center)

[Influence of Nuclear Fuel Cycle Duration and Reprocessing Losses Level on the Nuclear Power System Structure](#), Stanislav A. Subbotin, Pavel N. Alekseev, Anatoly A. Dudnikov (Russian Research Center Kurchatov Institute)

[Assessment of Reduced Moderation Water Reactor Fuel Cycle](#), Taek Kyum Kim, Won Sik Yang, Temitope A. Taiwo, Robert N. Hill (ANL)

Session 3D Criticality Benchmarks   *Grand A*

Session Organizers: Russell D. Mosteller (LANL), Robert Jacqmin (CEA Cadarache), Hironobu Unesaki (Kyoto University). Session Chairs: Richard D. McKnight (ANL), Hironobu Unesaki (Kyoto University).

[TransLAT Lattice Physics Code Benchmark to the B&W Gadolinia Criticals](#), Steven Baker (TransWare Enterprises Inc.)

[ENDF/B-V and ENDF/B-VI Calculations for the LWBR SB Core Benchmarks with MCNP5](#), Russell D. Mosteller (LANL)

[Benchmark Comparisons of Deterministic and Monte Carlo Codes for a PWR Heterogeneous Assembly Design](#), Taek K. Kim, John Stillman, Temitope A. Taiwo (ANL), Christine Chabert, Laurence Mandard (CEA)

Analysis of the Experimental Program MISTRAL Using CASMO-4, Akiko Kanda, Tetsuo Nakajima, Kyoko Sano (Japan Nuclear Energy Safety Organization)

Solution of the C5G7 3-D Extension Benchmark by the SN Code TORT, Armin Seubert, Winfried Zwermann, Siegfried Langenbuch (Gesellschaft für Anlagen- und Reaktorsicherheit (GRS) mbH)

Solutions to the New C5G7MOX Three-Dimensional Transport Benchmarks Using the TORT Code, Jesse Klingensmith, Yousry Youssef Azmy (Pennsylvania State University), Jess Gehin (ORNL), Roberto Orsi (ENEA FIS-NUC)

Creation of a Simplified Benchmark Model for the Neptunium Sphere Experiment, Russell D. Mosteller, David J. Loaiza, Rene G. Sanchez (LANL)

Tuesday, April 27, 2004, 5:00 P.M.

Session 4A Poster Session and Reception   *Crystal Ballroom Foyer*

Monte-Carlo Techniques to Simulate Pebble Dislocations in a PB-MR during Depletion, Nunzio Burgio (ENEA - CRE Casaccia), Giovanni Bruna (Framatome), Alfonso Santagata (ENEA - CRE Casaccia), Rocco Labella, Engineer (FRAMATOME-ANP), Jessica Beati, Augusto Gandini (University of Rome La Sapienza)

Design of Pebble-Bed Reactors Using a Genetic Algorithm, Hans D. Gougar, Abderrafi M. Ougouag, William K. Terry (INEEL), Kostadin Ivanov (Pennsylvania State University)

Feasibility of Using Burnable Poisons for Reduction of Coolant Void Reactivity in LMR for TRU Transmutation, Yong Nam Kim, Jong Kyung Kim (Hanyang University), Won Seok Park (Korea Atomic Energy Research Institute)

Plutonium Disposition in the PBMR-400 High-Temperature Gas-Cooled Reactor, Eben J. Mulder (PBMR (Pty) Ltd)

Definition of a Calculation Scheme with MONTEBURNS for Decay Heat Calculations of HTR Fuel, Anne De L'hermite (FRAMATOME-ANP)

Concept of a Gas Cooled Fast Reactor, N. Kuzavkov, Yu. Sukharev, S. Usynia (OKB Mechanical Engineering)

MINERVE Reactor Characterization in Support of the OSMOSE Program: Safety Parameters, Jean-Pascal Hudelot (CEA Cadarache), Raymond Klann, Bradley Micklich (ANL), Muriel Antony, Pierre Leconte, Jean-Michel Girard, Valerie Laval (CEA - Cadarache), Gregory Perret (CEA)

Thermo Mechanical Calculations for Integrated High Fidelity Reactor Core Simulations, Tanju Sofu (ANL)

Monte Carlo Midway Forward-Adjoint Coupling with Legendre Polynomials for Borehole Logging Applications, David Legrady, J. Eduard Hoogenboom (Delft University of Technology)

Visualization of Space-Dependency of Responses of Monte Carlo Calculations Using Legendre Polynomials, J. Eduard Hoogenboom, David Legrady (Delft University of Technology)

An Influence of Core Physics Peculiarities upon the Thermal Hydraulics Performance in Cascade Subcritical Molten Salt Reactor, Vladimir A. Nevinitsa, Pavel N. Alekseev, Aleksey A. Sedov, Peter A. Fomichenko, Alexander V. Vasiliev, Elyaz M. Aisen (Russian Research Center Kurchatov Institute), Andrey M. Voloshchenko (Keldysh Institute of Applied Mathematics)

AGENT Code: Open-Architecture Analysis and Configuration of Research Reactors – Graphic Tools, Tatjana Jevremovic, Dimitrios Andristos (Purdue University)

DELPHI:A New Subcritical Assembly at Delft University of Technology, Jan Leen Kloosterman (Delft University of Technology)

The Studies of RBMK-1500 Reactor Core Behavior during Abnormal Operation Transients, Arvydas Adomavicius, Anton Belousov, Jonas Gylys, Viktor Ognerubov, Stanislovas Ziedelis (Kaunas University of Technology), Audrius Jasiulevicius, Andrej Kubarev (Royal Institute of Technology)

Radiation Shielding Estimates for Interplanetary Manned Missions, Aaron Totemeier, Tatjana Jevremovic, Derek Hounshel, Sean Duckett (Purdue University)

Reduction of Cross-Section-Induced Errors of the BN-600 Hybrid Core Nuclear Parameters by Using BFS-62 Critical Experiment Data, Akira Shono, Taira Hazama, Makoto Ishikawa (Japan Nuclear Cycle Development Institute), Gennadi Manturov (Institute of Physics & Power Engineering)

Uncertainty Analysis Results on BN-600 Hybrid Core Nuclear Physics Characteristics, Gennadi Manturov, Mikhail Semenov, Anatoly Seregin, Anatoly Tsiboulya (Institute of Physics and Power Engineering - IPPE), Taira Hazama (Japan Nuclear Cycle Development Institute)

Analysis of SNEAK-7A & 7B Critical Benchmarks using3-D Deterministic Transport and Sensitivity, Sang Kim (KAERI), Ivo Kodeli, Enrico Sartori (OECD Nuclear Energy Agency)

Derivation of the Space and Energy Dependent Formula for the Third Order Neutron Correlation Technique, Tomohiro Endo, Yasunori Kitamura, Akio Yamamoto, Yoshihiro Yamane (Nagoya University)

Cross-Section Generation for TRADE Fuel, Ron Dagan, Cornelis H. M. Broeders, Madelena Badea, Anton Travleev (Forschungzentrum Karlsruhe(FZK))

On-line Determination of the Prompt Fraction of In-Core Neutron Detectors in CANDU Reactors, Christophe Demazière, Imre Pazsit (Chalmers University of Technology), Oszvald Glockler (Ontario Power Generation)

Dynamics of a Reduced Order Model of Natural Circulation BWR, Quan Zhou, Rizwan Uddin (University of Illinois at Urbana-Champaign)

Solution of the 1D Kinetic Diffusion Equations Using a Reduced Nodal Cubic Scheme, Edmundo Del Valle (Instituto Politecnico Nacional), Armando Gomez, Gustavo Alonso, Arturo Delfin (Instituto Nacional de Investigaciones Nucleares)

CANDU Reactor Simulations with a Full P1 Method, Jean Koclas (École Polytechnique de Montréal), Benoit Forget (Georgia Institute of Technology)

The Simplified Even-Parity SN Equations Applied to a MOX Fuel Assembly Benchmark Problem on Distributed Memory Environments, Gianluca Longoni, Alireza Haghighat (University of Florida)

On the Influence of Differences Between Various Group Microconstant Libraries and Between Different Transport Options on Calculation Results for Cells and Subassemblies of VVER-1000 Reactor, Nickolay Ilyich Laletin, Nikolay Sultanov Sr., Aleksey Kovalishin Sr. (RRC Kurchatov Institute)

Sipping Tests on a Failed Irradiated MTR Fuel Element, Carlos Alberto Zeituni, Luis Antonio Albiac Terremoto, José Eduardo Rosa Da Silva (Instituto de Pesquisas Energéticas e Nucleares)

Tuesday, April 27, 2004, 7:00 P.M.

Banquet   *Crystal Ballroom*

Alan Waltar (Pacific Northwest National Laboratory)

Wednesday, April 28, 2004, 8:30 A.M.

Session 5A Fuel/Core Design and Analysis   *Columbus EF*

Session Organizers: Kord Smith (Studsvik-Scandpower). Session Chairs: Richard J. Cacciapouti (AREVA).

New Computational Methodology for Large 3D Neutron Transport Problems, Mohamed Dahmani, Robert Roy, Jean Koclas (École Polytechnique de Montréal)

Spent Nuclear Fuel Analyses Based on In-Core Fuel Management Calculations, Sigurd Borresen (Studsvik Scandpower)

ALAADIN/FLS - A BWR Fast Lattice Design Simulation Tool, Albert G. Gu, Robert J. Veklotz, Hoju Moon, Ralph G. Grummer, Craig Brown (Framatome ANP)

The Feasibility Study of the Minimum-Shuffling Reloading Strategy for PWR, Masato Tabuchi (Nagoya University), Yasushi Hanayama, Masatoshi Yamasaki (Nuclear Fuel Industries, Ltd.), Akio Yamamoto (Nagoya University)

Low-Temperature Reactor Multi-cycle Reloading Design Using Probability Approaching Method, Zhihong Liu (Tsinghua University)

High Fuel Burn-up and Nonproliferation in PWR-type Reactor on the Basis of Modified U- and Th-fuels, Gennady Genrikhovich Kulikov (International Science and Technology Center), Anatoly Nikolaevich Shmelev, Vladimir Alexandrovich Apse (Moscow Engineering Physics Institute)

Over-Moderated MOX Fuel Assembly in a BWR Mixed Reload, Jose Ramon Ramirez-Sanchez (Instituto Nacional de Investigaciones Nucleares)

Performance Comparison of Different Absorbent Materials in BWR Control Rods, José Luis Montes Tadeo (Mexican Nuclear Research Institute)

Enriched Gadolinium as Burnable Absorber for PWR, Klaes-Håkan Bejmer (Vattenfall Bränsle AB, Sweden), Ola Seveborn (Uppsala University)

Session 5B Gas-Cooled Reactors   *Columbus G*

Session Organizers: Alan Baxter (General Atomics). Session Chairs: Alan Baxter (General Atomics).

The Pebble Bed Modular Reactor Layout and Neutronics Design of the Equilibrium Cycle, Frederik Reitsma (PBMR Pty Ltd)

Neutronic Modeling for a Gas-Cooled Fast Reactor Assuming Coated Fuel Particles, Hervé Golfier, Laurent Buiron, Christine Poinot, Baptiste Pothet, Jean-François Salavy, Etienne Studer (CEA)

Methodology for a Large Gas-Cooled Fast Reactor Core Design and Associated Neutronic Uncertainties, Jean-Christophe Bosq, Alain Conti, Gerald Rimpault, Garnier Jean-Claude (CEA)

Optimal Moderation in the Pebble-Bed Reactor for Enhanced Passive Safety and Improved Fuel Utilization, Abderrafi M. Ougouag, Hans D. Gougar, William K. Terry (Idaho National Engineering and Environmental Laboratory), Ramatsemela Mphahlele, Kostadin Ivanov (Pennsylvania State University)

Fuel Design and Core Layout for a Gas Cooled Fast Reactor, Wilfred Van Rooijen (Delft University of Technology - Interfaculty Reactor Institute), Jan Leen Kloosterman, Tim Van Der Hagen, Hugo Van Dam (Delft University of Technology)

GT-MHR Core Modelling: From Reference Modelling Definition in Monte-Carlo Code to Calculation Scheme Validation, Frederic Damian, Xavier Raepsaet, Simone Santandrea, Alain Mazzolo, Christine Poinot (CEA - Saclay),Jean-Christophe Klein (CEA - Cadarache), Leandre Brault, Christian Garat (Framatome - ANP)

Modeling of HTRs with Monte Carlo: Sensitivity due to Different Isotopic Fuel Composition, Danas Ridikas (CEA Saclay)

Low-Conversion Ratio Gas-Cooled Fast Reactors, Edward A. Hoffman, Temitope A. Taiwo, Robert N. Hill (ANL)

Possibility to Use Different Fuel Cycles in GT-MHR, N. Kodochigov, Yu. Sukharev, E. Marova (OKB Mechanical Engineering), N. Ponomarev-Stepnov, E. Glushkov, P. Fomichenko (RRC Kurchatov Institute)

Session 5C Critical and Subcritical Experiments   *Columbus H*

Session Organizers: Russell D. Mosteller (LANL), Robert Jacqmin (CEA Cadarache), Hironobu Unesaki (Kyoto University). Session Chairs: Russell D. Mosteller (LANL).

Criticality Analysis of Highly Enriched Uranium / Thorium Fueled Thermal Spectrum Cores of Kyoto University Critical Assembly, Hironobu Unesaki, Tsuyoshi Misawa, Chihiro Ichihara, Keiji Kobayashi, Hiroshi Nakamura, Seiji Shiroya (Kyoto University) , Kazuhiko Kudo (Kyushu University)

Analysis of Criticality Change with Time for MOX Cores, Ken Nakajima (Kyoto University), Takenori Suzaki (Japan Atomic Energy Research Institute)

Subcritical Experiments in Uranium-Fueled Core with Central Test Zone of Tungsten, Tsuyoshi Yamane, Shigeaki Okajima (Japan Atomic Energy Research Institute)

Re-Evaluation of SEFOR Doppler Experiments and Analyses with JNC and ERANOS systems, Taira Hazama (Japan Nuclear Cycle Development Institute), Jean Tommasi (CEA)

The TRADE Source Multiplication Experiments, George Imel, Dmitri G. Naberejnev, Giuseppe Palmiotti (ANL), Laurence Mandard, Gilbert Granget (CEA), M. Carta (ENEA)

Study of the Influence of a Pulsed Source in the Kinetics Measurements in a Subcritical System, Yolanda Rugama (CEA), George Imel (ANL)

The MUSE Pulsed Neutron Source experiments, Enrique M. Gonzalez-romero (Centro de Estudios Energéticos Medioambientales y Tecnológicos)

Reactivity Measurements and Neutron Spectrometry in the MUSE-4 Experiment, Annick Billebaud, Joachim Vollaire, Roger Brissot, Daniel Heuer, Christian Le Brun, Eric Liatard, Jean-marie Loiseaux, Olivier Meplan, Elsa Merle-Lucotte, Alexis Nuttin, Fabien Perdu (CNRS), Cristophe Destouches, Pascal Chaussonnet, Jean-Marc Laurens, Yolanda Rugama (CEA)

Some Experimental Results from the Last Phases of the MUSE Program, Frederic Mellier (CEA), George Imel (ANL), Yolanda Rugama (Technological University of Delft), Christian Jammes (CEA), Jean-françois Lebrat (CEA)

Session 5D Reactor Analysis Methods   *Wrigley*

Session Organizers: Giuseppe Palmiotti (ANL), Giovanni Bruna (Framatome ANP), Jasmina Vujic (UC Berkley).
Session Chairs: Elmer Lewis (Northwestern University).

Reactor Core Simulations in Canada, Robert Roy, Jean Koclas (École Polytechnique de Montréal), Wei Shen, Dave Jenkins, Dimitar Altiparmakov, Benjamin Rouben (Atomic Energy of Canada Limited)

A New Method for the Treatment of Strong Local Heterogeneities and Its Application to the PHEBUS Experimental Facility, Ruggieri, Jean-Michel, Girardi Enrico (CEA)

Mixed-Hybrid Methods for the Linear Transport Equation, Serge Van Criekingen, Elmer E. Lewis (Northwestern University)

Adaptative Solution of the Multigroup Diffusion Equation on Irregular Structured Grids Using a Non Conforming Finite Element Method Formulation, Jean C. Ragusa (CEA)

The Variational Nodal Method in R-Z Geometry, Hui Zhang (Northwestern University), Elmer E. Lewis (Northwestern University)

Solving the Neutron Diffusion Equation on Combinatorial Geometry Computational Cells for Reactor Physics Calculations, Yousry Youssef Azmy, Professor (Pennsylvania State University)

Development of Hybrid Core Calculation System Using 2-D Full-Core Heterogeneous Transport Calculation and 3-D Advanced Nodal Calculation, Masaaki Mori (Nuclear Engineering, Limited)

A First-Order Spherical Harmonics Formulation Compatible with the Variational Nodal Transport Method, Micheal A. Smith, Giuseppe Palmiotti, Won Sik Yang (ANL), Elmer E. Lewis (Northwestern University)

Investigating the Use of 3-D Deterministic Transport for Core Safety Analysis, Hans D. Gougar, Manager, D. Scott Lucas, Paul A. Roth (INEEL), Todd A. Wareing, Greg Failla, John McGhee (Radion Technologies)

Wednesday, April 28, 2004, 12:00 P.M.

Luncheon   *Columbus IJKL*

Emerging Areas in Reactor Physics, Cecil Parks (Oak Ridge National Laboratory)

Wednesday, April 28, 2004, 1:30 P.M.

Session 6A Advanced Reactor Designs   *Columbus EF*

Session Organizers: Bojan Petrovic (Westinghouse), Mario Carelli (Westinghouse), Marc Delpech (CEA). Session Chairs: Mario Carelli (Westinghouse), Bojan Petrovic (Westinghouse).

Feasibility Issues in the Mixed Spectrum Supercritical Water Reactor, Taek K. Kim (ANL), Paul Wilson, Po Hu, Rachna Jain (University of Wisconsin-Madison)

Reduced Moderation BWR with Advanced Recycle System (BARS), Kouji Hiraiwa, Kenichi Yoshioka, Yasushi Yamamoto, Miyuki Akiba, Mitsuaki Yamaoka (Toshiba), Junji Mimatsu (Gifu University)

A Core Design for a Single Fuel Enrichment in a Self-Sustaining Lead-Cooled Reactor, Yonghee Kim, Choong Ho Cho, Sang Ji Kim, Tae Yung Song (Korea Atomic Energy Research Institute)

Neutronics Design Studies of a Lead Cooled, Small Modular Reactor, Micheal A. Smith, Won Sik Yang, Temitope A. Taiwo (ANL)

Physics and Safety Studies of a 0.25 Conversion Ratio Sodium Cooled Fast Reactor, Micheal A. Smith, James E. Cahalan, Robert N. Hill (ANL)

Neutronics Design Studies for a 400 MWt STAR-LM, Gerardo Aliberti, Won Sik Yang, John Stillman, Robert N. Hill (ANL)

PDS-XADS LBE and Gas-Cooled Concepts: Neutronic Parameters Comparison, Sandro Pelloni (Paul Scherrer Institut)

Study of Accelerator Transient on ADS Operation Using TRACY(TRAnsient experiment Critical facilitY), Satoshi Gunji (Tohoku University)

Activities of Working Party on 'Subcritical Core of Accelerator-Driven System' in the Research Committee on Reactor Physics of AESJ and JAERI, Tomohiko Iwasaki (Tohoku University)

Session 6B Nuclear Safety   *Columbus G*

Session Organizers: Kostadin N. Ivanov (Pennsylvania State University), Werner Maschek (Karlsruhe). Session Chairs: David Diamond (BNL), Siegfried Langenbuch (GRS), Eric Royer (CEA).

Effect of Spatial Power Distribution during Reactivity Initiated Accidents in a PWR, Alexander Avvakumov, Valery Malofeev, Victor Sidorov (Russian Research Centre)

Analysis of Boron Dilution Transients in PWRs, David Diamond, Blair Bromley, Arnold Aronson (BNL)

Uncertainty Evaluation of the Results of the MSLB Benchmark by CIAU Methodology, Alessandro Petruzzi (Pennsylvania State University), Francesco S. D'auria (University of Pisa), Kostadin Ivanov (Pennsylvania State University)

Improving the Computation Efficiency of COBRA-TF for LWR Safety Analysis of Large Problems, Diana Cuervo (Polytechnic University of Madrid), Maria Nikolova Avramova, Graduate Student (Pennsylvania State University), Kostadin Ivanov, Associate Professor (Pennsylvania State University)

POLCA-T Simulation of OECD/NRC BWR Turbine Trip Benchmark Exercise 3 Best Estimate Scenario TT2 Test and Four Extreme Scenarios, Dobromir Panayotov (Westinghouse Atom AB)

Localized Void Feedback Effects Under Single Rod Drop Transient in BWR, Akitoshi Hotta, Hiroshi Shirai (TEPCO Systems Corporation)

Peach Bottom-2 Low-Flow Stability Test using Trac-Bf1/Valkin and Relap5-Mod.3.3/Parcs Codes, Rafael Miró, Ana María Sánchez, Gumersindo Verdu Martin, Damian Ginestar (Universitat Politecnica de Valencia), Francesca Maggini, Francesco D'auria (Università di Pisa)

Bruce 'B' Core Conversion, Evgeny Braverman, Ovidiu Nainer (Bruce Power)

Coupled Neutronics-Thermalhydraulics Calculations for the Safety Analysis of the PBMR., Bismark Mzubanzi Tyobeka, Kostadin Ivanov (Pennsylvania State University)

Session 6C Physics Code Validation   *Columbus H*

Session Organizers: Alain Santamarina (CEA Cadarache), Robert Jacqmin (CEA Cadarache), Richard Sanchez (CEA). Session Chairs: Alain Santamarina (CEA Cadarache).

Experimental Validation of APOLLO2 Code for High Burnup MOx Fuels. JEF2.2 Results and JEFF3.0 Improvements, Bernard David (CEA Cadarache)

Assessment of CASMO-4 Predictions of the Isotopic Inventory of High Burn-up MOX Fuel, Rafael Macian, Martin A. Zimmermann, Rakesh Chawla (Paul Scherrer Institut)

PANDA Code Features and Application to the OECD/NEA 3D-MOX Assembly Benchmark Calculation, Philippe P. Humbert (CEA)

Benchmarking DeCART (Deterministic Core Analysis based on Ray Tracing) with the VENUS-2, Zhaopeng Zhong, Thomas J. Downar (Purdue University)

Monte Carlo Analysis of High Moderation 100% MOX BWR Cores using JEF2 and JENDL3 Nuclear Data, Olivier Litaize, Alain Santamarina (CEA)

Experimental Validation of Pin Power Distributions for a BWR Assembly with Hafnium Control Blades, Fabian Jatuff (Paul Scherrer Institut)

Validation of Integrated Burnup Code System SWAT2 by the Analysis of Isotopic Composition Data of Spent Nuclear Fuel, Kenya Suyama (JAERI), Hiroki Mochizuki (The Japan Research Institute Limited), Hiroshi Okuno, Yoshinori Miyoshi (JAERI)

Verification of Lattice Analysis Method through BWR UO2 PIE Data Analysis, Toru Yamamoto (Japan Nuclear Energy Safety Organization)

Uncertainty Analysis Applied to Fuel Depletion Calculations, Rafael Macian, Martin A. Zimmermann, Rakesh Chawla (Paul Scherrer Institut)

Session 6D Reactor Analysis Methods   *Wrigley*

Session Organizers: Giuseppe Palmiotti (ANL), Giovanni Bruna (Framatome ANP), Jasmina Vujic (UC Berkley). Session Chairs: Won Sik Yang (ANL).

Neutronics Codes Currently Used in Japan for Fast and Thermal Reactor Applications, Toshikazu Takeda (Osaka University)

HORUS3D Code Package Development and Validation for the JHR Modeling, Guy Pierre Willermoz, Alain Aggery, Jacques Di-salvo, Christoph Doderlein, Danielle Gallo, Nicolas Huot, Stéphane Loubière, Brigitte Noël (CEA)

On Some Features of Quasi-Static Schemes in Reactor Kinetics, Piero Ravetto, Sandra Dulla (Politecnico Di Torino), Matteo M. Rostagno (ENEA-Bologna)

Albedo Conditions for Multigroup Anisotropic Scattering Models of Nuclear Reactors, Marcos P. De Abreu (State University of Rio de Janeiro)

An Algebraic Multgrid Resolution Strategy for the DPn Synthetic Acceleration Method, Simone Santandrea (CEA)

Convergence Analysis of 2-D/1-D Coupling Strategies for Diffusion Equation, Hyun Chul Lee, Deokjung Lee, Thomas J. Downar (Purdue University)

Numerical Convergence Analysis of the Nonlinear CMFD Method for Three-Dimensional Two-Group LWR Diffusion Problems, Deokjung Lee, Thomas J Downar (Purdue University), Yonghee Kim (Korea Atomic Energy Research Institute)

An Approach of Super-Element Sweeping for the Solution of Neutron Transport Equation in Heterogeneous Geometry, Nam Cho, Gil Soo Lee (KAIST)

Efficient Hybrid NEM/BEM Transient Method, Dianna M. Hahn, Kostadin Ivanov (Pennsylvania State University), Piero Ravetto (Politecnico Di Torino), Matteo Rostagno (ENEA-Bologna)

Thursday, April 29, 2004, 8:30 A.M.

Plenary Session - Efforts in Code Development and Reactor Modeling *Regency A*

Methods Development Activities, Toshikazu Takeda (Osaka University)

Monte-Carlo Methods and MCNP Code Developments, Forrest Brown (Los Alamos National Laboratory)

Thursday, April 29, 2004, 10:00 A.M.

Session 7A Non-Conventional Reactors *Columbus EF*

Session Organizers: Jan Leen Kloosterman (Delft University of Technology). Session Chairs: Danny Lathouwers (Interfaculty Reactor Institute).

Simulations of Caliban Fast Pulsed Reactor Burst Wait Time Distribution using PANDA, Philippe P. Humbert, Boukhmes Mechitoua (CEA)

Passive Decay Heat Removal in a Fluidized Bed Nuclear Reactor, Alexander Agung (Delft University of Technology), Danny Lathouwers (Interfaculty Reactor Institute), Tim Van Der Hagen, Hugo Van Dam (Delft University of Technology), Chris Pain, Anthony J. Goddard (Imperial College)

Molten Salt Reactors and Possible Scenarios for Future Nuclear Power Deployment, Elsa Merle-Lucotte, Daniel Heuer, Ludovic Mathieu, Jean-Marie Loiseaux, Annick Billebaud, Roger Brissot, Christian Le Brun, Olivier Laulan, Eric Liatard, Olivier Meplan, Alexis Nuttin, Sylvain David, Franco Michel-Sendis (Centre National de la Recherche Scientifique)

Closing the PWR Fuel Cycle with a Molten-Salt Incinerator, Radim Vocka (Nuclear Research Institute Rez plc.)

Monte Carlo Calculation of the Effects of Delayed Neutron Precursor Transport in Molten Salt Reactors, P.F.A. de Leege (Delft University of Technology)

Studies of Physical Features of Cascade Subcritical Molten Salt Reactor with External Neutron Source, Vladimir A. Nevinitsa, Pavel N. Alekseev, Peter A. Fomichenko, Alexander V. Vasiliev, Anatoly A. Dudnikov, Aleksey A. Sedov, Stanislav A. Subbotin (Russian Research Center Kurchatov Institute), Andrey M. Voloshchenko (Keldysh Institute of Applied Mathematics)

Session 7B Nuclear Data *Columbus G*

Session Organizers: Luiz Leal (ORNL), Mark Chadwick (LANL). Session Chairs: Russell Mosteller (LANL), Alain Santamarina (CEA Cadarache).

New Neutron Cross Section Measurements at ORELA for Improved Nuclear Data, Klaus H. Guber, Luiz C. Leal, Royce O. Sayer, Paul E. Koehler (ORNL)

Measurement and Calculation of the 233Pa Fission Cross-Section for Advanced Fuel Cycles, Franz-Josef Hambsch, Stephan Oberstedt, Volker Fritsch (EC-JRC-IRMM), Fredrik Tovesson, Andreas Oberstedt, M Fleneus, C. Gustafsson (Oerebro University), Birger Fogelberg, Elisabet Ramstroem (Uppsala University), Georghita Vladuca, Anabella Tudora, D. Filipescu (Bucharest University)

Scattering Law Data for Graphite in Gas Cooled High Temperature Reactors, Wolfgang Bernnat, Margarete Mattes, Juergen Keinert, Dr. (University of Stuttgart)

An Unresolved Resonance Evaluation for U-235, Luiz Leal (Oak Ridge National Laboratory)

Status of a New Evaluation of the Neutron Resonance Parameters of 238U at ORNL, Herve Derrien (ORNL)

JEF2.2 nuclear data statistical adjustment using Post-Irradiation Experiments, Courcelle Arnaud, Alain Santamarina (CEA)

Session 7C Nuclear Safety   *Columbus H*

Session Organizers: Kostadin N. Ivanov (Pennsylvania State University), Werner Maschek (Karlsruhe). Session Chairs: Akitoshi Hotta (TEPCO Systems Corporation), Dobromir Panayotov (Westinghouse Atom AB).

OECD/DOE/CEA VVER-1000 Coolant Transient (V1000CT) Benchmark for Assessing Coupled Neutronics/Thermal-Hydraulics System Codes for VVER-1000 RIA Analysis, Boyan D Ivanov, Kostadin N Ivanov (Pennsylvania State University), Eric Denis Royer, Sylvie Aniel (CEA), Nikola Kolev, Pavlin Groudev (INRNE)

Uncertainty and Sensitivity Analysis Applied to Coupled Code Calculations for a VVER Plant Transient, Siegfried Langenbuch (Gesellschaft für Anlagen- und Reaktorsicherheit (GRS) mbH)

Study of Nuclear Fuel Behavior with Coupled 3D Neutronics/Thermal-Hydraulic Codes, Carlo Parisi (University of Pisa), Kostadin Ivanov (Pennsylvania State University), Francesco S. D'auria (University of Pisa)

TRAC-M/AAA Code Assessment for Transient Analysis of Pb-Bi Cooled Fast-Spectrum Reactor Systems, Konstantin Mikityuk, Paul Coddington, Rakesh Chawla (Paul Scherrer Institut)

Source and Reactivity Perturbations in Accelerator Driven Systems with Conventional MOX and Advanced Fertile Free Fuel, Xue-nong Chen, Tohru Suzuki, Andrei Rineiski, Claudia Matzerath Boccaccini, Werner Maschek (Forschungszentrum Karlsruhe), Peter Smith (Serco Assurance)

Safety Characteristics of Candidate Oxide Fuels for Accelerator Driven Transmuters, Tim Newton, Peter Smith (Serco Assurance)

Session 7D Physics and Modeling of Research Reactors in INIE's Big-10 Consortium   *Columbus IJ*

Session Organizers: Yousry Azmy (Pennsylvania State University), Rizwan Uddin (University of Illinois at Urbana-Champaign). Session Chairs: Yousry Azmy (Pennsylvania State University), Rizwan Uddin (University of Illinois at Urbana-Champaign).

Beam Calculation for TRIGA Reactor, Rizwan Uddin (University of Illinois at Urbana-Champaign)

Thermal Neutron Time-of-Flight Spectroscopy at Penn State using a Single-Disk Chopper, John Niederhaus (University of Wisconsin-Madison), Jack Brenizer, Kenan Unlu (Pennsylvania State University)

UIUC's Contribution to Big-10's INIE Project, Rizwan Uddin (University of Illinois at Urbana-Champaign), Nick Karancevic (University of Illinois)

Modeling of Existing Beam-Port Facility at PSU Breazeale Reactor by Using MCNP, Baris Sarikaya, Fatih Alim, Kostadin N. Ivanov, Kenan Unlu, Jack Brenizer, Yousry Azmy (Pennsylvania State University)

AGENT Code: Open-Architecture Analysis and Configuration of Research Reactors – Numerical Examples, Tatjana Jevremovic, Yefei Peng, Hyun Lee (Purdue University)

A Three Dimensional Two Energy Group Coupled Reactor Physics and Thermal Hydraulics Code (M32) - A Tool for Student Design Studies, James Brushwood, Philip A. Beeley (University of Surrey)

Thursday, April 29, 2004, 1:00 P.M.

Session 8A Fuel Cycle Physics   *Columbus EF*

Session Organizers: Alain Zaetta (CEA Cadarache), Michael Todosow (BNL). Session Chairs: Michael Todosow (BNL), Alain Zaetta (CEA Cadarache).

A Study on High-Intensity Radiation Protection of MOX-Fuel Doped with 231Pa and 137Cs, Eduard Kryuchkov (Moscow Engineering Physics Institute (State University))

Optimization Studies for Seed-and-Blanket Unit (SBU) Fuel Assemblies in PWRs, Blair P. Bromley, Michael Todosow, Arnold Aronson (BNL), Alex Galperin (Ben-Gurion University of the Negev)

[Reactivity and Neutron Emission Measurements of Burnt PWR Fuel Rod Samples in LWR-PROTEUS Phase II](), Michael F. Murphy, Fabian Jatuff (Paul Scherrer Institut)

[LWR Spent Fuel Fed Molten Salt Reactor Design and Analysis](), Massimiliano Fratoni, Ehud Greenspan, David Barnes (University of California, Berkeley), Augusto Gandini (University of Rome)

[On the Capability of SMORES to Account for Self-Shielding in Search for Maximum keff](), Ehud Greenspan, Yonathan - Karni (University of California)

[Concept for a Thermal-Hydraulic 3D Parallel Channel Core Model](), Alois Hoeld (Private (Retired))

[Reactivity Effects due to the Beryllium Poisoning of BR2 - MCNP Calculations](), Silva Kalcheva, Bernard Ponsard, Edgar Koonen (SCK-CEN (Belgian Nuclear Research Center))

Session 8B Nuclear Data   *Columbus G*

Session Organizers: Luiz Leal (ORNL), Mark Chadwick (LANL). Session Chairs: Michael Dunn (ORNL), Soo-Youl Oh (KAERI).

[An Assessment of ENDF/B-VI Releases Using the MCNP Criticality Validation Suite](), Russell D. Mosteller (LANL)

[Generation and Performance of a Multigroup Coupled Neutron-Gamma Cross-Section Library for Deterministic and Monte Carlo Borehole Logging Analysis](), J. Eduard Hoogenboom (Delft University of Technology), Ivo Kodeli (OECD), Daniel L Aldama (Jozef Stefan Institute), Piet F.a. De Leege, David Legrady (Delft University of Technology)

[On the Importance of a New Formula for the Double Differential Scattering Kernel](), Ron Dagan (FZK-Forschungzentrum Karlsruhe)

[Effect of Energy Self-Shielding on Reactor Benchmark Problems](), F. Arzu Alpan, Luiz Leal (ORNL), Courcelle Arnaud (CEA)

[Development of a Methodology for Analysis of the Impact of Modifying Neutron Cross Sections](), Michael T. Wenner, Alireza Haghighat (University of Florida)

[The Fission Spectrum Uncertainty](), Bryan Broadhead (University of Tennessee, Battelle), Jekutiel Jehudah Wagschal (Hebrew University of Jerusalem)

[The TRADE Experiment: Importance of Neutron Cross-Sections for Transmutation](), Yacine Kadi, Adonai Herrera-Martinez, Marcus Dahlfors (European Organization for Nuclear Research)

[Box-Cox Transformation for Resolving the Peelle's Pertinent Puzzle in a Curve Fitting](), Soo-Youl Oh (Korea Atomic Energy Research Institute)

Session 8C Physics Code Validation   *Columbus H*

Session Organizers: Alain Santamarina (CEA Cadarache), Robert Jacqmin (CEA Cadarache), Richard Sanchez (CEA). Session Chairs: Alain Santamarina (CEA Cadarache).

[Benchmaek Calculation of WIMS/RFSP against Wolsong Nuclear Power Plants 3 and 4 Physics Measurement Data](), Hangbok Choi, Donghwan Park (Korea Atomic Energy Research Institute)

[Qualification of MCNP Coolant Void Reactivity Calculations using ZED-2 Measurements](), Ken Kozier (Atomic Energy of Canada Ltd.)

[Comparisons of DYN3D Calculations with Measurements at the V-1000 Test Facility](), Ulrich Grundmann (Forschungszentrum Rossendorf (FZR)), Siegfried Mittag (Forschungszentrum Rossendorf Inc.)

[Validation of SCALE4.4a/CSAS25 for Nuclear Criticality Safety Analyses](), Robert H. Smith (BWXT Y-12), John Declue, Cris Worley (Y-12 National Security Complex)

[The Nuclear Heating Calculation Scheme for Material Testing in the Future Jules Horowitz Reactor](), Nicolas Huot, Arnaud Courcelle, David Blanchet, Jacques Di-Salvo, Cristophe Doderlein, Hugues Serviere, Guy Pierre Willermoz (CEA - Cadarache), Alain Aggery (CEA - Saclay)

[Analysis of the ZPR-9 Gas-Cooled Fast Reactor Experiments Using JEF-2.2 Data and the ERANOS Code System](), Jean Tommasi (CEA)

[Spatially and Temperature Dependent Dancoff Method for LWR Lattice Physics Code](), Hideki Matsumoto (Mitsubishi Heavy Industries, Ltd. (Japan)), Mohamed Ouisloumen (Westinghouse Electric Company), Yoshihisa Tahara (Mitsubishi Heavy Industries, Ltd. (Japan))

Session 8D Reactor Analysis Methods   *Columbus IJ*

Session Organizers: Giuseppe Palmiotti (ANL), Giovanni Bruna (Framatome ANP), Jasmina Vujic (UC Berkley). Session Chairs: Jasmina Vujic (UC, Berkley)., Cecil Parks (ORNL)

French Calculation Schemes for Light Water Reactor Analysis, Alain Santamarina (CEA), P. Bioux (EDF/DRD), Christian Garat (FRAMATOME-ANP SAS), Christine Poinot (CEA)

Irradiation Experiment Analysis for Cross Section Validation, Giuseppe Palmiotti (ANL)

Methodologies for Treatment of Spectral Effects at Core-Reflector Interfaces in Fast Neutron Systems, Gerardo Aliberti (ANL)

Effect of Pellet Radial Power and Temperature Distribution on Fuel Assembly Neutronics, Mohamed Ouisloumen, (Westinghouse Electric Corporation), Emily Wolters (Westinghouse Company), Hideki Matsumoto (Mitsubishi Heavy Industries, Ltd)

A Comparison of Binary Stochastic Media Transport Models in 'Solid-Void' Mixtures, Ian Davis, Todd S. Palmer (Oregon State University), Edward W. Larsen (University of Michigan)

Development of an Object Oriented Nodal Code using the Refined AFEN Derived from the Method of Component Decomposition, Jae Man Noh, Jae-Woon Yoo, Hyung-Kook Joo (Korea Atomic Energy Research Institute)

Applications of Modal-Local Analysis for Source-Driven Subcritical Systems, Viktoriya V. Kulik (University of Michigan), John Lee (University of Michigan)

Development of a Polynomial Nodal Model for the Multi Group Diffusion Equation in 2-D, Afshin Shojaei (Esfahan Nuclear Technology Center, Iran)