

Parallel Technical Sessions

2:10
p.m.

S1 - T1_trk1 • Computational Nuclear Applications - Nuclear Reactor Analysis I • 2:10 pm

A203	Franck BERNARD, Bertrand COCHET, Alexis JINAPHANH, Olivier JACQUET	Applicability of 3D Monte Carlo Simulations for Local Values Calculations in a PWR Core
A176	Volodymyr GULIK, Alan Henry TKACZYK	Optimization of Geometry, Material and Economic Parameters of a Two-Zone Subcritical Reactor for Transmutation of Nuclear Waste with SERPENT Monte Carlo Code
A177	Volodymyr GULIK, Volodymyr PAVLOVYCH, Alan Henry TKACZYK	Using SERPENT Monte Carlo and Burnup Code to Model Traveling Wave Reactors (TWR)
A037	David COLAMECO, Boyan D. IVANOV, Kostadin N. IVANOV	Iterative Transport-Diffusion Methodology For Lwr Core Analysis

S2 - T1_trk7 • Numerical Simulations for Detectors and Measurements • 2:10 pm

A020	Estelle COURAGEOT, Emilie DUONG, Emmanuelle GAILLARD-LECANU, Sylvie JAHAN	Modeling of the Radiation Measurement Device FALCON 5000 by MCNPX: Simulated Efficiency for the On-Site Measurement
A047	Clément DEYGLUN, Cédric CARASCO, Bertrand PÉROT	Monte Carlo Parametric Studies of Neutron Interrogation with the Associated Particle Technique for Cargo Container Inspections

S3 - T2_trk1 • Computational Science - Theory and Advanced Modeling for Basic Physical Data I • 2:10 pm

A005	Tatsuhiko OGAWA, Tatsuhiko SATO, Shintaro HASHIMOTO, Koji NIITA	Incorporation of the Statistical Multi-fragmentation Model in PHITS and its Application for Simulation of Fragmentation by Heavy Ions and Protons
A014	Tatsuhiko OGAWA, Shintaro HASHIMOTO, Tatsuhiko SATO, Koji NIITA	Application of the New Nuclear De-excitation Model of PHITS for Prediction of Isomer Yields and Prompt Gamma-ray Production
A031	Jean-Christophe SUBLET, James Eastwood, Guy MORGAN, Arjan KONING and Dimitri ROCHMAN	EASY-II: A System for Modelling of n, d, p, γ and α Activation and Transmutation Processes
A082	Matej Batic, Marcia Begalli, Min Cheol Han, Steffen Hauf, Gabriela Hoff, Chan Hyeong Kim, Han Sung Kim, Maria Grazia Pia, Paolo Saracco, and Georg Weidenspointner	Photons Revisited

S4 - T3_trk3 • Monte Carlo Methods for Simulation - Acceleration Techniques for Monte Carlo Simulations I • 2:10 pm

A046	Ya.Z. KANDIEV, Oleg V. ZATSEPIN	Importance Sampling Implemented in the Code PRIZMA for Deep Penetration and Detection Problems in Reactor Physics
A055	Ruihong WANG, Zhicheng JI, Lucheng PEI	An Adaptive Sampling Scheme for Deep-Penetration Calculation
A097	Jialong SUN, Ganglin YU, Kan WANG, Qi XU	Research on Acceleration Algorithms of RMC Complex Geometry

S5 - T4_trk1 • Advanced Parallelism and HPC Strategies - Deterministic Methods, Parallelism and HPC I • 2:10 pm

A016	Serge VAN CRIKINGEN	Domain Decomposition Pn Solutions to the 3D Transport Benchmark over a Range in Parameter Space
A070	François FÉVOTTE, Bruno LATHUILIÈRE, Salli MOUSTAFA	Vectorization of a 2D-1D Iterative Algorithm for the 3D Neutron Transport Problem In Prismatic Geometries
A139	Anne-Marie BAUDRON, Jean-Jacques LAUTARD, Yvon MADAY, Olga MULA-HERNANDEZ	MINARET: Towards a time-dependent neutron transport parallel solver.
A143	Christophe CALVIN, Serge PETITON, Fan YE, France BOILLOD-CERNEUX	Efficient and Portable Krylov Eigensolver on Many Core Architectures

Break

Parallel Technical Sessions

4:30
p.m.

S6 - T1_trk1 • Computational Nuclear Applications - Nuclear Reactor Analysis II • 4:30 pm

A202	Fabrice ECRABET, Wim HAECK, Sai Chaitanya TADEPALLI	Evaluation of AGNI SFR Core Neutronics Parameters with VESTA and ERANOS
A227	Frédéric DAMIAN, Emeric BRUN	ORPHEE Research Reactor: 3D Core Depletion Calculation Using Monte-Carlo Code TRIPOLI-4®

S7 - T1_trk7 • Numerical Simulations for Detectors and Measurements • 4:30 pm

A074	Yi-Kang LEE	Calculation of Gamma-ray Responses for HPGe Detectors
A134	Boukhmès MÉCHITOUA, Philippe HUMBERT	Neutron/Photon Transport Simulations and Fissile Mass Estimation
A217	Katherine ROYSTON, Alireza HAGHIGHAT	Performance of the New WCOS Technique for the TITAN SPECT Formulation
A073	Sergio GALLARDO, Fausto POZUELO, Andrea QUEROL, Gumersindo VERDÚ, José RÓDENAS	Application of the Monte Carlo method to analyze materials used in flat panel detectors to obtain X-ray spectra

S8 - T2_trk1 • Computational Science - Theory and Advanced Modeling for Basic Physical Data II • 4:30 pm

A153	Belén JUSTE, Rafael MIRÓ, Gumersindo VERDÚ, Alisson SANTOS	An Accurate Method for Energy Spectrum Reconstruction of Linac Beams Based on EPID Measurements of Scatter Radiation
A160	Davide MANCUSI, Alain BOUDARD, Joseph CUGNON, Jean-Christophe DAVID, Sylvie LERAY	New Capabilities of the Liège Intranuclear-Cascade Model for Particle-Transport Codes
A193	Christophe BOURCIER, Wissem DRIDI, Laure CHOMAT, Eli LAUCOIN, Benoît BARY, Erwan ADAM	Combs: Open Source Python Library for RVE Generation. Application to Microscale Diffusion Simulations in Cementitious Materials

S9 - T3_trk3 • Monte Carlo Methods for Simulation - Acceleration Techniques for Monte Carlo Simulations II • 4:30 pm

A155	Cyril DIEUDONNÉ, Eric DUMONTEIL, Fausto MALVAGI and Cheikh M. DIOP	Use of the correlated sampling to speed up TRIPOLI-4®
A242	Pierre L'ÉCUYER, Samira SAGGADI, Bruno TUFFIN	An Adaptive Zero-Variance Importance Sampling Approximation for Static Network Dependability Evaluation
A247	Zdravko I. BOTEV, Pierre L'ÉCUYER, Bruno TUFFIN	Modeling and Estimating Small Unreliabilities for Static Networks with Dependent Components

S10 - T4_trk1 • Advanced Parallelism and HPC Strategies - Deterministic Methods, Parallelism and HPC II • 4:30 pm

A178	Salli MOUSTAFA, Ivan DUTKA-MALEN, Laurent PLAGNE, Angélique PONÇOT, and Pierre RAMET	Shared Memory Parallelism for 3D Cartesian Discrete Ordinates Solver
A198	William J. WALTERS, Alireza HAGHIGHAT	Performance of the Adaptive Collision Source (ACS) Method for Discrete Ordinates in Parallel Environments
A230	Enrique RAMOS, Agustín ABARCA, Jose E. ROMAN, and Rafael MIRÓ	A parallelization approach to the COBRA-TF thermal-hydraulic subchannel code
A273	Nico TROST, Javier JIMÉNEZ, Dimitar LUKARSKI, Victor SANCHEZ	Accelerating COBAYA3 on multi-core CPU and GPU systems using PARALUTION

Parallel Technical Sessions

10:20
a.m.

S11 - T1_trk2 • Computational Nuclear Applications - Thermalhydraulics • 10:20 am		
A001	Abdalla BATA, Andreas G. CLASS	CFD Study of Isothermal Water Flow in Rod Bundles with Split-Type Spacer Grids
A015	Koffi KOUDADJE, Clarisse DELALONDRE, Marc MEDALE, Jean-Michel CARPREAU	Contribution to Study of Heat Transfer and Fluid Flow during GTA Welding
A023	Ulrich BIEDER, Francois FALK	LES Analysis of the Flow in a Simplified PWR Assembly with Mixing Grid
A124	Se-Myong CHANG, Hyoung-Tae KIM	Numerical Analysis on the Calandria Tubes in the Moderator of a Heavy Water Reactor Using OpenFOAM and Other Codes
A151	Hyoung Tae KIM	CFX Analysis of the CANDU Moderator Thermal-Hydraulics in the Stern Lab. Test Facility
A252	Yasuo OSE, Tomoaki KUNUGI	Numerical Study on Temperature Distribution around a Boiling Bubble Departing from Heating Surface in Subcooled Pool

S12 - T1_trk3 • Computational Nuclear Applications - Material Science and Physical Chemistry I • 10:20 am		
A033	Raoul A. NGAYAM-HAPPY, Matthias KRACK	Radiation Damage Characterization in Non-Stoichiometric Uranium Dioxide by Molecular Dynamics Simulations
A035	Duc NGUYEN-MANH, Pui-Wai MA, M.Yu. LAVRENTIEV, Sergei L. DUDAREV	Constrained Non-Collinear Magnetism in Disordered Fe and Fe-Cr Alloys
A078	M. Yu. LAVRENTIEV, Duc NGUYEN-MANH, Sergei L. DUDAREV	A new Monte Carlo Model for Magnetic Alloys for Nuclear Applications
A081	Zhi-Gang MEI, Marius STAN	Computational Models of Thermodynamic Properties of Uranium Nitride
A105	Masaaki SUZUKI, Rui CHIHARA	Evaluation of Thermal Fatigue Failure Probability at a Mixing Tee Subjected to Random Fluid Temperature Fluctuation
A190	Christophe. DOMAIN, Charlotte S. BECQUART	Atomic Kinetic Monte Carlo Modeling of Multi-Component Fe Dilute Alloys under Irradiation

S13 - T2_trk2 • Computational Science - Specific Computational Methods and Methodologies I • 10:20 am		
A012	Fabrice HOAREAU	A Hybrid Ant Colony Algorithm for Loading Pattern Optimization
A028	Alexis NUTTIN, Nicolas CAPELLAN, Sylvain DAVID, Olivier MEPLAN	Facing Challenges for the Monte Carlo Analysis of Full PWR Cores : Towards Optimal Detail Level for Neutronics and Proper Diffusion Constants for Kinetics
A136	Marc-André LAJOIE, François FÉVOTTE, Guy MARLEAU	A generalization of 3D prismatic characteristics along a nonuniform projection mesh
A159	Eric DORVAL	A New Method for the Calculation of Diffusion Coefficients with Monte Carlo
A200	Li CAI, Yannick PÉNÉLIAU, Cheikh M. DIOP, Fausto MALVAGI	Homogenized multi-group cross sections generation with the Monte-Carlo code TRIPOLI4

Parallel Technical Sessions

S14 - T3_trk1 • Monte Carlo Methods for Simulation - Advanced Monte Carlo Methods for Physical Phenomena Simulation • 10:20 am		
A080	Vladimir N. IVANCHENKO, S. INCERTI, A. BAGULYA, J. M. C. BROWN, C. CHAMPION, S. ELLES, V. GRICHINE, A. IVANTCHENKO, J. JACQUEMIER, M. KARAMITROS, M. MAIRE, A. MANTERO, J. P. MARQUES, L. PANDOLA, M. RAINE, M. A. REIS, G. SANTIN, D. SAWKEY, A. SCHAELOCKE, A. TABORDA, L. URBAN	Geant4 electromagnetic physics: improving simulation performance and accuracy
A090	Forrest B. BROWN, William R. MARTIN, Gokhan YESILYURT, Scott WILDERMAN	On-The-Fly Neutron Doppler Broadening in MCNP
A127	Brian C. FRANKE, Ronald P. KENSEK, Anil K. PRINJA	Evaluation of Monte Carlo Electron-Transport Algorithms in the Integrated Tiger Series Codes for Stochastic-Media Simulations
A132	Tuomas VIITANEN, Jaakko LEPPÄNEN	Effect of the Target Motion Sampling Temperature Treatment Method on the Statistics and Performance
A146	H. Grady HUGHES	Enhanced Electron-Photon Transport in MCNP6

S15 - T4_trk3 • Advanced Parallelism and HPC Strategies - Advanced HPC Strategies for Applications I • 10:20 am		
A011	Paul K. ROMANO, Benoit FORGET, Kord SMITH	On the use of tally servers in Monte Carlo simulations of light-water reactors
A069	Jason LAMBERT, Lionel LACASSAGNE, Gilles ROUGERON, Stéphane LE BERRE, Sylvain CHATILLON	High performance simulation of ultrasonic fields for Non Destructive Testing
A086	Yishu QIU, Ding SHE, Xiao FAN, Kan WANG, Zeguang LI, Jingang LIANG, Hadrien LEROYER	3D Neutron Transport PWR Full-core Calculation with RMC code
A101	Vincent FAUCHER, Pascal GALON, Alberto BECCANTINI, Fabien CROUZET, Florent DEBAUD, Thierry GAUTIER	Hybrid parallel strategy for the simulation of fast transient accidental situations at reactor scale
A213	Serge PETITON, Mitsuhsa SATO, Nahid EMAD, Christophe CALVIN, Miwako TSUJI, Makarem DANDOUNA	Multi level programming Paradigm for Extreme Computing

Lunch time

Parallel Technical Sessions

2:10
p.m.

S16 - T1_trk5 • Computational Nuclear Applications - Technological Design and Analysis I • 2:10 pm		
A071	Yury MALYSHKIN, Igor PSHENICHNOV, Igor MISHUSTIN, Walter GREINER	Monte Carlo Modeling of Minor Actinide Transmutation in Accelerator Driven Systems
A115	Arkady SERIKOV, Ulrich FISCHER, Charles S.PITCHER, Alejandro SUAREZ, Bastian WEINHORST	Computational Challenges of Fusion Neutronics for ITER Ports

S17 - T1_trk6 • Computational Nuclear Applications - Medical Applications • 2:10 pm		
A060	Camille ADRIEN, M. LÓPEZ NORIEGA, G. BONNIAUD, J.M. BORDY, C. LE LOIREC AND B. POUMARÈDE	Monte Carlo PENRADIO system for dose calculation in medical imaging
A087	Peter F. CARACAPPA, Aiping DING, X. George XU	Interpolation Method for Calculation of Computed Tomography Dose from Angular Varying Tube Current
A093	Li REN, Rui QIU, Junli LI, Zhen WU, Chunyan LI	A detailed breast model and its application for Chinese female breast dose estimation in mammography
A096	Robert M. HAYWARD, Farzad RAHNEMA	COMET-PE as an Alternative to Monte Carlo for Photon and Electron Transport
A255	Yican WU, Mengyun CHENG, Wen WANG, Yanchang FAN, Kai ZHAO, Tao HE, Xi PEI, Leiming SHANG, Chaobin CHEN, Pengcheng LONG, Ruifen CAO, Guozhong WANG, Shaoheng ZHOU, Shengpeng YU, Liqin HU, Qin ZENG, FDS Team	Development and Application of the Chinese AdultFemale Computational Phantom Rad-HUMAN

S18 - T2_trk3 • Computational Science - Multi-Physics/Coupling and Code System Developments I • 2:10 pm		
A004	Simon D. RICHARDS, N. DAVIES, M. J. ARMISHAW, G. P. DOBSON	Parallelization of MONK and coupling to thermal hydraulics and gamma heating calculations for reactor physics applications
A008	Liancheng GUO, Koji MORITA, Hirotaka TAGAMI, Yoshiharu TOBITA	Numerical Simulation of 3D particulate flow by Coupling Multi-eFluid Model with Discrete Element Method
A100	Aleksandar IVANOV, Victor SANCHEZ, Kostadin IVANOV	High-Fidelity Coupled Monte-Carlo/Thermal-Hydraulics Calculations
A186	Wolfgang BERNNAT, M. MATTES, N. GUILLIARD, J. LAPINS, W. ZWERMANN, I. PASICHNYK, K. VELKOV	Monte Carlo Neutronics and Thermal Hydraulics Analysis of Reactor Cores with Multilevel Grids
A209	Kevin J. CONNOLLY, Alexander J. HUNING, Farzad RAHNEMA, and Srinivas GARIMELLA	Coupled Neutron Transport and Thermal Fluids Calculations for the VHTR

S19 - T2_trk4 • Computational Science - Basic Physical Data and Uncertainty-Sensitivity Computation I • 2:10 pm		
A034	Erwin ALHASSAN, Junfeng DUAN, Cecilia GUSTAVSSON, Stephan POMP, Henrik SJÖSTRAND, Michael ÖSTERLUND, Dimitri ROCHMAN, Arjan J. KONING	Uncertainty analysis of Lead cross sections on reactor safety for ELECTRA
A045	Tae Young HAN, Jin Young CHO, Hyun Chul LEE, Chang Keun JO, Jae Man NOH	Sensitivity and Uncertainty Analysis of the k_{eff} for VHTR fuel
A057	James W. EASTWOOD, J. Guy MORGAN	Pathways and Uncertainty Prediction in Fispact-II
A102	Wayne ARTER and J. Guy MORGAN	Sensitivity Analysis for Activation Problems
A123	B. BARBIER, Ch. GARNIER, P. MAILHE, R. SEDLACEK, H. LANDSKRON, I. ARIMESCU, M. SMITH, Ph. BELLANGER	Processing of the GALILEO fuel rod code model uncertainties within the AREVA realistic thermal-mechanical analysis methodology

S20 - T3_trk4 • Monte Carlo Methods for Simulation - Uncertainty , Bias, Convergence in Monte Carlo I • 2:10 pm		
A032	Thomas M. SUTTON	Anomalous Behavior of Monte Carlo Uncertainties near Reflecting Boundaries
A058	Michel MARQUÈS	Probabilistic margin evaluation on reference accidental transients for the ASTRID reactor project
A062	Anne-Laure POPELIN, Bertrand IOOSS	Visualization tools for uncertainty and sensitivity analyses on thermal-hydraulic transients
A107	Brian C. KIEDROWSKI, Forrest B. BROWN	Monte Carlo Approaches for Uncertainty Quantification of Criticality for System Dimensions

Break

Parallel Technical Sessions

4:30
p.m.

S21 - T1_trk5 • Computational Nuclear Applications - Technological Design and Analysis II

• 4:30 pm

A206	Sylvie LERAY, Alain BOUDARD, Joseph CUGNON, Jean-Christophe DAVID, Salim GHALI, Daniela KISELEV, Davide MANCUSI, Dorothea SCHUMANN, Luca ZANINI	Production of Some Particular Isotopes in Spallation Targets Calculated with INCL4.6-ABLA07 Implemented into MCNPX
A220	Christopher A. EDGAR, Glenn E. SJODEN	Improvements to the Pool Critical Assembly Pressure Vessel Benchmark with 3D Parallel SN PENTRAN

S22 - T2_trk5 • Computational Science - Computational Geometries - CAD I

• 4:30 pm

A059	Dong WANG, Fanzhi NIE, Guozhong WANG, Pengcheng LONG, Zhongliang LU, FDS Team	CAD-based Automatic Modeling Method for Geant4 Geometry Model through MCAM
A072	Vasilis VLACHOUDIS, D. SINUELA-PASTOR	Numerically Robust Geometry Engine for Compound Solid Geometries
A088	Peter F. CARACAPPA, Ashley RHODES, Derek FIEDLER, Aiping DING	An Eye Model for Computational Dosimetry Using A Multi-Scale Voxel Phantom
A125	Kai ZHAO, Mengyun CHENG, Yanchang Fan, Wen WANG, Pengcheng LONG, YicanWU, FDS Team	Reconstruction of Human Monte Carlo Geometry from Segmented Images

S23 - T3_trk4 • Monte Carlo Methods for Simulation - Uncertainty , Bias, Convergence in Monte Carlo II

• 4:30 pm

A149	Toshihisa YAMAMOTO, Hiroshi ENDO, Tomoko ISHIZU, Isao TATEWAKI	The Specific Bias in Dynamic Monte Carlo Simulations of Nuclear Reactor
A164	J. Eduard HOOGENBOOM, Jan DUFEK	Optimised Iteration in Coupled Monte Carlo - Thermal-Hydraulics Calculations
A182	Hyung Jin SHIM	Stochastic Perturbation Algorithms for Kinetic Monte Carlo Simulations

S24 - T3_trk5 • Monte Carlo Methods for Simulation - Advanced Monte Carlo Capabilities I

• 4:30 pm

A038	Brian C. KIEDROWSKI, Forrest BROWN	Applications of Adjoint-Based Techniques in Continuous-Energy Monte Carlo Criticality Calculations
A089	Forrest BROWN, Sean CARNEY, Brian KIEDROWSKI, William MARTIN	Fission Matrix Capability for MCNP Monte Carlo
A095	Kotaro SAKATA, Tomohiro ENDO, Akio YAMAMOTO	Evaluation of Higher Mode Components of Fission Source Distribution in Monte-Carlo Calculation
A099	Guillaume TRUCHET, P. LECONTE, Yannick PENELIAU, Alain SANTAMARINA, Fausto MALVAGI	Continuous-Energy Adjoint Flux and Perturbation Calculation using the Iterated Fission Probability Method in Monte Carlo Code TRIPOLI-4 and Underlying Applications

S25 - T4_trk2 • Advanced Parallelism and HPC Strategies - Monte Carlo Methods, Parallelism and HPC I

• 4:30 pm

A018	Jin'gang LIANG, Yun CAI, Kan WANG, Jialong SUN	Implementation of Domain Decomposition Method in RMC code
A027	David DUREAU, Gaël POËTTE	Hybrid Parallel Programming Models for AMR Neutron Monte-Carlo Transport
A036	Rob T. AULWES and Anthony ZUKAITIS	Thread Divergence and Photon Transport on the GPU (U)
A083	Nicholas HENDERSON, K. MURAKAMI, K. AMAKO, M. ASAI, T. ASO, A. DOTTI, A. KIMURA, M. GERRITSEN, H. KURASHIGE, J. PERL, T. SASAKI	A CUDA Monte Carlo simulator for radiation therapy dosimetry based on Geant4
A091	Tianyu LIU, X George XU, and Christopher D. CAROTHERS	Comparison of Two Accelerators for Monte Carlo Radiation Transport Calculations, NVIDIA Tesla M2090 GPU and Intel Xeon Phi 3120 Coprocessor: A Case Study for X-ray CT Imaging Dose Calculation

Parallel Technical Sessions

2:10
p.m.

S26 - T1_trk3 • Computational Nuclear Applications - Material Science and Physical Chemistry II • 2:10 am		
A141	Lucile DEZERARD, Lisa VENDELON , François WILLAIME, Emmanuel CLOUET, David RODNEY	Large scale ab initio calculations of extended defects in materials: screw dislocations in bcc metals
A169	Nishith Kumar DAS, Tetsuo SHOJI	Chromium concentration effect on an alloy surface stability and oxidation initiation
A172	Nicolas CASTIN, Julian R. FERNANDEZ, Dmitry TERYTYEV, Lorenzo MALERBA, Roberto C. PASIANOT	Lattice-adaptive kinetic Monte Carlo (LA-KMC) for simulating solute segregation/depletion at interfaces
A179	Jonathan EMO, Cristelle PAREIGE, Sébastien SAILLET, Christophe DOMAIN, Philippe PAREIGE	Monte Carlo Simulation of Spinodal Decomposition in a Ternary Alloy within a Three-Phases Field: Comparison to Phase Transformation of Ferrite in Duplex Stainless Steels
A188	Guillaume MARTIN, Philippe GARCIA, Catherine SABATHIER, Hervé PALANCHER, Serge MAILLARD	Molecular Dynamics Simulation of Displacement Cascades in UO ₂

S27 - T2_trk2 • Computational Science - Specific Computational Methods and Methodologies II • 2:10 pm		
A201	Damien SCHMITT, Grégoire ALLAIRE, Olivier PANTZ	Shape optimization of a sodium cooled fast reactor
A208	Jeffrey E. SEIFRIED, Phillip M. GORMAN, Jasmina L. VUJIC, Ehud GREENSPAN	Accelerated equilibrium core composition search within a new MCNP-based simulator
A212	Andrea BARBARINO, Daniele TOMATIS	AN Core Analysis
A232	Daniele SCIANNANDRONE, Simone SANTANDREA	Tracking Strategies For The Method Of The Characteristics In Three-Dimensional Transport
A256	Yasushi NAUCHI	Attempt to Estimate Reactor Period by Natural Mode Eigenvalue Calculation

S28 - T2_trk5 • Computational Science - Computational Geometries - CAD II • 2:10 pm		
A126	Brian R. NEASE, David P. GRIESHEIMER, David L. MILLMAN, Daniel F. GILL	Geometric Templates for Improved Tracking Performance in Monte Carlo Codes
A236	David L. MILLMAN, David P. GRIESHEIMER, Brian R. NEASE, Jack SNOEYINK	On Computing Bounding Boxes in Multi-Component Constructive Solid Geometry (CSG) Models
A237	J. Eduard HOOGENBOOM	Efficient Geometry and Data Handling for Large-Scale Monte Carlo - Thermal-Hydraulics Coupling
A248	Dong WANG, Shengpeng YU, Guozhong WANG, Pengcheng LONG, Dianxi WANG, Fanzhi NIE, Quan GAN, Qin ZENG, Liqin HU, Yican WU, FDS Team	MCAM 5: An Advanced Interface Program for Multiple Monte Carlo Codes

S29 - T3_trk5 • Monte Carlo Methods for Simulation - Advanced Monte Carlo Capabilities II • 2:10 pm		
A154	Éric DUMONTEIL, Davide ARTUSIO	Spatial correlations and branching processes in Monte Carlo criticality simulations
A158	Sergey SADOVICH, Alberto TALAMO, V. BURNOS, Hanna KIYAVITSKAYA, Yu FOKOV	PNS and statistical experiments simulation in subcritical systems using Monte-Carlo method on example of Yalina-Thermal assembly
A166	J. Eduard HOOGENBOOM, Bart L. SJENITZER	Extensions of the MCNP5 and TRIPOLI4 Monte Carlo Codes for Transient Reactor Analysis
A238	Yoshitaka NAITO, Masakazu NAMEKAWA	Application of new information entropy for source convergence diagnostics in Monte Carlo criticality calculation
A277	Christopher M. PERFETTI, Bradley T. REARDEN	Development of a SCALE Tool for Continuous-Energy Eigenvalue Sensitivity Coefficient Calculations

Parallel Technical Sessions

S30 - T4_trk2 • Advanced Parallelism and HPC Strategies - Monte Carlo Methods, Parallelism and HPC II • 2:10 pm		
A108	Tianyu LIU, Xining DU, Wei JI, X. George XU, Forrest B. BROWN	A comparative study of history-based versus vectorized Monte Carlo methods in the GPU/CUDA environment for a simple neutron eigenvalue problem
A113	Kyle G. FELKER, Andrew R. SIEGEL, and Kord SMITH	Energy-band memory server approach to cross-section management in parallel Monte Carlo particle tracking applications
A116	John TRAMM, Andrew. SIEGEL	Memory Bottlenecks and Memory Contention in Multi-Core Monte Carlo Transport Codes
A117	Benoit FORGET	Preliminary Studies on the Resiliency of Stochastic Linear Solvers
A120	Qi XU, Ganglin YU, Kan WANG	Research on GPU Acceleration for Monte Carlo Criticality Calculation

Break

4:30
p.m.

S31 - T1_trk4 • Computational Nuclear Applications - Safety • 4:30 pm		
A084	Keitaro KONDO, Ulrich FISCHER, Volker HEINZEL, Dieter LEICHTLE, Arkady SERIKOV	The application of "HELIOS" supercomputer in radiation safety studies for the IFMIF
A128	Tomoko ISHIZU, Hiroshi ENDO, Toshihisa YAMAMOTO, Isao TATEWAKI	Core Disruptive Accident Analysis using ASTERIA-FBR
A131	Géraud PRULHIÈRE, Bruno FONTAINE, Thomas FROSIO	Simulation of the core flowering End-of-life test realized on PHENIX reactor
A278	Jean-Michel LEGROS, Laurent BEAUGE, Pascal GAIN, Guy ROUAULT	Engineering & Training simulator for the Flamenville3 EPR reactor

S32 -T2_trk4 • Computational Science - Basic Physical Data and Uncertainty-Sensitivity Computation II • 4:30 pm		
A129	Guillaume KRIVTCHIK, Christine COQUELET-PASCAL, Patrick BLAISE, Claude GARZENNE, Joël LE MER	Development of Depletion Code Surrogate Models for Uncertainty Propagation in Scenario Studies
A148	Michael E. RISING, Patrick TALOU, Anil K. PRINJA, Morgan C. WHITE	Unified Monte Carlo: Evaluation, Uncertainty Quantification and Propagation of the Prompt Fission Neutron Spectrum
A187	Arthur PERON, Fadhel MALOUCH, Andrea ZOIA, Cheikh M. DIOP	Impact Estimation of Nuclear Data Inconsistencies on Energy Deposition Calculations in Coupled Neutron-Photon Monte-Carlo Simulation, with TRIPOLI-4®
A229	Aimé TSILANIZARA, Nicolas GILARDI, Tan Dat HUYNH, Cédric JOUANNE, Sébastien LAHAYE, Jean-Marc M. MARTINEZ, Cheikh M. DIOP	Probabilistic approach for decay heat uncertainty estimation under URANIE platform by using MENDEL depletion code
A240	Steven C. VAN DER MARCK, Dimitri A. ROCHMAN	Nuclear data uncertainties for local power densities in the Martin-Hoogenboom benchmark
A259	Mireille COSTE-DELCLAUX, Cheikh M. DIOP, Sébastien LAHAYE	Probability Tables: a Generic Tool for Representing and Propagating Uncertainties

S33 - T2_trk3 • Computational Science - Multi-Physics/Coupling and Code System Developments II • 4:30 pm		
A043	Maxime GUYOT, Pierre GUBERNATIS, Christophe SUTEAU	Development and first application of a new tool for the simulation of the initiating phase of severe accident on SFR
A222	Axel LAUREAU, P.R. RUBIOLO, D. HEUER, Elsa MERLE-LUCOTTE, M. BROVCHENKO	Coupled neutronics and thermal-hydraulics numerical simulations of a Molten Fast Salt Reactor (MFSR)
A234	Christophe PÉNINGUEL, I. RUPP, S. ROLFO, D. HERMOUET	Conjugate Heat Transfer Study of a Wire Spacer SFR Fuel Assembly Thanks to the Thermal Code SYRTHES and the CFD Code Code_Saturne
A239	Greg HOBSON, Hans-Wilhelm BOLLONI, Karl-Albert BREITH, Aldo DALL'OSSO, René VAN GEEMERT, Bettina HARTMANN, Mario LEBERIG, Dieter PORSCH, Baptiste POTHET, Michael RIEDMANN, Galina SIEBER, Daniele TOMATIS	ARTEMIS™ Core Simulator: Latest Developments
A257	Anton TRAVLEEVA, R. MOLITOR, V. SANCHEZ	Python-based framework for coupled MC-TH reactor calculations

Parallel Technical Sessions

S34 - T3_trk6 • Monte Carlo Methods for Simulation - New Monte Carlo Applications and Benchmarking • 4:30 pm		
A068	Nicolas LECLAIRE, B. COCHET, François-Xavier LE DAUPHIN, Wim HAECK, Olivier JACQUET	Use of the ETA-1 reactor for the experimental validation of the APOLLO2-MORET 5 multi-group code and the MORET 5 Monte Carlo continuous energy code
A165	J. Eduard HOOGENBOOM, Bojan PETROVIC, William R. MARTIN	Present Status and Extensions of the Monte Carlo Performance Benchmark
A173	Wim HAECK, B. COCHET, Frank BERNARD, A. TYMEN	Experimental validation of VESTA 2.1
A243	Jing SONG, Guangyao SUN, Huaqing ZHENG, Lijuan HAO, Zhenping CHEN,2, Mingchang WU, Gui LI, Cheng CHEN, Kuan ZHANG, Yongfeng WANG, Yawen YAN, Tao HE, Shengpeng YU, Chong CHEN, Jun ZOU, Minghuang WANG, Qin ZENG, Pengcheng LONG, Liqin HU,Yican WU, FDS Team	Benchmarking of Super Monte Carlo Simulation Program SuperMC 2
A262	Christos TRAKAS and Xavier DE LAUBIERE	Calculation of ex-core physical quantities using the 3D importance functions

S35 - T4_trk3 • Advanced Parallelism and HPC Strategies - Advanced HPC Strategies for Applications II • 4:30 pm		
A110	Kevin John CONNOLLY, Farzad RAHNEMA	Solving the Heterogeneous VHTR Core with Efficient Grid Computing
A163	Alain HÉBERT	Integration of the DRAGON5/DONJON5 codes in the SALOME platform for performing multi-physics calculations in nuclear engineering
A197	S. FRAMBATI, G. FIRPO, G. GERRA, Michele FRIGNANI	Benchmarking of MANCINTAP, a Parallel High-Performance Tool For Neutron Activation Analysis in Complex 4D Scenarios
A250	Marco PELLEGRINI, L. Bautista GOMEZ, N. MARUYAMA, M. NAITOH, S. MATSUOKA, F. CAPPELLO	SAMPSON Parallel Computation for Sensitivity Analysis of TEPCO Fukushima Daiichi Nuclear Power Plant Accident
A109	Andrea SAND, Sergei L. DUDAREV, Kai NORDLUND	Massively parallel simulations of generation of radiation defects in very high-energy cascades in iron and tungsten: a comparative study

Parallel Technical Sessions

8:30
a.m.

S36 - T1_trk3 • Computational Nuclear Applications - Material Science and Physical Chemistry III • 8:30 am		
A207	Julia WIKTOR, Gérald JOMARD, Michel FREYSS, Marjorie BERTOLUS	Electronic Structure Calculations of Positron Lifetimes in Nuclear Materials: SiC and UO ₂ .
A274	Valérie VALLET, Florent REAL, Michel TRUMM, Bernd SCHIMMELPFENNIG, Michel MASELLA	How to Build Accurate Macroscopic Models of Actinide Ions in Aqueous Solvents?

S37 - T2_trk2 • Computational Science - Specific Computational Methods and Methodologies III • 8:30 am		
A263	Ana JAMBRINA, T. BARRACHINA, R. MIRÓ, G. VERDÚ	NOKIN1D: one-dimensional neutronic kinetics based on a nodal collocation method
A264	Nonka ZHELEVA, Plamen IVANOV, Galina TODOROVA, Nikolay PETROV, Nikola KOLEV	Generation and testing of XS libraries for VVER using APOLLO2 and TRIPOLI4
A281	Alberto PREVITI, Richard SANCHEZ	Computation of the Doppler-broadened scattering kernel and its Legendre moments

S38 - T3_trk2 • Monte Carlo Methods for Simulation - Time Dependent Monte Carlo • 8:30 am		
A039	Yasunobu NAGAYA	Calculation of Reactor Kinetics Parameters Beta-effective and Lambda with Monte Carlo Differential Operator Sampling
A094	Jeremy SWEEZY, Steve NOLEN, Terry ADAMS, Anthony ZUKAITIS	A Particle Population Control Method for Dynamic Monte Carlo
A122	Steven NOLEN, Terry ADAMS, Jeremy SWEEZY, Anthony ZUKAITIS	Time-Dependent Tracking in the Monte Carlo Application Toolkit
A137	Andrea ZOIA, Emeric BRUN, and Fausto MALVAGI	Prompt alpha eigenvalue calculations withTRIPOLI-4®

S39 - T4_trk2 • Advanced Parallelism and HPC Strategies - Monte Carlo Methods, Parallelism and HPC III • 8:30 am		
A167	Stuart R. SLATTERY, Thomas M. EVANS, and Paul P.H. WILSON	A Multiple-Set Overlapping-Domain Decomposed Monte Carlo Synthetic Acceleration Method for Linear Systems
A218	Ryan M. BERGMANN, Jasmina L. VUJIĆ	Optimization of Monte Carlo Algorithms and Ray Tracing on GPUs
A235	Sunil AHN, John APOSTOLAKIS, Makoto ASAI, Daniel BRANDT, Gene COOPERMAN, Gabriele COSMO, Andrea DOTTI, Xin DONG, Andrzej NOWAK	Geant4-MT: bringing multi-threaded Geant4 into production