

PHYSOR 2014

International Conference

“The Role of Reactor Physics toward a Sustainable Future”

Call for Papers

The ANS Reactor Physics Topical Meeting is returning to Japan after 18 years. It will be held in Kyoto, which is one of the most historical and beautiful cities in Japan. The technical program will meet the high standards of recent PHYSOR meetings (Interlaken 2008, Pittsburgh 2010 and Knoxville 2012), including timely and relevant special topics. Students will be actively involved in all technical events and activities. Exciting workshops and technical tours will be also offered.

Important Dates

December 20, 2013

April 26, 2014

June 28, 2014

Submission of Full Papers

Notification of Acceptance

Final Paper Submission

<http://physor2014.org>

28th Sep. - 3rd Oct., 2014

The Westin Miyako, Kyoto, Japan



Full papers to be submitted to one of the following 15 tracks:

❶ Reactor Analysis Methods

Lattice physics, core analysis, resonance calculation, homogenization, pin power reconstruction, burnup calculation, in-core fuel management and optimization, large scale/high-performance computing, full-core transport analysis, multigroup cross-section generation.

❷ Deterministic Transport Theory

Numerical methods, acceleration methods, hybrid methods, high-performance computing for deterministic transport, analytical/numerical transport benchmarks, unstructured grids, stochastic media, charged particle transport.

❸ Monte Carlo Methods

Convergence acceleration, burnup analysis, propagation of uncertainty, perturbation calculations, general MC methods, reactor analysis/design applications, variance reduction, code development, modeling LWRs, hybrid MC methods.

❹ Verification, Validation and Uncertainty Analysis

Numerical methods and tool developments for S/U analysis, Uncertainty quantification, benchmark analysis, nuclear data adjustment/assimilation.

❺ Nuclear Criticality Safety

Burnup credit, nuclear criticality safety benchmarks, verification and validation in criticality safety, spent fuel disposition, spent fuel issues, criticality accident analysis, code development, criticality safety standards, operational practice.

❻ Reactor Physics Experiments

Integral experiments and analysis, subcriticality measurement and analysis, reactor physics benchmarks and databases.

❼ Reactor Concepts and Designs

Design and analyses of LWRs, HWRs, FRs, GCRs, MSR and others; small modular reactors, advanced designs, status of the advanced reactor programs.

❽ Reactor Operation and Safety

Core monitoring, increasing heat resistance, accident tolerant fuel concepts and designs, process heat, hydrogen generation issues, co-generation.

❾ Transient and Safety Analysis

Transient analysis methods, multi-physics reactor simulations, reactor physics of spent fuel storage, developments in probabilistic safety assessments, severe accident analysis, safety culture issues.

❿ Nuclear Data

Nuclear data measurements, cross section evaluations and libraries, covariance data, testing and validation, status and current nuclear data needs.

⓫ Research Reactors and Spallation Sources

Research reactor applications, conversion to LEU, recent design features, reactor physics tests and experiments, medium and high flux research reactors, international collaborations.

⓬ Fuel Cycle and Actinide Management

Advances and developments in use of MOX, Pu management, Th cycles, transuranics and FP management, reactor physics of advanced fuel, hybrid systems, resource management, safeguards.

⓭ Radiation Applications and Nuclear Safeguards

Radiation protection, advances and methods in radiation physics, radiation measurement and dosimetry, nuclear techniques for non-proliferation nuclear forensics, radiation detection methods, inverse physics methods for Pu detection, hybrid methods for real-time monitoring.

⓮ Education in Reactor Physics

Course development, teaching approaches, role of laboratories and experimental facilities, industry and research perspectives, collaborative efforts of industry and research in education, simulator development for education, staffing needs.

⓯ Research related to Fukushima Accident

Inventory evaluations and source term analysis, decay heat analysis, recriticality issues, subcriticality monitoring, reactor physics issues during severe accident, safety management for fuel debris, computational and visualization tools

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