Radiation Safety Information Computational Center

Oak Ridge National Laboratory
POST OFFICE BOX 2008
OAK RIDGE, TENNESSEE 37831-6171

Managed by
UT-Battelle, LLC
for the U.S. Department of Energy
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Phone No. 865-574-6176
FAX 865-241-4046 Internet **PDC@ORNL.GOV**
http://rsicc.ornl.gov

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"It isn't the size of the dog in the fight, but the size of the fight in the dog, that counts!"
-- Harry Howell

ANS Position Statements

At its 50th Annual Meeting in Pittsburgh, Pennsylvania, the American Nuclear Society (ANS) Board of Directors approved three position statements that are now available at **http://www.ans.org/pi/ps/**.

Position Statement 65: "The Need for Realism in the Assessment of Nuclear Technologies" urges the use of realistic models and assumptions in all studies of the risks, properties, costs, benefits, and consequences related to the use of radiation and radioactive materials.

Position Statement 46: "Risk Informed and Performance Based Regulations for Nuclear Power Plants" endorses the use of risk-informed and performance-based regulations for the nuclear industry. Together these regulatory characteristics improve the safety of nuclear plants.

Position Statement 30: "United States Radioisotope Supply" supports a strong national policy to ensure a reliable domestic source of radioisotopes that is adequate to sustain the growing needs of our healthcare, security, and industrial communities.

ANS position statements represent the Society's opinion on issues of interest to the general public and policy makers. Nuclear professionals representing the ANS Professional Divisions develop the positions based on related technical papers.

Visitors to RSICC

Professor Tom Downar visited RSICC July 22-23. He is in the Nuclear Engineering Dept. at Purdue University (**http://helios.ecn.purdue.edu/~downar/**).

John Gutteridge, DOE/NE University Programs Manager, visited RSICC on July 23 **(http://www.ne.doe.gov/**).

Changes to the Computer Code and Data Collection

CCC-721/GRTUNCL3D

OP SYS: Unix & Windows
Language: Fortran 77
Computers: Workstation & PC
Format: tar

Oak Ridge National Laboratory, Oak Ridge, Tennessee, contributed a correction to this code system which can generate uncollided flux and first collision source distributions for the three-dimensional discrete ordinates transport code TORT. Changes were made in subroutines CLBAL and CLEAK to correct a potential problem that could occur when running the previous release of GRTUNCL3D, if a particular cell is subdivided and it is nearly void.

Although TORT can perform three-dimensional calculations in both rectilinear X, Y, Z and curvilinear R, Q, Z geometries, the current version of GRTUNCL3D is only operational in X, Y, Z cartesian geometries. However, since TORT has the ability to perform calculations on a multilevel discontinuous mesh, i.e., geometries containing a different number of cells in each row and a different number of rows in each plane, GRTUNCL3D was written to generate uncollided flux and first collision source distributions for X, Y, Z discontinuous space meshes. In addition, it employs a simple scheme of cell subdivision which can provide improved estimates of the average uncollided flux and first collision source within each cell; it performs a system balance calculation to aid the user in determining whether or not the fine mesh is sufficient to yield credible results; it dynamically allocates all memory as needed; and finally, it obtains many of its control parameters and all of the geometry data from the TORT input file thereby eliminating any duplication of input data. Note that TORT is not included in this package but is distributed within the CCC-650/DOORS package.

GRTUNCL3D was developed on IBM RS/6000 workstations and has been ported to personal computers running Linux and Windows. The Portland Group, Inc. Fortran 4.0 2 compiler was used to create the included executables for Windows and Linux users.

The package is distributed on CD in a GNU compressed Unix tar file which contains the GRTUNCL3D source file, executables for Windows and Linux, an information file, test case input and output. WinZIP 8.0 or newer is required to expand the distribution file under Windows. Reference: Excerpt from ORNL/TM-11778 (March 1992). Fortran 77 and C; IBM RS/6000 and on PC under Linux and Windows (C00721MNYCP01).

PSR-199/HEATING7

OP SYS: Windows
Language: Fortran 90
Computers: PC
Format: WinZIP

Oak Ridge National Laboratory, Oak Ridge, Tennessee, contributed a new compilation of this heat conduction analysis code system. The new HEATING 7.3 executable allows one to run on Pentium computers under Windows XP or 2000. No functional changes were made to the code, and the Unix version was not modified.

HEATING can solve steady-state and/or transient heat conduction problems in one-, two-, or three-dimensional Cartesian, cylindrical, or spherical coordinates. A model may include multiple materials; and the thermal conductivity, density, and specific heat of each material may be both time- and temperature-dependent. The thermal conductivity may also be anisotropic. Materials may undergo change of phase. Thermal properties of materials may be input or may be extracted from a material

properties library. Heat-generation rates may be dependent on time, temperature, and position, and boundary temperatures may be time- and position-dependent.

HEATING7.3 for PC was tested under Windows XP and Windows 2000. Included HEATING 7.3 PC executables were created under Windows XP using Compaq Visual Fortran Version 6.6 and Visual Basic Version 5 compilers. HEATING 7.3 includes some Fortran 90 features and provides a simple graphical user interface for Windows users. The package is transmitted on a CD-ROM in a WinZIP file and a GNU compressed tar file. Reference: ORNL/TM-12262 (February 1993; update to Chapter 4, September 1998.) Fortran 90 for Pentium/Windows XP and IBM RS/6000 (P00199MNYCP05).

PSR-529/UMG 3.3

OP SYS: Windows
Language: Fortran 90
Computers: PC
Format: Compressed Windows

Physikalisch-Technische Bundesanstalt (PTB), Braunschweig, Germany, contributed the UMG (Unfolding with MAXED and GRAVEL) code system, which is a package of seven programs written for the analysis of data measured with spectrometers that require the use of unfolding techniques. The program MAXED applies the maximum entropy principle to the unfolding problem, and the program GRAVEL uses a modified SAND-II algorithm to do the unfolding. There are two versions of each: MXD_FC33 and GRV_FC33 for "few-channel" unfolding (e.g., Bonner sphere spectrometers) and MXD-MC33 and GRV_MC33 for "multi-channel" unfolding (e.g., NE-213).

The program IQU can be used to calculate integral quantities for both MAXED and GRAVEL solution spectra and, in the case of MAXED solutions, it can also be used to calculate the uncertainty in these values as well as the uncertainty in the solution spectrum. The uncertainty calculation is handled in the following way: given a solution spectrum generated by MAXED, the program IQU considers variations in the measured data and in the default spectrum and uses standard methods to do sensitivity analysis and uncertainty propagation. There are two versions: IQU_FC33 for "few channel" unfolding and IQU_MC33 for "multi-channel" unfolding.

The programs were written in Fortran 90 and included executables were compiled with the Compaq Visual Fortran (version 6.1) compiler. The program UMGPlot was written using the programming environment ComponentOne Studio for ActiveX. It can be used to display results from MAXED and GRAVEL. UMG runs on a variety of personal computers under various Windows operating systems such as Windows 95 and Windows XP. The package is transmitted on CD-ROM and includes source files for all programs, PC executables, test cases, implementation instructions, procedures, description of sample problem cases, and documentation. Reference: informal reports (March 1, 2004). Fortran 90; PC under Windows (P00529PC58600).

CONFERENCES, COURSES, SYMPOSIA

RSICC attempts to keep its users/contributors advised of conferences, courses, and symposia in the field of radiation protection, transport, and shielding through this section of the newsletter. Should you be involved in the planning/organization of such events, feel free to send your announcements and calls for papers via email to **FINCHSY@ornl.gov** with “conferences” in the subject line by the **20th of each month**. Please include the announcement in its native format as an attachment to the message. If the meeting is on a website, please include the url.

Every attempt is made to ensure that the links provided in the Conference and Calendar sections of this newsletter are correct and live. However, the very nature of the web creates the possibility that the links may become unavailable. In that case, please call or mail the contact provided. Below is a condensed list of the **conferences** only listed chronologically. More details (if available) are listed alphabetically following the table.

Condensed Table of Conferences

Name of Conference	Date and Location	Web Site	Abstract/Paper Due Date
1st International Symposium on Radionuclide Therapy and Radiopharmaceutical Dosimetry	Sept. 4-8, 2004 Helsinki, Finland	**http://www.eanm.org/eanm.php?kopf=head/hd_calendar.html&worte=calendar/calendar.php**	
International Conference Nuclear Energy for New Europe 2004	Sept. 6-9, 2004 Portoroz, Slovenia	**http://www.drustvo-js.si/port2004/**	passed
12th International Conference on the Physics of Highly Charged Ions	Sept. 6-10, 2004 Vilnius, Lithuania	**http://www.itpa.lt/hci2004/**	passed
16th American Nuclear Society Topical Meeting on the Technology of Fusion Energy	Sept. 14-16, 2004 Madison, Wisconsin	**http://fti.neep.wisc.edu/tofe**	passed
International Conference on Nuclear Data for Science and Technology "ND2004"	Sept. 26-Oct. 1, 2004 Santa Fe, New Mexico	**http://t16web.lanl.gov/nd2004/**	passed
5th International Conference of Yugoslav Nuclear Society (YUNS)	Sept. 27-30, 2004 Belgrade, Serbia & Montenegro	**http://www.vin.bg.ac.yu/YUNS/Yunsc2004.html**	
Americas Nuclear Energy Symposium 2004	Oct. 3-6, 2004 Miami Beach, FL	**http://anes.fiu.edu/2004/**	NA
11th International Congress on Neutron Capture Therapy (ISNCT-11)	Oct. 11-15, 2004 Boston, Massachusetts	**http://meetingsandconferences.com/ISNCT-11/**	
ANS Annual Winter Meeting and Nuclear Technology Expo	Nov. 14-18, 2004 Washington, D.C.	**http://www.ans.org/meetings/**	

Name of Conference	Date and Location	Web Site	Abstract/Paper Due Date
2005 HEART Conference	Mar. 21-25, 2005 Tampa, Florida		Sept. 17, 2004
Monte Carlo 2005 Topical Meeting	Apr. 17-21, 2005 Chattanooga, Tennessee	**http://MonteCarlo2005.org**	**call for papers**
Twelfth International Symposium on Reactor Dosimetry	May 8-13, 2005 Gatlinburg, Tennessee	**announcement / call for papers in pdf** **http://reactordosimetry.com**	Aug. 1
International Nuclear Chemistry Society (INCS)	May 22-29, 2005 Kusadasi, Turkey	**http://incs.ege.edu.tr/1st-INCC.html**	Oct. 1, 2004
ANS Annual Summer Meeting	June 5-9, 2005 San Diego, California	**http://www.ans.org/meetings/**	
Seventh Topical Conference on Nuclear Applications of Accelerator Technology "AccApp05"	Aug. 28-Sept. 1, 2005 Venice, Italy	future	Mar. 31, 2005
230th American Chemical Society National Meeting	Aug. 28-Sept. 1, 2005 Washington, D.C.	**www.cofc.edu/~nuclear**	April 2005
2005 NCSD Topical Meeting	Sept. 19-22, 2005 Knoxville, Tennessee	**http://meetingsandconferences.com/ncsd2005/**	Jan. 7, 2005
Eleventh International Topical Meeting on Nuclear Reactor Thermal Hydraulics	Oct. 2-6, 2005 Avignon, France	**http://nureth11.com/**	passed

2004 Conferences

Advanced Training Course/Workshop on Electron-Photon Transport Modeling with PENELOPE-2003 Physics, Code Structure and Operation

The Advanced Training Course/Workshop on Electron-Photon Transport Modeling with PENELOPE-2003 Physics, Code Structure and Operation will be held **October 18-21, 2004** in Athens, Greece.

This course is addressed to researchers in Radiation Physics and Applications. The main objective is to provide the participants with a detailed description of PENELOPE and an ampler

perspective on Monte Carlo methods for simulation of electron/photon transport. The emphasis will be on the reliability of the interaction models and on the accuracy of the numerical methods and approximations implemented in the codes. A number of practical cases will be discussed, including benchmark comparisons with experiments. The course will include practical sessions on the efficient use of the example main programs for planar and cylindrical geometries and on the design of the main program for specific applications.

For more information contact Marios Anagnostakis (tel +30-210-7722912, fax +30-210-7722914, email **managno@nuclear.ntua.gr**, url **http://www.nea.fr/lists/penelope.html**, registration **http://www.nea.fr/html/dbprog/penelope2004-1reg.html**).

Americas Nuclear Energy Symposium 2004

The United States Department of Energy and the American Nuclear Society are pleased to announce the next Americas Nuclear Energy Symposium (ANES 2004), which will take place Sunday through Wednesday, **October 3-6, 2004,** at the Deauville Beach Resort in Miami Beach, Florida.

ANES 2004 will feature the theme "Building Bridges to Greater Cooperation." The symposium will provide you with the latest information about the use and development of nuclear energy technology throughout the Americas. The format will include open panel discussions, case studies, technical breakout sessions, and an exhibit of international organizations, not to mention great opportunities to network.

ANES 2004 will include sessions on nuclear reactors; technology development and deployment; production, disposal and usage of isotopes; fuel cycle and waste management; new applications; finance; and environmental, infrastructure and communications issues.

Another successful event is anticipated with the largest number of participants yet attending from across Canada, the Caribbean, Latin America and the United States. Please visit the website at **http://anes.fiu.edu** for frequent updates.

16th American Nuclear Society Topical Meeting on the Technology of Fusion Energy

The ANS Topical Meeting on the Technology of Fusion Energy will be held **September 14-16, 2004**, in Madison, Wisconsin. You are cordially invited to submit one-page abstract(s) describing work that is new, significant, and relevant to both magnetic and inertial fusion technologies. A Microsoft Word template that can be used to create the abstract is available on the TOFE website: **http://fti.neep.wisc.edu/tofe**.

The 16th Topical Meeting on the Technology of Fusion Energy (TOFE) will continue the tradition of stand-alone topical meetings originated in the early 1970's, continued through the 80's, and re-established in the year 2000 in Park City, Utah. The scope of the TOFE meeting is to provide a forum for sharing exciting new progress that has been made in fusion research as well as presenting the future of the national and worldwide fusion program.

The 2½ day program of the 16th TOFE meeting will have plenary, oral, and poster sessions, including a mix of invited oral papers and a significant number of contributed oral and poster papers. Key deadlines follow: one-page abstracts (May 1, 2004); nominations for ANS-FED awards (May 31, 2004); notification to authors (June 1, 2004); early registration deadline (August 10, 2004); hotel reservation cutoff date (August 10, 2004); full papers due at the meeting (September 14, 2004).

MCNPX Workshops

Lead Teachers: Drs. John Hendricks, Gregg McKinney, Laurie Waters
Organizer: HQC Professional Services Contact: **bill@mcnpxworkshops.com**
More Information: **http://mcnpxworkshops.com** MCNPX homepage: **http://mcnpx.lanl.gov**

Sept. 20-24	Intermediate	Las Vegas, NV
Nov. 15-19	Introductory	Europe (TBA)

MCNPX is the LANL all-particle, all-energy (eV-TeV) Monte Carlo transport code based on MCNP4C, LAHET, CEM, etc. MCNPX has been in active development since 1995, sponsored by the particle accelerator community. It has now become an accepted tool for a broad range of applications by nuclear engineers, physicists, and scientists. The MCNPX development effort has expanded the use of the Los Alamos tools to applications such as APT, waste transmutation, accelerator shielding and health physics, particle beam cancer therapy, space shielding and cosmic ray analysis, single event effects in semiconductors, radiography, and more detailed analysis of the effects of light and heavy ions in matter. In addition, the entire functionality of MCNP4C is retained. New variance reduction and data analysis techniques, many adapted from high-energy accelerator methodologies, have also been added, such as the extensive "mesh tally" capability which allows up to 3-d plotting of particle tracks, fluence and fluence-derived quantities, energy deposition, next event estimator generation contributions and particle sources.

The workshops include hands-on instruction, generally on PC Windows machines. Subject to participant export approval for the MCNPX beta test team, participants will be able to access the Fortran-90 version of MCNPX 2.4, the LA150 (150 MeV) cross-section data for over 40 isotopes for incident neutrons and protons and 12 for photonuclear interactions, and a notebook of viewgraphs. Follow-up consultation for class participants will be provided.

Classes are taught by experienced MCNPX code developers and instructors. More information on code versions and capabilities is available at MCNPX Workshops web site **http://mcnpxworkshops.com**.

Monte Carlo Analysis and Nuclear Criticality Safety - Short Course

The Department of Nuclear Engineering at the University of Tennessee-Knoxville is offering two short courses for radiation transport and criticality safety specialists during Tennessee Industries Week (TIW-39), **August 9-13, 2004.**

Engineers, scientists, and technical managers who wish to increase their knowledge and understanding of nuclear criticality safety will be interested in the criticality safety course, which also runs for five days. The topics covered in the course are based primarily on the experience of the five instructors which totals over 120 years of nuclear criticality safety related experience. Such a wealth of experience needs to be shared with the criticality safety community including both new professionals in the field as well as experienced professionals.

Monte Carlo is often the method of choice to solve complex problems in nuclear criticality safety and radiation shielding. To use Monte Carlo effectively the analyst must understand the theoretical and computational fundamentals of the method, as well as the computational options available in particular computer tools. Also, it is sometimes advantageous to create new special-purpose Monte Carlo programs to solve particular problems rather than use an existing program. The Monte Carlo course runs for five days.

The deadline for registration is July 23, 2004. Classes are limited in size and will be filled on a first-come first-serve basis. For additional information on these and other courses offered during TIW-39, contact Kristin England at the University of Tennessee, phone (865) 974-5048, email **kengland@utk.edu**, url **http://www.engr.utk.edu/nuclear/TIW.html**.

Nuclear Data for Science and Technology "ND2004" - International Conference

The International Conference on Nuclear Data for Science and Technology will be held **September 26-October 1, 2004**, in Santa Fe, New Mexico. This is an OECD-Nuclear Energy Agency Conference, which is held approximately every 3 years. Recent conferences in this series were held in Antwerp (1982), Santa Fe (1985), Mito (1988), Jüelich (1991), Gatlinburg (1994), Trieste (1997) and Tsukuba (2001). This International Conference focuses on nuclear data, their production, dissemination, testing and application. The data are produced through both experimental and theoretical models; they are compiled and evaluated to form data libraries for use in applications; and they are tested through benchmark experiments and a very wide range of applications. This Conference includes all of these activities with the goal of improving nuclear data for applications including fission and fusion energy, accelerator driven systems, accelerator technology, spallation neutron sources, nuclear medicine, environment, space, non-proliferation, nuclear safety, astrophysics and cosmology, and basic research. Please see the web site for more information: **http://t16web.lanl.gov/nd2004/**.

Physics of Highly Charged Ions - 12th International Conference

HCI-2004 will be the 12th conference in an international series taking place every two years around the world. This year's conference will be in Vilnius, Lithuania, **September 6-10, 2004.** Born in Stockholm in 1982, HCI became a major forum for the presentation and discussion of important new research results in the physics of highly charged ions. The conference will continue to emphasize basic, fundamental science at the atomic and molecular level, and its application to important technology challenges. Opportunity will be given to provide insights in other disciplines where HCI physics have a strong impact like nuclear physics, material science, radiation chemistry, radiobiology, etc.

For more information, please email **hci2004@itpa.lt** or see the website: **http://www.itpa.lt/hci2004/**.

Radionuclide Therapy and Radiopharmaceutical Dosimetry - 1st International Symposium

The 1st International Symposium on Radionuclide Therapy and Radiopharmaceutical Dosimetry will take place in conjunction with the annual European Association of Nuclear Medicine (EANM) Congress in Helsinki, Finland, **September 4-8, 2004.**

The format of the meeting has evolved from a series of seven interesting and important radiopharmaceutical and dosimetry symposia held approximately every 5 years since 1970, with distribution of published proceedings. The last meeting (7th International Radiopharmaceutical Dosimetry Symposium) was held in Nashville, Tennessee in 2002.

The decisions of the scientific committee and the set-up of the program for Helsinki will be coordinated by the EANM Task Group on Dosimetry and EANM Therapy Committee. All organisational matters will be handled by the EANM.

A call for abstracts (also electronic) will go out in a few months, with authors notified of the outcome in May 2004. Contributors will be asked either to bring an electronic version of their manuscript to the meeting in September 2004 or to submit it within two months after the meeting; early plans are to have extended peer-reviewed abstracts published as a supplement to a journal.

For more information contact: Michael Lassmann, Chair T/G Dosimetry EANM, **Lassmann@nuklearmedizin.uni-wuerzburg.de** or Val Lewington, Chair Therapy Committee EANM, **vjlewington@hotmail.com** or visit **http://www.eanm.org/eanm.php?kopf=head/hd_calendar.html&worte=calendar/calendar.php**

RESRAD Family Workshops

Argonne National Laboratory will conduct two training workshops on the RESRAD family of risk assessment codes. The first workshop is for the RESRAD (6.22) and RESRAD-BUILD (3.22) codes on **August 10-13, 2004.** The second workshop is for the newly released RESRAD-BIOTA (1.0) code on **September 15-16, 2004.** The tentative agenda and registration information can be found on the RESRAD web site **http://web.ead.anl.gov/resrad/training/**. If you have questions contact: Dr. Charley Yu, CHP RESRAD Program Manager, phone 630-252-5589, fax 630-252-4624, email **cyu@anl.gov**.

SCALE Training Courses at ORNL (Fall 2004)

http://www.ornl.gov/sci/scale/trcourse.html

Date	Title	Registration Fee*	Description
Oct. 25-29, 2004	SCALE Source Terms and Shielding Course	$1800	SCALE shielding and depletion/decay sequences (including ORIGEN-ARP)
Nov. 1-5, 2004	KENO V.A Criticality Safety	$1800	CSAS/KENO V.a (including KENO3D and GeeWiz
Nov. 8-10, 2004	TSUNAMI Sensitivity/Uncertainty Tools (KENO V.a course prerequisite for new users)	$1200	1-D and 3-D sensitivity/uncertainty analysis using XSDRNPM and KENOV.a
Nov. 11-12, 2004	STARBUCS Burnup Credit (KENO V.a course prerequisite for new users)	$1000	Automated burnup credit analysis using ORIGEN-ARP and KENO (V.a or VI).

*A late fee of $300 will be applied after September 24, 2004.
A discount of $600 per each additional week will be applied for registration to multiple courses.

Yugoslav Nuclear Society (YUNS) - 2004 - 5th International Conference

The Conference will be held **September 27-30, 2004**, at the Chamber of Commerce of the Republic of Serbia, Belgrade, Serbia & Montenegro. For more information visit **http://www.vin.bg.ac.yu/YUNS/Yunsc2004.html**.

2005 Conferences

Monte Carlo 2005 Topical Meeting

Monte Carlo 2005 will be held **April 17-21, 2005,** (Sunday-Thursday). The theme of the conference will be "The Monte Carlo Method: Versatility Unbounded in A Dynamic Computing World".

The conference site is the Chattanooga Marriott and Convention Center in Chattanooga, Tennessee. The conference will be hosted by the American Nuclear Society (ANS) Oak Ridge/Knoxville Section, with ANS Radiation Protection and Shielding Division (RPSD) as the sponsoring division and Mathematics and Computations Division (MCD) as a co-sponsor. Co-sponsors will also include Oak Ridge National Laboratory (ORNL), Radiation Safety Information Computational Center (RSICC) and the Organization for Economic Cooperation and Development (OECD) Nuclear Energy Agency Data Bank (NEADB).

The Monte Carlo method and its applications have been frequently addressed at several major conferences and workshops organized in recent years in the area of nuclear applications. Monte Carlo topics have included radiation shielding, radiation physics, medical physics, and high energy physics. Significant developments have taken place in computational and data issues, resulting in state-of-the-art computer codes and tools. Monte Carlo 2005 is the next in a series devoted to the topic, following Monte Carlo 2000 which was held in Lisbon, Portugal, in October 2000.

Conference topics will include: Methods Advancements (Physics) (proton transport, neutron transport, gamma transport, electron transport, heavy ion transport); Nuclear Data Advancements (proton transport, neutron transport, gamma transport, electron transport, heavy ion transport); Mathematical and Computational Advances (experiments & benchmarks, mathematical advances, computational advances, visualization); Applications (reactor, medical, accelerator, neutron science, dosimetry, shielding, fuel cycle, waste management, space & aviation, fusion, criticality safety, non-nuclear applications).

The website is **http://MonteCarlo2005.org**. Full papers are due September 10, 2004. For information contact Bernadette Kirk (**kirkbl@ornl.gov**, 865-574-6176), General Chair, or Jeff Johnson (**johnsonjo@ornl.gov**, 865-574-5262), Technical Chair.

Nuclear Applications of Accelerator Technology "AccApp05" - 7th Topical Conference

The forthcoming International Topical Meeting on Nuclear Applications of Accelerator Technology (AccApp'05) is the seventh in a series of international meetings of the Accelerator Applications Division of the American Nuclear Society. It is scheduled for **August 28-September 1, 2005,** at the Island of San Servolo, Venice, Italy. The purpose of AccApp'05 is to provide an international forum for presenting and discussing the use of particle accelerator technology for a variety of applications. It is intended to focus on a wide area of applications including, among others, spallation neutron sources, isotope production, medical therapy, nuclear waste transmutation, energy production, high power accelerators under construction and future projects, material issues in a particle environment, nuclear data and experiments, codes and models for particle transport, system engineering, thermo hydraulics, contraband detection and radiation protection. For more information see: **http://www.nea.fr/listsmh/satif/pdf00004.pdf**.

Eleventh International Topical Meeting on Nuclear Reactor Thermal Hydraulics

NURETH is the foremost international technical meeting on nuclear technology thermal hydraulics. The NURETH-11 meeting will be held in the historic Palace of the Popes in Avignon, France, **October 2-6, 2005**. For more information please go to **http://nureth11.com/**.

Reactor Dosimetry - 12th International Symposium

Approximately every three years the ASTM International Committee E10 on Nuclear Technology and Applications and the European Working Group on Reactor Dosimetry organize a symposium on reactor dosimetry. The 12th International Symposium on Reactor Dosimetry will be held in Gatlinburg, Tennessee, **May 8-13, 2005**. This symposium will be of interest to anyone involved in reactor dosimetry, including researchers, manufacturers and representatives from industry, utilities and regulatory agencies. The symposium theme is dosimetry for the assessment of irradiated reactor materials and reactor experiments, featuring radiation metrology techniques, data bases and standardization. Additional information on paper submittal and specific focus topics can be obtained by visiting the Symposium's web site **http://www.reactordosimetry.com**. In addition to the 100 to 120 oral and poster papers on the topics given on the web site, the symposium will feature six informal round-table workshops and two introductory level tutorials. The workshops will focus on discussions of problems, conflicts, recommendations, news and ideas. The workshop titles for the 12th Symposium will be: Accelerators and Fusion, Adjustments Methods and Uncertainties, Cross Section Files and Uncertainties, LWR Surveillance Dosimetry, Radiation Damage Correlations, and Test and Research Facilities. The two introductory level tutorials will be held in parallel and will address the topics of "Radiation Effects in Reactor Materials" and "Neutron Scattering Applications in Material Science." This symposium is a must-attend meeting for those serious about the field of radiation dosimetry and will be the perfect opportunity for sharing ideas and discussions with colleagues in the field of radiation dosimetry. This meeting will also be ideal for those new to the field who want to be up to date on dosimetry related issues.

CALENDAR

August 2004

RESRAD (6.22) and RESRAD-BUILD (3.22) Workshop, Aug. 10-13, 2004. Argonne, IL. Contact: Charley Yu (tel 630-252-5589, fax 630-252-4624, email **cyu@anl.gov**, url **http://web.ead.anl.gov/resrad/training/**).

September 2004

1st International Symposium on Radionuclide Therapy and Radiopharmaceutical Dosimetry, Sept. 4-8, 2004, Helsinki, Finland. Contact: Michael Lassmann or Val Lewington, (emails **lassmann@nuklearmedizin.uni-wuerzburg.de**; **vjlewington@hotmail.com**).

12 International Conference on the Physics of Highly Charged Ions, Sept. 6-10, 2004, Vilnius, Lithuania. For more information: **http://www.itpa.lt/hci2004/**.

International Conference Nuclear Energy for New Europe 2004, Sept. 6-9, 2004, Portoroz, Slovenia. For more information: **http://www.drustvo-js.si/port2004**/.

16th American Nuclear Society Topical Meeting on the Technology of Fusion Energy, Sept. 14-16, 2004, Madison, WI. (url **http://fti.neep.wisc.edu/tofe**).

RESRAD-BIOTA (1.0) Workshop, Sept. 15-16, 2004, Argonne, IL. Contact: Charley Yu (tel 630-252-5589, fax 630-252-4624, email **cyu@anl.gov**, url **http://web.ead.anl.gov/resrad/training/**).

MCNPX Intermediate Workshop, Sept. 20-24, 2004, Las Vegas, NV. Contact: Bill Hamilton (tel 505-455-0312, email

bill@mcnpxworkshops.com, url **http://mcnpxworkshops.com** for details).

International Conference on Nuclear Data for Science and Technology "ND2004", Sept. 26-Oct. 1, 2004, Santa Fe, NM. (Contact: **http://t16web.lanl.gov/nd2004/**).

5th International Conference of Yugoslav Nuclear Society (YUNS) - 2004, Sept. 27-30, 2004, Belgrade, Serbia & Montenegro. Contact: Dr. Milan Pesic, (tel 381-11-245-82-22/ext. 681, email **mpesic@vin.bg.ac.yu**, url **http://www.vin.bg.ac.yu/YUNS/index.htm**).

October 2004

Americas Nuclear Energy Symposium 2004, Oct. 3-6, 2004 Miami Beach, Florida. For more information: **http://anes.fiu.edu/2004/**.

11th World Congress on Neutron Capture Therapy (ISNCT-11), Oct. 11-15, 2004, Boston, MA. Contact: Robert G. Zamenhof (tel 617-636-1681, fax 617-636-5867, email **rzamenhof@tufts-nemc.org**, url **http://meetingsandconferences.com/ISNCT-11/**)

Advanced Training Course / Workhsop on Electron-Photon Transport Modeling with PENELOPE-2003, Physics, Code Structure and Operation, Oct. 18-21, 2004, Athens, Greece. Contact: Marios Anagnostakis (tel +30-210-7722912, fax +30-210-7722914, email **managno@nuclear.ntua.gr**, url **http://www.nea.fr/lists/penelope.html**).

November 2004

ANS Annual Winter Meeting and Nuclear Technology Expo, Nov. 14-18, 2004, Washington. D.C. For more information: **http://www.ans.org/meetings/**.

MCNPX Introductory Workshop, Nov. 14-19, 2004, Europe (TBA) Contact: Bill Hamilton (tel 505-455-0312, email **bill@mcnpxworkshops.com**, url **http://mcnpxworkshops.com** for details).

April 2005

Monte Carlo 2005 Topical Meeting, Apr. 17-21, 2005, Chattanooga, TN. Contact: Bernadette Kirk (tel 865-574-6176, fax 865-241-4046, email **kirkbl@ornl.gov**, url **http://meetingsandconference.com/MonteCarlo2005**).

May 2005

12th International Symposium on Reactor Dosimetry, May 8-13, 2005, Gatlinburg, TN. Contact: Dr. James M. Adams (tel 301-975-6205, fax 301-926-1604, url **http://reactordosimetry.com**).

1st International Nuclear Chemistry Society (INCS), May 22-29, 2005, Kusadasi, Turkey. For more information: **http://incs.ege.edu.tr/ 1st-INCC.html**.

June 2005

ANS Annual Summer Meeting, June 5-9, 2005, San Diego, CA. For more information: url **http://www.ans.org/meetings/**.

August 2005

Seventh Topical Conference on Nuclear Applications of Accelerator Technology "AccApp05", Aug. 28-Sept. 1, 2005, Venice, Italy. For more information: **http://www.nea.fr/listsmh/satif/pdf00004.pdf**.

230th American Chemical Society National Meeting, Aug. 28-Sept. 1, 2005, Venice, Italy. For more information: **http://www.nea.fr/listsmh/safit/pdf00004.pdf**).

September 2005

2005 NCSD Topical Meeting, Sept. 19-22, 2005, Knoxville, TN. For more information: **http://meetingsandconferences.com/ncsd2005/**.

October 2005

Eleventh International Topical Meeting on Nuclear Reactor Thermal Hydraulics, Oct. 2-6, 2005, Avignon, France. For more information: **http://nureth11.com**, **nureth11@cea.fr**.

ACCESSION OF NUCLEAR SYSTEMS LITERATURE

The nuclear systems literature (shielding, safety, materials) cited below has been reviewed and placed in the RSICC Information Storage and Retrieval Information System (SARIS) now searchable on the RSICC web server **(http://www-rsicc.ornl.gov/rsiccnew/AT-SARISquery.htm)**. We now include medical physics in addition to material science, radiation dosimetry, radiation safety, reactor dynamics, reactor safeguards, risk assessment, waste management, fuel cycle, fusion and plasmas, high energy particle transport, and shielding. This early announcement is made as a service to the nuclear sciences community. Copies of the literature are not distributed by RSICC. They may generally be obtained from the author or from a documentation center such as the National Technical Information Service (NTIS), Department of Commerce, Springfield, Virginia 22161.

Ann. Nucl. Energy, 14, 1541-1553. . *On-Line Signal Trend Identification.* . . . Tambouratzis, T. et al. . . . September 2004. . . Institute of Nuclear Technology, Athens, Greece.

Ann. Nucl. Energy, 14, 1555-1582. . .*A Finite Element/Boundary Element Hybrid Method for 2-D Neutron Diffusion Calculations.* . . . Cavdar, S. et al. . . . September 2004. . . Istanbul Technical University, Turkey.

Ann. Nucl. Energy, 14, 1583-1613. . *Relap5/Mod3.2 Investigation of Main Look Isolating Valves in Case of SGTR in VVER440/V230.* . . . Groudev, P.P. et al. . . . September 2004. . . Bulgarian Academy of Sciences, Sofia, Bulgaria.

Ann. Nucl. Energy, 14, 1615-1648. . *Analysis of the FIST Integral Tests 4DBA1, 6SB2C and T1QUV with TRAC-BFl/v2001.2.* . . . Analytis, G.Th. . . . September 2004. . . Paul Scherrer Institute, Villigen, Switzerland.

Ann. Nucl. Energy, 14, 1649-1666. . *Solution of the Fixed Source Neutron Diffusion Equation by Using the Pseudo-Harmonics Method.* . . . de Lima, Z.R. et al. . . . September 2004. . . Federal University of Rio de Janeiro, Brazil.

Ann. Nucl. Mater., 1, 1-10. . .*Deformation of Zirconium Irradiated by 4.4 MeV Protons at 347 K.* . . . Chow, C.K. et al. . . . June 2004. . . AECL, Mississauga, Ontario, Canada; Queen's University, Kingston, Ontario, Canada; Hong Kong Polytechnical University, Hong Kong, China; Nuclear Safety Solutions, Toronto, Ontario, Canada.

Ann. Nucl. Mater., 1, 11-20. . .*Effect of Prior Thermal Treatment on the Microchemistry and Crack Propagation of Proton-Irradiated AISI 304 Stainless Steels.*. . . Wang, L.H. et al. . . . June 2004. . . Industrial Technology Research Institute, Hsinchu, Taiwan; National Tsin-Hua University, Hsinchu, Taiwan.

Ann. Nucl. Mater., 1, 21-30. . *Investigation of Physico-Mechanical Properties of Ceramic Oxide Kernels for Nuclear Applications.* . . . Titov, M.M. et al. . . . June 2004. . . Institut fur Sicherheitsforschung und Reaktortechnik, Julich, Germany.

Ann. Nucl. Mater., 1, 31-45. . *Contribution to the Understanding of the ZrNb(1%)O(0.13%) Oxidation Mechanism at 500 Degrees Celcius in Dry Air.* . . . Vermoyal, J.J. et al. . . . June 2004. . . CEZUS Research Center, Ugine, France; Framatome ANP, Lyon, France; Laboratory of Electrochemistry and Physical-Chemistry of Materials and Interfaces, Saint Martin d'Heres, France.

Ann. Nucl. Mater., 1, 46-54. . .*Thermal Variation of the Optical Absorption of UO2: Determination of the Small Polaron Self-Energy.* . . . Ruello, P. et al. . . . June 2004. . . Laboratoire Structures, Chatenay Malabry, France; Technische Universitat Braunschweig, Braunschweig, Germany; CEA, St. Paul-lez-Durance, France.

Ann. Nucl. Mater., 1, 55-61. . .*Sputtering Mechanisms Near the Threshold Energy.* . . . Eckstein, W. et al.. . . June 2004. . . Max-Planck-Institut fur Plasmaphysik, Garching, Germany.

Ann. Nucl. Mater., 1, 62-66. . .*Modelling of Carbon Transport in Fusion Devices: Evidence of Enhanced Re-Erosion of In-Situ Re-Deposited Carbon.* . . . Kirschner, A. et al. . . . June 2004. . . Institut fur Plasmaphysik, Julich, Germany; EURATOM/UKAEA, Oxon, United Kingdom.

Ann. Nucl. Mater., 1, 67-70. . .*Comments on the Threshold Porosity for Fission Gas Release in High Burn-Up Fuels.* . . . Spino, J. et al.. . . June 2004. . . Joint Research Center, Karlsruhe, Germany.

Ann. Nucl. Mater., 1, 71-76. . .*A Cubic-To-Monoclinic Structural Transformation in the Sesquioxide Dy2O3 Induced By Ion Irradiation.* . . . Tang, M. et al. . . . June 2004. . . New Mexico

Institute of Mining and Technology, Socorro, NM; Los Alamos National Laboratory, Los Alamos, NM.

Fus. Eng. Design, 1-4, 1-3. . .*Control, Data Acquistion, and Remote Participation for Fusion Research*.. . . McHarg, B.. . . June 2004. . . General Atomics, San Diego, CA.

Fus. Eng. Design, 1-4, 5-9. . .*DIII-D Tokamak Control and Neutral Beam Computer System Upgrades*.. . . Penaflor, B.G. et al. . . . June 2004. . . General Atomics, San Diego, CA.

Fus. Eng. Design, 1-4, 11-15. . .*Current Status and Future Prospects of the JT-60U Control System*.. . . Yonekawa, I. et al.. . . June 2004. . . JAERI, Ibaraki-ken, Japan.

Fus. Eng. Design, 1-4, 17-21. . .*The Control System of KSTAR*. . . . Kwon, M. et al. . . . June 2004. . . Korea Basic Institute, Daejeon, Korea.

Fus. Eng. Design, 1-4, 23-28. . *CompactPCI/Linux Platform for Medium Level Control System on FTU*.. . . Wang, L. et al. . . . June 2004. . . Institute of Plasma Physics, Hefei, PR China; Associazione Euratom/ENEA, Rome, Italy.

Fus. Eng. Design, 1-4, 29-34. . *Developmental Prototype for Replacement of JT-60 Timing System*. . . . Akasaka, H. et al. . . . June 2004. . . JAERI, Ibaraki-ken, Japan.

Fus. Eng. Design, 1-4, 35-40. . .*Progress in Real-Time Feedback Control Systems in RFX*. . . . Barana, O. et al. . . . June 2004. . . Associazione EURATOM-ENEA, Padova, Italy.

Fus. Eng. Design, 1-4, 41-45. . *Replacement Strategy for ASDEX Upgrade's New Control and Data Acquisition*.. . . Raupp, G. et al.. . . June 2004. . . Max-Planck-Institute f. Plasmaphysik, Garching, Germany; Unlimited Computer Systems, Ifeldorf, Germany.

Fus. Eng. Design, 1-4, 47-52. . .*Current Status of the Upgraded DIII-D Real-Time Digital Plasma Control System*. . . . Penaflor, B.G. et al. . . . June 2004. . . General Atomics, San Diego, CA.

Fus. Eng. Design, 1-4, 53-57. . .*Real-Time Identification of the Resistive-Wall-Mode in DIII-D with Kalman Filter ELM Discrimination*. . . . Edgell, D.J. et al.. . . June 2004. . . University of Rochester, Rochester, NY; FAR-TECH, San Diego, CA; Chalmers University of Technology, Goteborg, Sweden; General Atomics, San Diego, CA; Columbia University, New York, NY; Princeton Plasma Physics Laboratory, Princeton, NJ.

Fus. Eng. Design, 1-4, 59-64. . .*First Results from the MAST Digital Plasma Control System*. . . . McArdle, G.J. et al. . . . June 2004. . . EURATOM/UKAEA, Oxfordshire, UK.

Fus. Eng. Design, 1-4, 65-69. . .*Real-Time Control Software on NSTX*.. . . Mastrovito, D. et al. . . . June 2004. . . Princeton Plasma Physics Laboratory, Princeton, NJ; General Atomics, San Diego, CA.

Fus. Eng. Design, 1-4, 71-76. . .*Real-Time Linux Operating System for Plasma Control on FTU - Implementation Advantages and First Experimental Results*. . . . Vitale, V. et al. . . . June 2004. . . Associazione Euratom/ENEA, Rome, Italy; Universita di Roma, Rome, Italy.

Fus. Eng. Design, 1-4, 77-82. . .*Real-Time DSP-Based Shape Determination and Plasma Position Control in the ISTTOK Tokamak*. . . . Carvalho, B. et al.. . . June 2004. . . Associacao EURATOM/IST, Lisboa, Portugal.

Fus. Eng. Design, 1-4, 83-88. . .*A Test-Bench for the Real-Time Project Phase 2 of JET*. . . . Batista, A.J.N. et al.. . . June 2004. . . Associacao EURATOM/IST, Lisbon, Portugal; Association EURATOM-CEA, St. Paul-Lez Durance, France; Association UKAEA/Euratom, Oxfordshire, UK.

Fus. Eng. Design, 1-4, 89-93. . .*Migratio of Alcator C-Mod Computer Infrastructure to Linux*.. . . Fredian, T.W. et al. . . . June 2004. . . MIT, Cambridge, MA.

Fus. Eng. Design, 1-4, 95-99. . .*Recent Developments of the RFX Control and Data Acquisition System*. . . . Barana, O. et al. . . . June 2004. . . Associazione Euratom-ENEA, Padova, Italy.

Fus. Eng. Design, 1-4, 101-106. . .*A PCI Time Digitizer for the New JET Time-of-Flight Neutron Spectrometer*. . . . Sousa, J. et al.. . . June 2004. . . Associacao EURATOM/IST, Lisboa, Portugal, Uppsala University, Uppsala, Sweden.

Fus. Eng. Design, 1-4, 107-110. . .*A Concept of Online Monitoring for the Wendelstein 7-X Experiment*. . . . Hennig, Ch. et al. . . . June 2004. . . Max-Planck-Institute f. Plasmaphysik, Greifswarld, Germany.

Fus. Eng. Design, 1-4, 111-115. . .*Status of the Tore Supra Continuous Data Acquisition and Retrieval System*.. . . Buravand, Y. et al.. . . June 2004. . . Association Euratom-CEA, St. Paul lez Durance, France.

Fus. Eng. Design, 1-4, 117-121. . .*A Distributed Synchronization System for the TJ-II Local Area Network*. . . . Vega, J. et al. . . . June 2004. . . Associacion EURATOM/CIEMAT, Madrid, Spain; CIEMAT, Madrid, Spain; Universidad Politecnica de Madrid, Spain.

Fus. Eng. Design, 1-4, 123-127. . *.Autonomous Acquisition Systems for TJ-II: Controlling Instrumentation with a Fourth Generation Language*.. . . Sanchez, E. et al. . . . June 2004. . . Laboratorio Nacional de Fusion, Madrid, Spain; Universidad Politecnica de Madrid, Madrid, Spain.

Fus. Eng. Design, 1-4, 129-133. .
Developments to Supplant CAMAC with Industry Standard Technology at NSTX. . . . Sichta, P. et al. . . . June 2004. . . Princeton Plasma Physics Laboratory, Princeton, NJ.

Fus. Eng. Design, 1-4, 135-140. . *Real-Time Data Acquisition and Processing Platform for Fusion Experiments*.. . . Ruiz, M. et al. . . . June 2004. . . Universidad Politecnica de Madrid, Spain; Associacion EURATROM/CIEMAT, Madrid, Spain.

Fus. Eng. Design, 1-4, 141-144. . .*CAMAC, VXI, and PXI Hybrid Data Acquisition System with MDSplus*. . . . Seo, S-H. et al.. . . June 2004. . . Korea Basic Science Institute, Daejeon, South Korea.

Fus. Eng. Design, 1-4, 145-149. .
Development of Workstation-Based CAMAC Data Acquisition System for JT-60 Data Processing System. . . . Sato, M. et al. . . . June 2004. . . JAERI, Ibaraki, Japan; Customer System Co., Ibaraki-ken, Japan.

Fus. Eng. Design, 1-4, 151-157. . .*A PCI Transient Recorder Module for the JET Magnetic Proton Recoil Neutron Spectrometer*. . . . Combo, A. et al.. . . June 2004. . . Associacao EURATOM/IST, Lisboa, Portugal; Uppsala University, Uppsala, Sweden.

Fus. Eng. Design, 1-4, 159-165. . .*A Low-Cost Galvanic Isolated Fast PCI Transient Recorder with Signal Processing Capabilities*. . . . Correia, M. et al. . . . June 2004. . . Associacao EURATOM/IST, Lisbon, Portugal.

Fus. Eng. Design, 1-4, 167-173. . .*A Large Memory VME Data Acquisition System for the JET Heterodyne Radiometer Upgrade*. . . . Cruz, N. et al. . . . June 2004. . . Associacao EURATOM/IST, Lisboa, Portugal; EURATOM-UKAEA Fusion Association, Abingdon, UK.

Fus. Eng. Design, 1-4, 175-181. . *Real-Time Motional Stark Effect in JET*. . . . Alves, D. et al.. . . June 2004. . . Associacao EURATOM/IST, Lisboa, Portugal; EURATOM/UKAEA, Abingdon, UK; Association Euratom-CEA, St. Paul lez Durance, France.

Fus. Eng. Design, 1-4, 183-188. . *DbAccess: Interactive Statistics and Graphics for Plasma Physics Databases*. . . . Davis, W. et al.. . . June 2004. . . Princeton Plasma Physics Laboratory, Princeton, NJ.

Fus. Eng. Design, 1-4, 189-193. . .*Search and Retrieval Method of Similar Plasma Waveforms*.. . . Nakanishi, H. et al. . . . June 2004. . . National

Institute for Fusion Science, Toki, Japan; Osaka Prefecture University, Sakai, Japan.

Fus. Eng. Design, 1-4, 195-200. .
Commodity Hardware and Open Source Solutions in FTU Data Management.. . . Centioli, C. et al.. . . June 2004. . . Associazione Euratom/ENEA, Rome, Italy; Universita di Roma, Rome, Italy; CASPUR - Rome, Italy.

Fus. Eng. Design, 1-4, 201-205. . *Immediate Data Access System for LHD Experiments*. . . . Emoto, M. et al.. . . June 2004. . . National Institute for Fusion Science, Toki-shi, Japan.

Fus. Eng. Design, 1-4, 207-212. . .*Design and Implementation of the ITPA Confinement Profile Database*. . . . Walters, M. et al. . . . June 2004. . . EURATOM/UKAEA, Abingdon, UK.

Fus. Eng. Design, 1-4, 213-218. .
Experience from Tore Supra Acquisition System and Evolutions. . . . Guillerminet, B. et al. . . . June 2004. . . Association Euratom-CEA, St. Paul lez Durance, France.

Fus. Eng. Design, 1-4, 219-224. . .*Status Report on the Development of the Data Acquisition System of Wendelstein 7-X*.. . . Heimann, P. et al. . . . June 2004. . . Max-Planck-Institut f. Plasmaphysik, Garching and Greifswald, Germany.

Fus. Eng. Design, 1-4, 225-230. . .*Editor for System Configuration and Experiment Program Specification*. . . . Kuhner, G. et al. . . . June 2004. . . Max-Planck-Institute f. Plasmaphysik, Garching, Germany.

Fus. Eng. Design, 1-4, 231-237. . .*Image Data Acquisition in the Scope of Long Duration Discharges*. . . . Reetz, J. et al.. . . June 2004. . . Max-Planck-Institut f. Plasmaphysik, Garching and Greifswald, Germany.

Fus. Eng. Design, 1-4, 239-244. .
Development of Environment for Remote Participation in Fusion Research on JT-60.. . . Oshima, T. et al. . . . June 2004. . . JAERI, Ibaraki, Japan; Customer System Co., Ibaraki, Japan; Fujitsu Ltd., Chiba, Japan; Fujitsu Nagano Systems Engineering, Nagano, Japan.

Fus. Eng. Design, 1-4, 245-250. . .*Building the US National Fusion Grid: Results from the National Fusion Collaboratory Project*. . . . Schissel, D.P. et al. . . . June 2004. . . General Atomics, San Diego, CA; Princeton Plasma Physics Laboratory, Princeton, NJ; Argonne National Laboratory, Argonne, IL; MIT, Cambridge, MA; University of Utah, Salt Lake City, UT; Lawrence Berkeley National Laboratory, Berkeley, CA.

Fus. Eng. Design, 1-4, 251-255. . .*Remote Computing Using the National Fusion Grid*. . . . Burruss, J.R. et al. . . . June 2004. . . General Atomics, San Diego, CA; Argonne National Lab, Argonne, IL;

Princeton University, Princeton, NJ; Lawrence Livermore National Laboratory, Livermore, CA.

Fus. Eng. Design, 1-4, 257-261. . .*Remote Experiment Participation on Tore-Supra.* . . . Theis, J.-M. et al.. . . June 2004. . . Association EURATOM-CEA, St. Paul lez Durance, France; INRS-Energie, Varennes, Que., Canada.

Fus. Eng. Design, 1-4, 263-267. . .*A General Purpose Data Analysis Monitoring System with Case Studies from the National Fusion Grid and the DIII-D MDSplus Between Pulse Analysis System.* . . . Flanagan, S.M. et al. . . . June 2004. . . General Atomics, San Diego, CA; Princeton University, Princeton, NJ.

Fus. Eng. Design, 1-4, 269-274. . *Simulation Platform for Remote Participants in Fusion Experiments.* . . . Barrera, E. et al. . . . June 2004. . . Universidad Politecnica de Madrid, Madrid, Spain; Associacion EURATOM/CIEMAT, Madrid, Spain.

Nucl. Instrum. Meth. Phys. Res., 1-2, 4-8. . .*Nuclear Oncology, A Fast Growing Field of Nuclear Medicine.* . . . Olivier, P. . . . July 2004. . . CHU Nancy, Vandoeuvre, France.

Nucl. Instrum. Meth. Phys. Res., 1-2, 9-14. . .*Scintillation: Mechanisms and New Crystals.* . . . Weber, M.J. . . . July 2004. . . Lawrence Berkeley National Laboratory, Berkeley, CA.

Nucl. Instrum. Meth. Phys. Res., 1-2, 15-20. . .*Photosensors.* . . . Renker, D.. . . July 2004. . . Paul Scherrer Institute, Villigen, Switzerland.

Nucl. Instrum. Meth. Phys. Res., 1-2, 21-26. . .*Electronics and Data Acquisition in Radiation Detectors for Medical Imaging.* . . . Varela, J.. . . July 2004. . . LIP, Lisbon, Portugal.

Nucl. Instrum. Meth. Phys. Res., 1-2, 27-34. . .*Study of DOI Resolution and Imaging Resolution of a PET Device.* . . . Saha, L. et al. . . . July 2004. . . Saga University, Saga, Japan.

Nucl. Instrum. Meth. Phys. Res., 1-2, 35-40. . .*Methods to Extract More Light from Minute Scintillation Crystals Used in an Ultra-High Resolution Positron Emission Tomography Detector.* . . . Levin, C.S. et al. . . . July 2004. . . Stanford University School of Medicine, Stanford, CA.

Nucl. Instrum. Meth. Phys. Res., 1-2, 41-45. . .*Recent Technologic Developments on High-Resolution Beta Imaging Systems for Quantitative Autoradiography and Double Labeling Applications.* . . . Barthe, N. et al. . . . July 2004. . . Universite Victor Segalen, Bordeaux, France; Biospace Measures, Paris, France.

Nucl. Instrum. Meth. Phys. Res., 1-2, 46-49. . .*First Results on Real-Time Quality Control and Dosimetry of Beta Emitting Sources Used in Medical Applications Using Silicon Strip Detectors.* . . . Cappellini, C. et al. . . . July 2004. . . Universita dell'Insubria, Como, Italy; Ospedale di Circolo, Varese, Italy; Universita Degli Studi di Milano, Italy; University of Mining and Metallurgy, Krakow, Poland; Istituto Nazionale di Fisica Nucleare, Sezione di Trieste, Italy.

Nucl. Instrum. Meth. Phys. Res., 1-2, 50-53. . .*First Results on Prototype Production of New LuYAP Crystals.* . . . Annekov, A. et al. . . . July 2004. . . Bogoroditsk Techno-Chemical Plant, Tula, Russia; Institute of Nuclear Problems, Bellaruss, Belarus; CERN, Geneva, Switzerland.

Nucl. Instrum. Meth. Phys. Res., 1-2, 54-57. . .*Imaging Detector Designs Based on Flat Panel PMT.* . . . Pani, R. et al. . . . July 2004. . . University of Rome La Sapiena, Roma, Italy; Laboratory of Physi s, Rome, Italy.

Nucl. Instrum. Meth. Phys. Res., 1-2, 58-61. . .*Development of a High Efficiency and High Resolution Compton Probe for Prostate Imaging.* . . . Bernabeu, J. et al.. . . July 2004. . . IFIC, Valencia, Spain; Univ. of Michigan, Ann Arbor, MI.; Jozef Stefan Institut, Ljubljana, Slovenia; CERN, Geneva, Switzerland.

Nucl. Instrum. Meth. Phys. Res., 1-2, 62-67. . .*The Use of the Micromegas Technology for a New Imaging System.* . . . Fanourakis, G.K. et al. . . July 2004. . . Institute of Nuclear Physics, Aghia Paraskevi, Greece; CEA Saclay, Gif-sur-Yvette, France; Institute of Accelerating Systems and Applications, Athens, Greece, National Capodistrian University of Athens, Greece; National Technical University of Athens, Greece.

Nucl. Instrum. Meth. Phys. Res., 1-2, 68-72. . .*Double-Sided Silicon Strip Detectors: New Applications Within Genomics and Proteomics.* . . . Cekaite, L. et al. . . . July 2004. . . Norwegian Radium Hospital, Oslo, Norway; Biomolex, Oslo, Norway.

Nucl. Instrum. Meth. Phys. Res., 1-2, 73-75. . .*Growth of CdTe Nanocrystals by Vapor Deposition Method.* . . . Kolesnikov, N.N. et al. . . . July 2004. . . Russian Academy of Sciences, Moscow, Russia; Brookhaven National Laboratory, Upton, NY.

Nucl. Instrum. Meth. Phys. Res., 1-2, 76-82. . .*Instrumentation Optimization for Positron Emission Mammography.* . . . Moses, W.W. et al. . . . July 2004. . . Lawrence Berkeley National Laboratory, Berkeley, CA.

Nucl. Instrum. Meth. Phys. Res., 1-2, 83-86. . .*Diagnostic of Breast Cancer: What Do Clinicians Expect from PEM?* . . . Giammarile, F. et al. . . . July 2004. . . Centre Regional de Lutte Contre le Cancer Leon Berard, Lyon, France.

Nucl. Instrum. Meth. Phys. Res., 1-2, 87-91. . .*Breast Imaging with a Dedicated PEM.* . . . Ribeiro, R. et al. . . . July 2004. . . Laboratorio de Instrumentacao e Fisica Experimental de Particulas, Lisboa, Portugal; Instituo de Biofisica e Enenharia Biomedica, Lisboa, Portugal; Instituto Biomedico de Investigacao de Luz e Imagem, Coimbra, Portugal; Faculdade de Engenharia da Universidade do Porto, Porto, Portugal; Hospital Garcia da Orta, Almada, Portugal; CERN, Geneva, Switzerland.

Nucl. Instrum. Meth. Phys. Res., 1-2, 92-96. . .*A Flat-Panel-Based Mini Gamma Camera for Lymph Nodes Studies.* . . . Fernandez, M.M. et al.. . . July 2004. . . CSIC-UV, Valencia, Spain; Univ. Politecnica de Valencia, Valencia, Spain.

Nucl. Instrum. Meth. Phys. Res., 1-2, 97-101. . .*High-Resolution and High-Sensitivity SPECT Imaging of Breast Phantoms.* . . . Loudos, G.K. et al.. . . July 2004. . . Institute of Accelerating Systems and Applications, Athens, Greece; National Capodistrian University of Athens, Greece; National Technical University of Athens, Greece; National Center for Scientific Research "Demokritos", Athens, Greece; Athens Medical Center Institute of Isotopic Studies, Athens, Greece; University Mental Health Research Institute, Athens, Greece; Jefferson Lab., Newport News, VA; University "La Sapienza", Rome Italy.

Nucl. Instrum. Meth. Phys. Res., 1-2, 102-109. . .*Development of an Optimal X-Ray Beam for Dual-Mode Emission and Transmission Mammotomography.* . . . McKinley, R.L. et al. . . . July 2004. . . Duke University Medical Center, Durham, NC.

Nucl. Instrum. Meth. Phys. Res., 1-2, 110-112. . .*Practical Considerations in Selecting and Using Intraoperative Gamma Probes.* . . . Kotzassarlidou, M. et al.. . . July 2004. . . Theagenion Cancer Hospital, Greece.

Nucl. Instrum. Meth. Phys. Res., 1-2, 113-116. . .*Relevance of a Multi-Hole Collimator for Peroperative Gamma Detection.* . . . De Freitas, D. et al. . . . July 2004. . . Jean Perrin Cancer Center, Clermont-Ferrand, France; Clerad, Clermont-Ferrand, France.

Nucl. Instrum. Meth. Phys. Res., 1-2, 117-123. . .*The ANIMAGE Project: A Multimodal Imaging Platform for Small Animal Research.*. . . Sappey-Marinier, D.. et al. . . . July 2004. . . Universite Claude Bernanrd-Lyon I, France; ANIMAGE, Lyon, France UMR CNRS, Lyon, France.

Nucl. Instrum. Meth. Phys. Res., 1-2, 124-129. . .*Imaging of Gamma Emitters Using Scintillation Cameras.* . . . Ricard, M.. . . July 2004. . Institut Gustave Roussy, Villejuif, France.

Nucl. Instrum. Meth. Phys. Res., 1-2, 130-133. . .*"The Unveiled Heart" A Teaching Program in Cardiovascular Nuclear Medicine.* . . . Itti, R. et al. . . . July 2004. . . Cardiovascular Hospital, Lyon, France; Henri Mondor University Hospital, Creteil, France.

Nucl. Instrum. Meth. Phys. Res., 1-2, 134-139. . .*Crystal and Collimator Optimization Studies of a High-Resolution Gamma-Camera Based on a Position Sensitive Photomultiplier.* . . . Giokaris, N. et al.. . . July 2004. . . Institute of Accelerating Systems and Applications, Athens, Greece; National Capodistrian University of Athens, Greece; Institute for Scintillation Materials, Kharkov, Ukraine; Scintitech, Wayland, MA.

Nucl. Instrum. Meth. Phys. Res., 1-2, 140-144. . .*Molecular Imaging By Single-Photon Emission*.. . . Cusanno, F. et al. . . . July 2004. . . Istituto Superiore di Sanita, Rome, Italy; Philadelphia Children's Hospital, Philadelphia, PA; Universita la Sapienza, Rome, Italy; MIT, Cambridge, MA.

Nucl. Instrum. Meth. Phys. Res., 1-2, 145-150. . .*A Modification of the Dual Energy Window Subtraction Method for Scatter Compensation in Pixelized Scintillators for SPECT*.. . Loudos, G. et al. . . . July 2004. . . Inst. of Accelerating Systems and Applications, Athens, Greece; National Capodistrian University of Athens, Greece; National Technical University of Athens, Greece; Athens Medical Center Institute of Isotopic Studies, Athens, Greece.

Nucl. Instrum. Meth. Phys. Res., 1-2, 151-156. . .*Design and Development of a Position-Sensitive Gamma-Camera for SPECT Imaging Based on PCI Electronics.* . . . Spanoudaki, V. et al. . . . July 2004. . . National and Kapodistrian University of Athens, Greece; Inst. of Accelerating Systems and Applications, Athens, Greece; Inst. of Isotropic Studies, Athens, Greece.

Nucl. Instrum. Meth. Phys. Res., 1-2, 157-165. . .*Technology Challenges in Small Animal PET Imaging*.. . . Lecomte, R. . . . July 2004. . . Universite de Sherbrooke, Canada; Metabolic and Functional Imaging Centre, Sherbrooke, Canada.

Nucl. Instrum. Meth. Phys. Res., 1-2, 166-170. . .*RatCAP: A Small, Head-Mounted PET Tomograph for Imaging the Brain of an Awake RAT*. . . . Woody, C. et al.. . . July 2004. . . Brookhaven National Laboratory, Upton, NY; University of New York, Stony Brook, NY; University of Sherbrooke, Sherbrooke, Canada.

Nucl. Instrum. Meth. Phys. Res., 1-2, 171-174. . .*The ClearPET Project.* . . . Auffray, E. et al. . . . July 2004. . . CERN, Geneva, Switzerland; Vrije Universiteit Brussel, Belgium; Inst. for Nuclear

Problems, Minsk, Belarus; Forschungszentrum Julich, Germany; Universite Claude Bernard, Lyon, France; Universite de Lausanne, Switzerland; Institute of Physical Research, Ashtarak, Armenia.

Nucl. Instrum. Meth. Phys. Res., 1-2, 175-179. . .*Two-Head Small Animal PET Prototype with LSO/LuAP Coupled to a Multi-Anode PMT*. . . . Barbier, R. et al. . . . July 2004. . . Universite Lyon I, Villeurbanne, France; Universite Lyon I, Villeurbanne, France; Hopital Cardio-Neurologique, Lyon, France.

Nucl. Instrum. Meth. Phys. Res., 1-2, 180-189. . .*Monte Carlo Simulation in PET and SPECT Instrumentation Using GATE*. . . . Assie, K. et al.. . . July 2004. . . U494 INSERM, Paris, France; Universite de Clermont-Ferrand, France; Service Hospitalier Frederic Joliot, Orsay, France; Inter-University Institute for High Energies, Brussels, Belgium; University of Lausanne, Switzerland; Ghent University, Ghent, Belgium.

Nucl. Instrum. Meth. Phys. Res., 1-2, 190-194. . .*Simulation of Time Curves in Small Animal PET Using GATE*. . . . Simon, L. et al.. . . July 2004. . . University of Lausanne, Switzerland; Universiteit Brussel, Belgium.

Nucl. Instrum. Meth. Phys. Res., 1-2, 195-200. . .*Feasibility and Value of Fully 3D Monte Carlo Reconstruction in Single-Photon Emission Computed Tomography*.. . . Lazaro, D. et al. . . . July 2004. . . Universite de Clermont-Ferrand, Aubiere, France; U494 INSERM, Paris, France.

Nucl. Instrum. Meth. Phys. Res., 1-2, 201-205. . .*A Full Monte Carlo Simulation of the YAP-PEM Prototype for Breast Tumor Detection*. . . . Motta, A. et al.. . . July 2004. . . University of Pisa and INFN of Pisa, Italy; University of Ferrara and INFN of Ferrara, Italy; University of Bologna and INFN of Bologna, Italy.

Nucl. Instrum. Meth. Phys. Res., 1-2, 206-210. . .*Assessment of a Simulation Software for Scintillation Detector*. . . . Crespin, S. et al. . . . July 2004. . . Astroparticles Groups of Montpellier, France; Clerad, Clermont-Ferrand, France; Jean Perrin Center CAC, Clermont-Ferrand, France.

Nucl. Instrum. Meth. Phys. Res., 1-2, 211-215. . .*Tomographic Image Reconstruction Using Artifical Neutral Networks*. . . . Paschalis, P. et al. . . . July 2004. . . National and Kapodistrian University of Athens, Greece; Inst. Accelerating Systems and Applications, Athens, Greece; Medical Center of Athens, Greece.

Nucl. Instrum. Meth. Phys. Res., 1-2, 216-219. . .*Radioguided Occult Lesion Localization: Better Delineation of the Injection Site with a High-Resolution Collimator*. . . . Geissler, B. et al.. . . July 2004. . . Jean Perrin Cancer Center, Clermont-Ferrand, France.

Nucl. Instrum. Meth. Phys. Res., 1-2, 220-223. . .*Potential Clinical Impact of Radionuclide Imaging Technologies: Highlights of the ITBS 2003 Meeting*. . . . Itti. R. . . . July 2004. . . Cardiovascular Hospital, Lyon, France.

Nucl. Phys. A, 3-4, 229-237. . .*Linear Momentum Transfer in Incomplete Fusion Reactions of 12C and 13C with 181Ta*. . . . Babu, K.S. et al. . . July 2004. . . Vikram University, Ujjain, India; Bhabha Atomic Research Centre, Mumbai, India.

Nucl. Phys. A, 3-4, 238-258. . .*A Microscopic Analysis of the Amount of Alpha-Condensation in 12C*. . . . Matsumura, H. et al. . . . July 2004. . . Niigata University, Niigata, Japan.

Nucl. Phys. A, 3-4, 259-273. . .*Unbound Exotic Nuclei Studied by Transfer to the Continuum Reactions*. . . . Blanchon, G. et al.. . . July 2004. . . Istituto Nazionale di Fisica Nucleare, Pisa, Italy; Institut de Physique Nucleaire, Orsay, France.

Nucl. Phys. A, 3-4, 277-290. . .*Relativistic Green's Function Approach to Charged-Current Neutrino-Nucleus Quasielastic Scattering*. . . . Meucci, A. et al. . . . July 2004. . . Universita degli Studi di Pavia and Istituto Nazionale di Fisica Nucleare, Pavia, Italy.

Nucl. Phys. A, 3-4, 291-315. . .*The Iancu-Mueller Factorization and High Energy Asymptotic Behaviour*. . . . Kozlov, M. et al. . . . July 2004. . . Tel Aviv University, Israel.

Nucl. Phys. A, 3-4, 331-352. . .*Microscopic HFB + QRPA Predictions of Dipole Strength for Astrophysics Applications*. . . . Goriely, S. et al. . . . July 2004. . . Institut d'Astronomie et d'Astrophysique, Brussels, Belgium; Institut de Physique Nucleaire, Orsay, France.

Nucl. Phys. A, 3-4, 353-354. . .*Erratum to: "Searching for the 5H Resonance in the t+n+n System" [Nucl. Phys. A 723 (2003) 13]*.. . . Meister, M. et al. . . . July 2004. . . Chalmers Tekniska Hogskola & Goteborgs Universitet, Sweden; Gesellschaft f. Schwerionenforschung, Darmstadt, Germany; Kurchatov Institute, Moscow, Russia; Institut f. Kernhysik, Johaan-Wolfgang-Goeth-Universitat, Frankfurt, Germany.

Nucl. Sci. Eng., 147, 93-126. . *Super-Nodal Methods for Space-Time Kinetics*.. . . Mertyurek, U. et al. . . . June 2004. . . North Carolina State University, Raleigh, NC.

Nucl. Sci. Eng., 147, 127-147. . *Convergence Analysis of the Nonlinear Coarse-Mesh Finite Difference Method for One-Dimensional Fixed-Source Neutron Diffusion Problem*.. . . Lee, K. et al. . . . June 2004. . . Purdue

University, West Lafayette, IN; Korea Atomic Energy Research Institute, Daejeon, Korea.

Nucl. Sci. Eng., 147, 148-157. . .*Optimized Algorithm for Collision Probability Calculations in Cubic Geometry*.. . . Garcia, R.D.M. . . . June 2004. . HSH Scientific Computing, Sao Jose dos Campos, Brazil; Instituto de Estudos Avancados, Sao Jose dos Campos, Brazil.

Nucl. Sci. Eng., 147, 158-166. . .*Singular Solutions, Integral Transport Theory, and the Sn Method*.. . . Morel, J.E. et al. . . . June 2004. . . Los Alamos National Laboratory, Los Alamos, NM.

Nucl. Sci. Eng., 147, 167-175. . .*Neutron Flux Distribution in a Cavity with a Point Source*. . . Ghosh, B. et al.. . . June 2004. . . Bhabha Atomic Research Centre, Mumbai, India.

Nucl. Sci. Eng., 147, 176-184. . .*Acceleration of Response Matrix Method Using Cross-Section Scaling*. . . . Yamamoto, A. . . . June 2004. . . Nuclear Fuel Industries, Osaka, Japan.

Nucl. Sci. Eng., 147, 185-188. . .*Evaluation of the Efficiency of Gamma Spectrometers for Measuring Volumetric Samples*. . . . Mohamed, N.M.A. et al.. . . June 2004. . . Atomic Energy Authority, Cairo, Egypt; Alexandria University, Alexandria, Egypt.

Nucl. Technol., 146, 211-220. . .*Effect of Replacing Helium with a Liquid Metal in the Fuel-Cladding Gap on Fission Gas Release*.. . . Wongsawaeng, D. et al.. . . June 2004. . . University of California, Berkeley, CA.

Nucl. Technol., 146, 221-229. . .*A Simplified Approach for Evaluation of the Burnup Potential of Alternative Fuels*. . . . Oggianu, S.M. et al. . . . June 2004. . . MIT, Cambridge, MA; Korea Advanced Institute of Science & Technology, Taejon, Korea.

Nucl. Technol., 146, 230-243. . .*WISE: A New Fuel Cycle Concept Based on a Mobile Fuel Reactor*.. . . Slessarev, I. et al. . . . June 2004. . . Commissariat a l'Energy Atomique, France; Argonne National Laboratory, Argonne, IL.

Nucl. Technol., 146, 244-256. . *Investigating the Nonlinear Dynamics of Natural-Circulation, Boiling Two-Phase Flows*. . . . Zboray, R. et al. . . . June 2004. . . Delft University of Technology, The Netherlands; University of Illinois, Urbana, IL.

Nucl. Technol., 146, 257-266. . .*IIST Passive Core Cooling on Pressurizer Top Break*. . . . Liu, T-J. et al.. . . June 2004. . . Institute of Nuclear Energy Research, Lungtan, Taiwan.

Nucl. Technol., 146, 279-289. . *Experimental Validation of CFD Analyses for Estimating the Transport Fraction of Local-Generated Insulation Debris to ECCS Sump Screens*. . . . Maji, A. et al. . . . June 2004. . . University of New Mexico, Albuquerque, NM; Los Alamos National Laboratory, Los Alamos, NM; Alion Science, Albuquerque, NM.

Nucl. Technol., 146, 290-302. . .*A Fuzzy Modeling Approach to Road Transport with Application to a Case of Spent Nuclear Fuel Transport*. . . . Marseguerra, M. et al.. . . June 2004. . Polytechnic of Milan, Italy.

Nucl. Technol., 146, 303-324. . .*Radiation Shielding Analysis for Direct Use of Spent Pressurized Water Reactor Fuel in CANDU Reactors (DUPIC)*.. . . Roh, G. et al. . . . June 2004. . . KAERI, Taejon, Korea.

Nucl. Technol., 146, 325-331. . .*The Use of Molybdenum-Based Ceramic-Metal (CerMet) Fuel for the Actinide Management in LWRs*.. . . Bakker, K. et al. . . . June 2004. . . Nuclear Research and Consultancy Group, Petten, The Netherlands; Urenco Nederland, Almelo, The Netherlands.