

NUCLEAR APPLICATIONS & TECHNOLOGY



CONTENTS

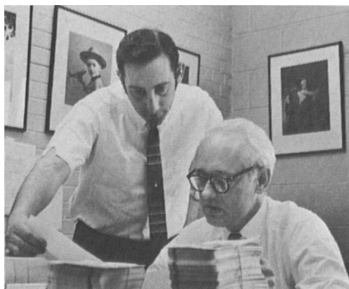
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REACTORS

NEUTRON-ENERGY SPECTRA FOR FAST REACTOR IRRADIATION EFFECTS 454

D. Okrent, W. B. Loewenstein, A. D. Rossin, A. B. Smith, B. A. Zolotar, J. M. Kallfelz



D. Okrent (upper right seated) (PhD, physics, Harvard) has worked on reactor physics and safety for most of his 20 years at Argonne National Laboratory. His assignments have included chief physicist of ZPR-3 and EBR-II, and manager of Fast Reactor Safety. W. B. Loewenstein (upper right standing) (PhD, Ohio State University, 1954) is associate director for Analysis in the EBR-II Project at ANL. He has held appointments at Argonne in the Reactor Physics and Reactor Engineering Divisions, and the LMFBR Program Office, dealing principally with physics and safety for LMFBR's, fast-spectrum nuclear rockets, and fast critical assemblies. A. D. Rossin (lower left) (engineering physics, Cornell; nuclear engineering, Massachusetts Institute of Technology; PhD, metallurgy, Case Institute of Technology) developed systems of neutron dosimetry for application to radiation damage problems while at Argonne. A. B. Smith (lower right) (PhD, Indiana University) is a senior physicist at ANL. His primary interest is in experimental fast neutron physics, particularly the provision of microscopic data for reactor design. He is a member of the USAEC Nuclear Cross Sections Advisory Committee and the European-American Nuclear Data Committee. B. A. Zolotar (upper left standing) (PhD; nuclear science and engineering, Cornell University, 1967) is a member of the ANL Applied Physics Division. His work has been concerned with the analysis of critical experiments and the development of computer methods. J. M. Kallfelz (upper left seated) (PhD, nuclear engineering, Technical University of Karlsruhe, 1966) has worked on the staff of the Reactor Physics Division of ANL and is presently on the faculty of the School of Nuclear Engineering at the Georgia Institute of Technology. His current interests are in the fields of neutron spectra and fast cross-section evaluations.

IN-PLACE TESTING OF THE HANFORD REACTOR CHARCOAL CONFINEMENT FILTER SYSTEMS USING IODINE TAGGED WITH IODINE-131 508

J. E. Mecca, J. D. Ludwick



J. D. Ludwick (left) (PhD, Purdue University, 1958) is a radiochemist at Battelle-Northwest with 12 years' experience in atmospheric diffusion, tracer technology, health physics, and reactors. Ludwick was previously employed with the General Electric Company for 7 years. J. E. Mecca (BSME, Milwaukee School of Engineering, Health Physics Fellow, University of Washington, 1960) is a senior engineer

in the Douglas United Nuclear, Inc., Nuclear Safety Subsection. Currently he has been concerned with reactor containment and confinement system design, criteria, and testing. He is the principle investigator on a noble gas containment project utilizing a long-lived, high expansion foam concept.

FUEL CYCLES



PLUTONIUM RECYCLE STUDIES FOR THE SENA PWR REACTOR

516

J. Debrue, P. Deramaix, F. de Waegh

J. Debrue (left) (electrical engineering, University of Louvain, 1955), head of the Reactor Physics Group at the Belgian Study Center for Nuclear Energy (CEN/SCK-Mol), is involved in the experimental studies performed in the VENUS critical facility. P. Deramaix (upper right) (electrical engineering, Faculte Polytechnique de Mons, 1960) has worked as a nuclear engineer at Belgonucleaire since 1962. As a member of the Applied Physics Department, he has been involved in plutonium recycle studies in thermal reactors since 1964. F. de Waegh (lower right) (electrical engineering, University of Louvain, 1957; MS, physics, University of Maryland, 1958) has been at Belgonucleaire for over 10 years. At first in charge of core physics studies, his activities also include fuel assemblies design work. He now heads the Applied Physics Department.

FUELS

BURST STRENGTH OF EBR-II IRRADIATED FUEL PIN SECTIONS

528

R. L. Fish, J. J. Holmes, R. D. Leggett



J. J. Holmes (left) (MS, University of Washington, 1959) is manager of the FFTF Cladding Evaluation Section and has been involved in radiation damage studies since 1959. R. L. Fish (center) (Master of Material Science, Oregon State University, 1969) has been with Battelle-Northwest as a research engineer for the last two years. His areas of responsibility have included design of materials swelling experiments, hybrid computer fuel pin performance simulation, and biaxial testing of fuel pin cladding. R. D. Leggett (right) (PhD, Carnegie Institute of Technology, 1959) is a research associate in the Fuel Evaluation Section. He has been intimately involved with nuclear fuels research and development for a number of years and is presently providing technical guidance for fuel performance, prediction, and analysis studies.

URANIUM-PLUTONIUM MIXED OXIDE SOL-GEL IRRADIATION EXPERIMENTS

536

C. Lepscky, P. L. Rotoloni, G. Testa, G. Trezza



Gabriel M. Testa (far left) is responsible for reactor fuel element design and is presently assistant manager of the CNEN Plutonium Program. Pierluigi Rotoloni (left) is involved in irradiation experiments in the irradiation and evaluation group of the Ceramics Technology Laboratory. Carlo Lepscky (right) is responsible for fuel element postirradiation evaluation in the Hot Cells Laboratory at Casaccia Nuclear Research Center. Giuseppe Trezza (far right) is a metallurgist doing work in ceramic material microstructure analysis at Casaccia Hot Cells Laboratory.

MATERIALS

EFFECT OF IRRADIATION ON THE ELEVATED TEMPERATURE FRACTURE OF SELECTED FACE-CENTERED CUBIC ALLOYS 550

M. Kangilaski, S. L. Peterson, J. S. Perrin, R. A. Wullaert



Richard A. Wullaert (far left) (PhD, Stanford, 1969) is a division chief at Battelle-Columbus. Since joining Battelle in 1961, he has been responsible for directing programs concerned with the effects of radiation on reactor fuel, cladding, and structural materials. Mike Kangilaski (left) (MS, Ohio State, 1970) is a senior research metallurgist at Battelle-Columbus. Since joining Battelle in 1960 he has been involved with various research in nuclear materials. James S. Perrin (right) (PhD, Stanford, 1969) is an associate fellow at Battelle-Columbus. He has been active in studying the mechanical properties of reactor cladding and component materials and is performing in-pile creep experiments on oxide fuels. Steve Peterson (far right) (BS, San Jose State, 1967) has been with Battelle-Columbus for three years conducting research in the area of radiation effects on the mechanical properties of nuclear materials.



INCOLOY 800: ENHANCED RESISTANCE TO RADIATION DAMAGE 561

D. G. Harman

Doug Harman (MS, Michigan Technological University, 1963) has been at Oak Ridge National Laboratory since 1963, and has studied the deformation and fracture behavior of potential nuclear reactor materials including the effects of irradiation damage. He has conducted thermal fatigue tests and has a special interest in the metallographic and fractographic examination of materials.

RADIOISOTOPES

REENTRY PROTECTION FOR RADIOISOTOPE HEAT SOURCES 572

Thomas S. Bustard, Frank T. Princiotta, Harold N. Barr



Since 1965, Thomas Bustard (center) has been on the staff of Hittman Associates, Inc. He is presently vice president and manager of the Isotope and Radiation Applications Department. His experience encompasses 11 years of technical involvement in the SNAP programs for both space and terrestrial applications ranging from SNAP-1 to SNAP-23A. Frank Princiotta (right) joined Hittman Associates in 1966 and has been the project engineer responsible for technical direction of several important radioisotope programs involving aerospace and medical applications. Before joining Hittman Associates, he was the project engineer for the U.S. Atomic Energy Commission on heat source, generator, and power conversion development programs. Harold Barr (left) has been with Hittman Associates since 1965 and is presently head of the Materials Research and Development Section. He has been involved in the development of advanced materials for reactors and radioisotope heat source systems. His experience encompasses 20 years of material and process development in the areas of ceramics and powder metallurgy.

ANALYSIS

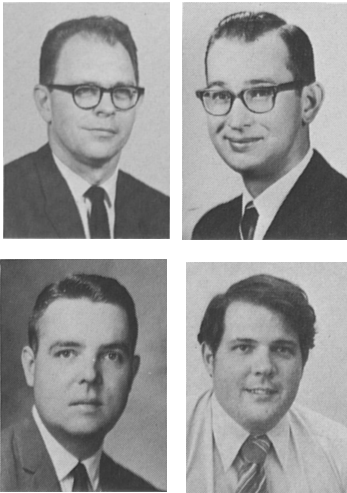
AN ANALOG COMPUTER CONTROLLED GAMMA-RAY SPECTROMETER FOR COMPARATIVE ACTIVATION ANALYSIS 584

P. C. Jurs, T. L. Isenhour

P. C. Jurs (PhD, University of Washington, 1969) and Thomas L. Isenhour (PhD, Cornell, 1965) were associated while Jurs was doing graduate work at the University of Washington. Jurs is now assistant professor of chemistry at Penn State and Isenhour is associated professor of chemistry at the University of North Carolina. (No author pictures available.)

ANALYSIS OF GAMMA-RAY SPECTROSCOPY DATA 591

J. A. Baran, R. S. Reynolds, R. E. Faw, W. R. Kimel



J. A. Baran (upper right) (PhD, nuclear engineering, Kansas State University, 1968) is a staff member in J Division of the University of California's Los Alamos Scientific Laboratory. He is currently engaged in studies of the properties of scatterers and detectors in the soft x-ray region. R. S. Reynolds (lower right) (MS, nuclear engineering, Kansas State University, 1969) is a candidate for the PhD degree in nuclear engineering, and supervises experimental work at the Kansas State University Nuclear Engineering Shielding Facility. R. E. Faw, (lower left) professor of nuclear engineering at Kansas State University, is director of the Shielding Facility. W. R. Kimel (upper left) is dean of engineering and director of the Engineering Experiment Station at the University of Missouri at Columbia. While involved with this work, he was professor and head of the Department of Nuclear Engineering at Kansas State University.

CALCULATION OF THE LONG-LIVED INDUCED ACTIVITY IN SOIL PRODUCED BY 200-MeV PROTONS 605

T. A. Gabriel



T. A. Gabriel (PhD, University of Tennessee, 1969) has been associated with the Neutron Physics Division of Oak Ridge National Laboratory since 1968. Since then, his work has been in the area of theoretical high-energy accelerator and space shielding. His time is devoted to developing particle-nucleus collision theories and to carrying out basic shielding calculations with available techniques.

DEPARTMENTS

CONTENTS - - - - - 446
LETTERS - - - - - 450
PAPERS - - - - - 454