



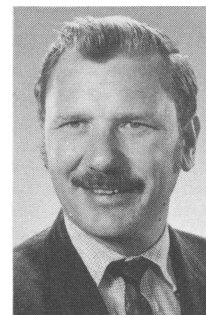
AUTHORS — JUNE 1972

REACTORS

THE USE OF SIGNAL COHERENCE FOR ANOMALY DETECTION IN NUCLEAR REACTORS

Robert W. Albrecht

Robert W. Albrecht (PhD, nuclear engineering, University of Michigan) joined the faculty of the University of Washington in 1961 and has since been engaged in teaching and research in the area of reactor dynamics with emphasis on reactor noise. During 1967-68 he was on sabbatical leave at the Kernforschungszentrum Karlsruhe working with the noise analysis group there. He has spent several summers at the Hanford Laboratories and has provided consulting services to General Electric, Battelle-Northwest, and WADCO. His current interests remain in the area of reactor dynamics along with more general concerns with the energy question.



STEAM GENERATOR VESSEL PRESSURES RESULTING FROM A SODIUM-WATER REACTION—A COMPUTER ANALYSIS WITH THE SWEAR CODE

David A. Greene

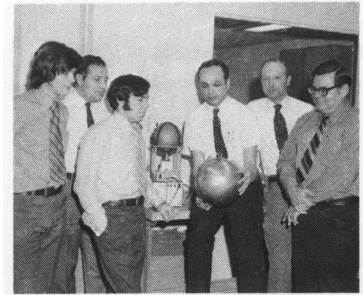
David Greene (Graduate Examination, Institute of Physics, United Kingdom, 1960) is a senior development engineer in the Breeder Reactor Department of General Electric Company. His work is concerned mainly with steam generator design, sodium technology, and instrumentation. He was formerly with the UKAEA in the Reactor Engineering Laboratories at Risley, England, working on heat transfer and fluid flow aspects of the PFR.



NEW PERSPECTIVES ON LOW LEVEL ENVIRONMENTAL RADIATION MONITORING AROUND NUCLEAR FACILITIES

The authors (from left to right), Carl V. Gogolak, Peter D. Raft, Joseph A. DeCampo, Harold L. Beck, Wayne M. Lowder, and James E. McLaughlin, are all with the Radiation Physics Division of the AEC Health and Safety Laboratory. McLaughlin (BS, physics, Boston College, 1951) is director and his primary studies have been in dosimetry, shielding, and radiation protection problems concerning occupational and environmental radiation. Beck (BS, physics and mathematics, University of Miami, 1960) is a physicist specializing in studies of environmental radiation and radiation transport. Lowder (AB, Harvard, 1954; International School of Nuclear Science and Engineering, 1955) is a physicist specializing in the physical and dosimetric properties of environmental gamma- and cosmic-radiation fields. Raft (MS, New York University, 1962) is a physicist with responsibilities concerning environmental radiation. Gogolak (MA, mathematics, Fordham University, 1971) is a physicist with work primarily consisting of investigations of environmental radiation. DeCampo (BS, physics, Fordham University, 1970) is a physicist.

*H. L. Beck
J. A. DeCampo
C. V. Gogolak
W. M. Lowder
J. E. McLaughlin
P. D. Raft*

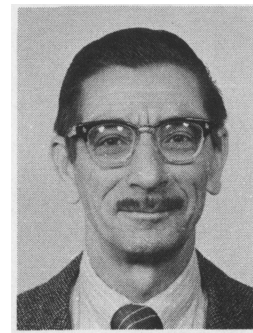


FUELS

THE EFFECTS OF TRANSVERSE FLOW THROUGH GRAPHITE ON FISSION PRODUCT MOVEMENT IN HTGR-TYPE SYSTEMS

M. N. Özişik (not pictured) (BS, PhD, University of London, England) is professor of mechanical engineering at North Carolina State University. He is the co-author of a text on heat exchanger design, the author of the book *Boundary Value Problems of Heat Conduction*, and has published over 50 articles in the fields of heat transfer and nuclear engineering. M. D. Silverman (BS, chemical engineering, Yale University; PhD, chemistry, University of Tennessee, 1950) has been responsible at Oak Ridge National Laboratory for both fundamental and applied research in the fields of aqueous solution chemistry, fission product studies, ion exchange, and nuclear safety.

*M. N. Özişik
M. D. Silverman*



AN ANALYTICAL METHOD FOR CALCULATING STEADY-STATE FISSION GAS RELEASE

V. F. Baston (top) (PhD, physical chemistry, University of Wyoming, 1965), J. H. McFadden (center) (PhD, nuclear engineering, Iowa State University, 1968), and W. A. Yuill (bottom) (PhD, physical chemistry, University of Iowa, 1965) are all members of the Nuclear Safety Program Division of Aerojet Nuclear Company. They are working in the NSPD Analysis Section and have been specifically concerned with fission product release and reactor safety analysis.

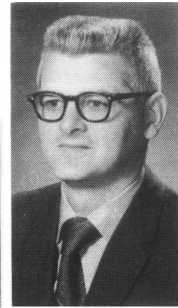
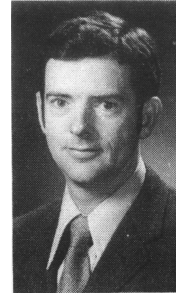
*V. F. Baston
J. H. McFadden
W. A. Yuill*



MICROSTRUCTURE OF SOL-GEL-DERIVED (U, Pu)O₂ MICROSPHERES AND PELLETS

*W. J. Lackey
R. A. Bradley*

Jack Lackey (top) (PhD, ceramic engineering, North Carolina State University) has been at Oak Ridge National Laboratory in the Metals and Ceramics Division since 1969. He is involved in fabrication, characterization, and postirradiation evaluation and modeling of (U, Pu)O₂ fast reactor fuels. More recently he has been engaged in developing processes and equipment for coating HTGR fuel particles. Ronnie Bradley (MS, ceramic engineering, North Carolina State University) is a development engineer in the Metals and Ceramics Division at ORNL. He is engaged in the development of fabrication techniques for LMFBR, GCBR, and HTGR fuels.



RADIOISOTOPES

ELECTRONIC ASSAY OF CALIFORNIUM-252 NEUTRON SOURCES

T. R. Herold

T. R. Herold (BS, University of Kentucky, 1950) is a research physicist at the Savannah River Laboratory with 20 years experience in the development and application of nuclear instrumentation, and has produced several unique instruments and measurement techniques for curium and californium processing.

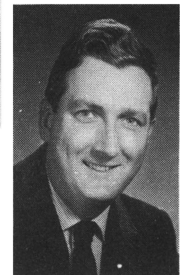
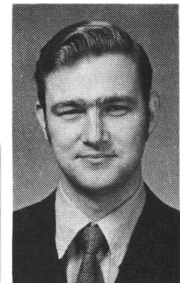
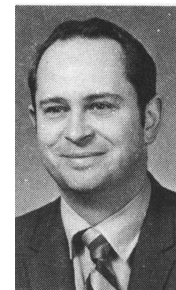


INSTRUMENTS

THERMAL-NEUTRON RADIOGRAPHY WITH A SEALED-TUBE NEUTRON GENERATOR AND WATER MODERATOR

*Dennis G. Vasilik
Richard L. Murri
George P. Fisher*

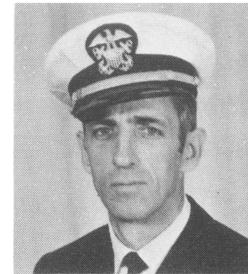
Dennis G. Vasilik (top) (BA, physics, University of Colorado, 1966; MS, physics, Colorado School of Mines, 1971) is a senior physicist in the Product and Health Physics Research Group at the Rocky Flats Division of Dow Chemical USA. He is presently involved with nuclear applications to nondestructive testing. Richard L. Murri (center) (MS, physics, Idaho State University, 1966) is a senior physicist in the Product and Health Physics Research Group at the Rocky Flats Division of Dow Chemical USA. He is presently involved in research relating to radioactive contamination of the environment. George P. Fisher (bottom) (PhD, physics, University of Illinois, 1965) is associate physicist at Brookhaven National Laboratory. As assistant professor of physics at the University of Colorado, active in experimental elementary particles research, he was consultant to Dow Chemical USA.



MEASUREMENT OF FAST- AND THERMAL-NEUTRON FLUXES USING A SMALL LiI(Eu) CRYSTAL DETECTOR

Dong H. Nguyen
Robert G. Bennett

Dong Huu Nguyen (top) (PhD, nuclear engineering, University of California, Berkeley, 1965) is an associate professor at Naval Postgraduate School. He has previously associated with the Danish Research Establishment, Risø, and the University of Texas at Austin. His interests are in reactor physics and safety. LCDR Robert G. Bennett (MS, mechanical engineering, Naval Postgraduate School, 1970; BS, electrical engineering, Purdue University, 1963) is currently assigned to the Philadelphia Naval Shipyard as assistant repair superintendent for submarines, and as Docking Officer. Current interests are in the field of management.

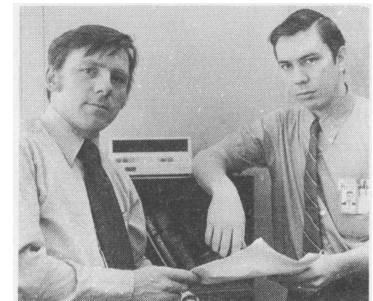


MATERIALS

AN EMPIRICAL REPRESENTATION OF IRRADIATION-INDUCED SWELLING OF SOLUTION TREATED TYPE 304 STAINLESS STEEL

J. F. Bates
J. L. Straalsund

John Bates (right) (BS, metallurgical engineering, Colorado School of Mines) is a research engineer in the Reactor Metals Sub-Department of the Westinghouse Hanford Company. His primary field of concentration is in the area of irradiation-induced swelling and creep of reactor structural materials. Jerry Straalsund (PhD, engineering science, Washington State University) is a senior research scientist in the Reactor Metals Sub-Department of the Westinghouse Hanford Company. His principal area of research is irradiation-induced swelling of reactor structural materials.



Corrigendum

William Bradley Lewis, "A Practical Approach to Nuclear Criticality Safety II—Critique of a Model," *Nucl. Technol.*, **12**, 276 (1971).

In the above referenced paper, p. 277, the vertical scale of Fig. 2 is in error (high) by a factor of 2. Conclusions were based on the tables which are correct.