



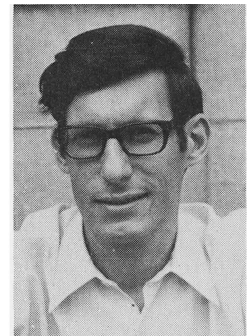
AUTHORS — JANUARY 1973

FUELS

AN IMPROVED OBJECTIVE FUNCTION FOR FBR's OPTIMIZATION STUDIES

P. Goldschmidt

Pierre Goldschmidt (MS, nuclear engineering, University of California, Berkeley, 1966; PhD, University of Brussels, Belgium, 1971) is presently working with Electrobél, mainly on the fuel cycles of LWRs. He has previously been active in fast reactor physics.



PRESSURE DROP CORRELATIONS FOR FUEL ELEMENT SPACERS

Klaus Rehme

Klaus Rehme (PhD, mechanical engineering, University of Karlsruhe, 1967), presently at Karlsruhe Nuclear Research Center, Germany, has worked on fluid flow in rod bundles with and without spacers. Currently he is engaged in the measurement of turbulent transport quantities of flow in noncircular channels (annuli and rod bundles).



MATERIALS

POSTIRRADIATION MECHANICAL PROPERTIES OF TYPES 304 AND 304 +0.15% TITANIUM STAINLESS STEEL

*E. E. Bloom
J. O. Stiegler*

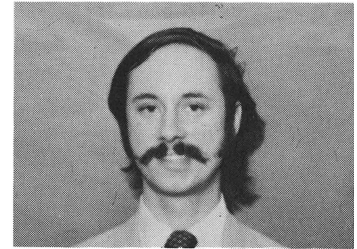
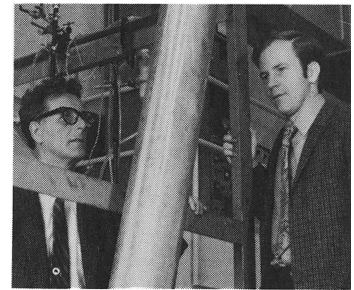
E. E. Bloom (right) (PhD, metallurgical engineering, University of Tennessee, 1970) is a member of the Metals and Ceramics Division of Oak Ridge National Laboratory. He has been active in investigations of the effects of neutron irradiation on the properties of metals and alloys since 1965. J. O. Stiegler (PhD, metallurgical engineering, University of Tennessee, 1971) is also a member of the Metals and Ceramics Division of Oak Ridge National Laboratory. For the past ten years he has concentrated on studies relating microstructure to mechanical properties of engineering materials.



COLLECTION OF PARTICULATE MATTER FROM SMOKESTACKS USING GAMMA-RAY IONIZATION

M. A. Schultz (top left) (BS, electrical engineering, Massachusetts Institute of Technology, 1939) is a professor of nuclear engineering at The Pennsylvania State University. His current research interests range from air pollution control to reactor safety. M. E. Crotzer, Jr. (top right) (PhD, nuclear engineering, Pennsylvania State University, 1972) is currently employed at Westinghouse Electric Corporation in the Control and Protection Analysis Section. His present interests include nuclear safety and reactor control. As a graduate student at Penn State, his work involved air pollution control and research involving radioactive aerosols. W. R. Knapick (bottom) (MS, nuclear engineering, Pennsylvania State University, 1972) was a graduate assistant in the particulate removal by gamma-ray ionization project. He is currently employed by Combustion Engineering in their Nuclear Engineering and Physics Department and is engaged in computer analysis.

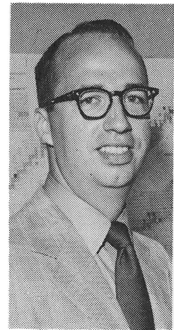
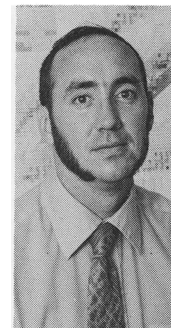
*M. A. Schultz
M. E. Crotzer, Jr.
W. R. Knapick*



ON-LINE RADIOCHEMICAL ANALYSIS FOR CONTROLLING RAPID ION EXCHANGE RECOVERY OF TRANSPLUTONIUM ELEMENTS

Marshall A. Wakat (left) (PhD, nuclear chemistry, University of Michigan) is a senior research supervisor of the chemical analysis group at Savannah River Laboratory. His principal research interests are in analytical applications of high resolution gamma-ray spectroscopy and radiometric monitoring of radiochemical separation processes. Stephen F. Peterson (PhD, analytical chemistry, Cornell University) is a research chemist in the chemical analysis group. His principal research interest is in neutron activation analysis and analytical applications of small computers.

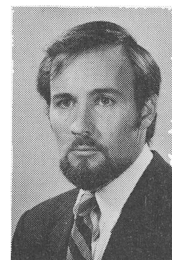
*M. A. Wakat
S. F. Peterson*



SOCIOECONOMIC ASPECTS OF A PLOWSHARE PROJECT

Harry J. Otway (top) (PhD, nuclear engineering, University of California, Los Angeles, 1969) has been at Los Alamos Scientific Laboratory since 1958 in both the design and testing of Project Rover nuclear rocket reactors. More recently he has been in the Test Division working on the Plowshare Program and nuclear-related environmental problems. Leo van der Harst (center) (MS, Leiden University, Holland, 1947) held positions in England, Holland, and Indonesia before joining the Superior Oil Company in 1957 as a senior geologist. Presently he is employed by the CER Geonuclear Corporation where his main interests are in new project development and marketing proposals. Gary H. Higgins (bottom) (BA, Macalester College, Minnesota, 1949; PhD, radiochemistry, University of California, Berkeley, 1952) is a staff member of the Plowshare Division at Lawrence Livermore Laboratory, where he is employed in the application of nuclear explosives to peaceful purposes. His main interests are in ion exchange properties of soils, clays, and other minerals.

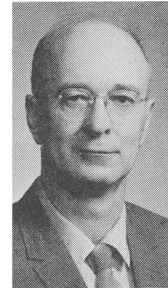
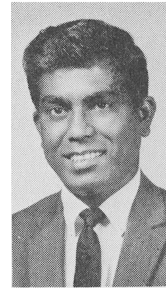
*Harry J. Otway
Leo van der Harst
Gary H. Higgins*



MEASUREMENT OF TOTAL ATTENUATION COEFFICIENTS FOR 6- TO 10-MeV PHOTONS

*K. U. Ahmed
R. G. Cochran*

Kamal U. Ahmed (left) (PhD, nuclear engineering, Texas A&M University, 1972) is currently with INTERATOM, Bensberg/Köln, West Germany. His interests lie in solid state detectors, radiation shielding, and reactor engineering. R. G. Cochran (PhD, Pennsylvania State University) has been professor and head of the Department of Nuclear Engineering, Texas A&M University since 1959. His professional interests lie in reactor engineering, fuel cycle analysis, and power reactor environmental effects.

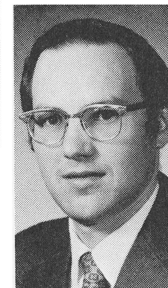
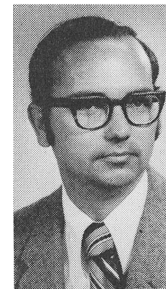


TECHNIQUES

ESTIMATION OF ERRORS CAUSED BY RADIATION AND TEMPERATURE ON COAXIAL SIGNAL CABLES

*J. L. Stringer
R. R. Bourassa
G. J. Dau*

J. L. Stringer (top) (MS, University of Washington, 1966) is a senior research engineer in the Reactor Instrument Development Section of the Westinghouse Hanford Company. Over the past six years he has been engaged in the development and testing of sensuous and transmission cables for use at temperatures to 1200°F and near the reactor core. R. R. Bourassa (center) (PhD, University of Illinois, 1968) is a professor in the Physics and Astronomy Department at the University of Oklahoma. In addition to teaching, his research interests center around experimental and theoretical investigations of thermoelectric phenomena in materials. Previously he was a senior research scientist at Battelle-Northwest. G. J. Dau (bottom) (PhD, University of Arizona, 1965) is a senior research and development manager at Battelle-Northwest. In this position he is responsible for guiding the efforts of people involved in lasers, holography, optics, and nondestructive testing. Prior to this he was involved in investigations of the influence of radiation on electrical insulators.

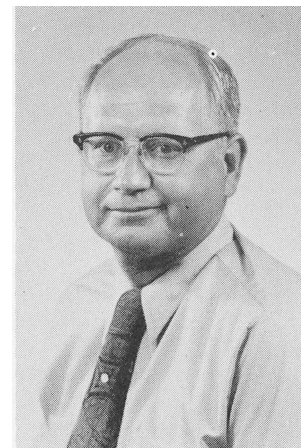


REACTORS

VARIABILITY OF DOSE REDUCTION FACTOR AS APPLIED TO REACTOR CONTAINMENT SPRAY SYSTEMS

Thomas L. Hebble

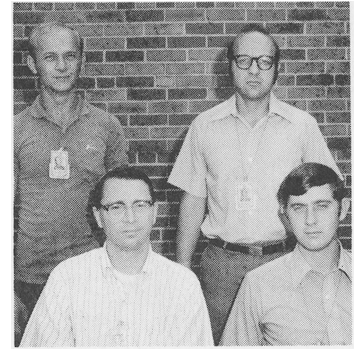
Thomas L. Hebble (MS, statistics, Florida State University) has been a consultant in the Statistics Department at Oak Ridge National Laboratory since 1964. His consulting activities include the application of statistical methodology to experimental programs in the physical sciences.



SEPARATION OF MOLYBDENUM FROM PLUTONIUM-238 DIOXIDE

William A. Zanutelli (top right) (BS, chemistry, Miami University, Ohio) is a research chemist in the radioisotope fuel development program. G. L. Silver (bottom left) (PhD, chemistry, University of North Carolina, Chapel Hill) is a senior research specialist whose interests include the solution chemistry of plutonium. W. C. Bowling (bottom right) is an analytical chemistry technician currently working in the areas of emission and mass spectroscopy. S. B. Wells (top left) is a chemical technician presently working in radioisotope fuel recovery. All are employed at Mound Laboratory in Miamisburg, Ohio, which is operated for the U.S. Atomic Energy Commission by Monsanto Research Corporation.

*W. A. Zanutelli
G. L. Silver
W. C. Bowling
S. B. Wells*



FUELS

FAST REACTOR FUEL INTERACTIONS WITH FLOOR MATERIAL AFTER A HYPOTHETICAL CORE MELT-DOWN

George Jansen, Jr. (left) (BS, Oregon State University; ScD, chemical engineering, Massachusetts Institute of Technology) has worked at Hanford Engineering Development Laboratory in chemical process development and engineering analysis involving mass, momentum, and heat transfer since 1959. He is presently an engineering associate in the Chemical Development Section of the Chemical Technology Department of Battelle-Northwest. Additional activities include lecturing at the Joint Center for Graduate Study at Richland, Washington, and enthusiastic participation in amateur viticulture and enology. Dan D. Stepnewski (BSE, University of Michigan; MChE, Rensselaer Polytechnic Institute) has worked in safety and design analysis of nuclear reactors at Hanford since 1959 where he is presently a section manager in the Reactor and Safety Engineering Department.

*G. Jansen, Jr.
D. D. Stepnewski*

