

## AUTHORS — JULY 1972

### REACTORS

#### CRITICAL EXPERIMENTS WITH HOMOGENEOUS $\text{PuO}_2$ -POLYSTYRENE AT 50 H/Pu

*S. R. Bierman  
E. D. Clayton*

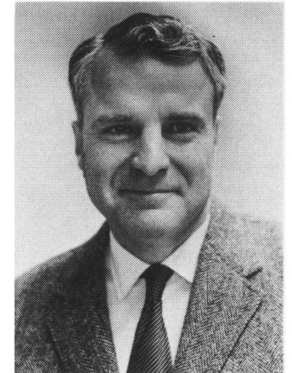
S. R. Bierman (left) (MS, University of Washington, 1963) is a senior research engineer at the Critical Mass Laboratory operated by Battelle-Northwest. He is primarily involved with criticality and neutron kinetic measurements on systems of plutonium and plutonium-uranium mixtures. E. D. Clayton (PhD, University of Oregon, 1952) is manager of Battelle-Northwest's Criticality Research and Analysis Section and is a research associate professor in the University of Washington's Department of Nuclear Engineering



#### THE POTENTIAL OF A LASER-INDUCED FUSION DEVICE AS A THERMAL-NEUTRON SOURCE

*R. M. Brugger*

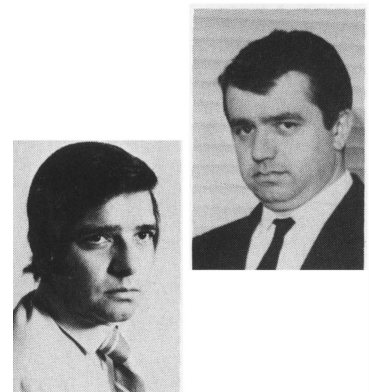
R. M. Brugger (PhD, Rice University, 1955) is head of the Nuclear Technology Division, Aerojet Nuclear Company. His research has been associated with the application of scattered neutrons to investigate the properties of liquids, solids, and molecules. This research has stimulated his interest in intense neutron sources.



#### SINGLE- AND TWO-PHASE PRESSURE DROPS ON A 6 x 6 ROD BUNDLE AT 70 atm

*P. Grillo  
G. Mazzone*

Paolo Grillo (top) (PhD, industrial engineering, Politecnico di Torino) is a senior designer of cores for nuclear plants. He joined CNEN in 1966 and is now head of fuel design in the CNEN Plutonium Program. Giorgio Mazzone (PhD, University of Rome, 1961) was active in metal physics until 1968. He then joined the CNEN Plutonium Program where he is currently engaged in fuel thermohydraulic design.



**WASTE DISPOSAL SYSTEMS FOR CLOSED CYCLE WATER REACTORS**

*Charles T. Chave*

Charles T. Chave (ME, Columbia University, 1929) retired as the chief nuclear engineer at Stone & Webster Engineering Corporation in 1970. He is now engaged in part-time consulting on nuclear and general wastes disposal problems.



**REVIEW OF THE LOW ENERGY SCATTERING CROSS SECTIONS OF DEUTERIUM**

*B. R. Leonard, Jr.*

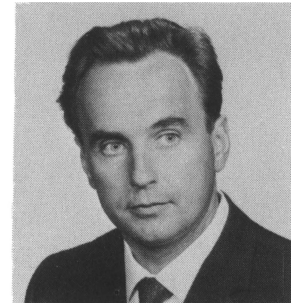
B. R. Leonard, Jr. (PhD, physics, University of Wisconsin, 1952) is a staff physicist at Battelle-Northwest. He has performed and directed research in the measurement and analysis of neutron cross sections at Hanford and is actively engaged in the evaluation of nuclear data for ENDF/B.



**DEVELOPMENTS IN USE OF CALIFORNIUM-252 FOR NEUTRON RADIOGRAPHY**

*John P. Barton*

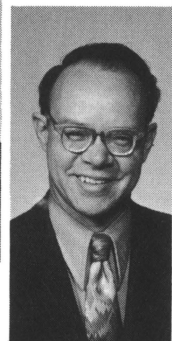
J. P. Barton (PhD, physics, University of Birmingham) is associate professor of Nuclear Engineering at Oregon State University where he is conducting neutron radiography research. Previous involvement has been with reactor fuel physics and neutron radiography development at Argonne National Laboratory.



**A NEW MODEL FOR ESTIMATING SPACE PROTON DOSE TO BODY ORGANS**

*R. W. Langley  
M. P. Billings*

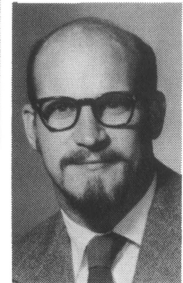
Robert W. Langley (top) (BS, engineering, Georgia Institute of Technology, 1957) is employed at McDonnell Douglas. His background includes research in nuclear propulsion, reactor physics, shielding, and nuclear safety. His present activities include space radiation shielding, radiation transport, and nuclear weapons effects on propulsion systems. M. Preston Billings (AB, physics, Harvard, 1951; International School of Nuclear Science and Engineering, Argonne National Laboratory, 1957) joined McDonnell Douglas in 1963. He has been active in analyzing radiation protection requirements for space systems exposed to natural space radiations and to man-made radiations from nuclear propulsion and power systems.



**EXPLOSIVE EXCAVATION RESEARCH: PROJECTS TUGBOAT AND TRINIDAD**

*Robert L. LaFrenz  
Walter C. Day*

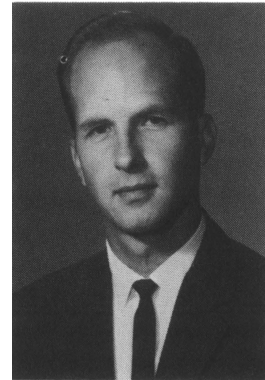
Robert L. LaFrenz (top) (West Point, 1955; PhD, Iowa State University) is director of the U.S. Army Engineer Waterways Experiment Station Explosive Excavation Research Office at Livermore, California. His current interests are in nuclear and chemical explosive cratering. Walter C. Day (AB, Earlham College) is deputy director of the U.S. Army Engineer Waterways Experiment Station Explosive Excavation Research Office. His current interests are in nuclear and chemical explosive cratering.



**CHIMNEY GAS RADIOCHEMISTRY IN NUCLEAR GAS STIMULATION APPLICATIONS**

*C. F. Smith*

Charles F. Smith (PhD, nuclear chemistry, University of California, Berkeley, 1964) is a chemist at the Lawrence Livermore Laboratory specializing in gaseous radiochemical analysis. In recent years he has been responsible for the gas quality analysis and evaluation efforts of the Livermore Laboratory in support of the Plowshare Program.



**ADVANTAGES OF PRIMARY SYSTEM FLOW CONTROL DURING REACTOR SCRAM IN AN LMFBR**

*William J. Metevia  
Jon C. Gilbertson*

William J. Metevia (right) (BS, physics, Central Michigan University; MS, nuclear engineering, Pennsylvania State University) is an engineer in the Fast Reactor Analysis section of the Nuclear Power Department at Combustion Engineering, Inc. Jon C. Gilbertson (BS, civil engineering; MS, nuclear engineering, University of Wisconsin) is supervisor of Fast Reactor Safety Analysis at Combustion Engineering. While at CE he has worked on the 1000-MW(e) LMFBR and the 500-MW(e) LMFBR Demonstration Plants.

