



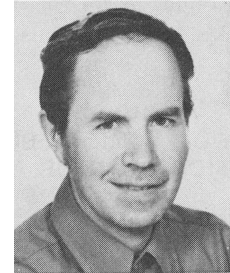
## AUTHORS — MID-AUGUST 1979

### CRITICAL REVIEW

#### CORE MOTION MONITORING

*Joseph A. Thie*

**Joseph A. Thie** (PhD, nuclear physics, University of Notre Dame, 1951) is an independent consultant to the nuclear industry. His experience includes reactor noise analysis, testing, design, core statics and dynamics physics, and safety. He is currently involved in a number of projects in these areas for clients at utilities and national laboratories.

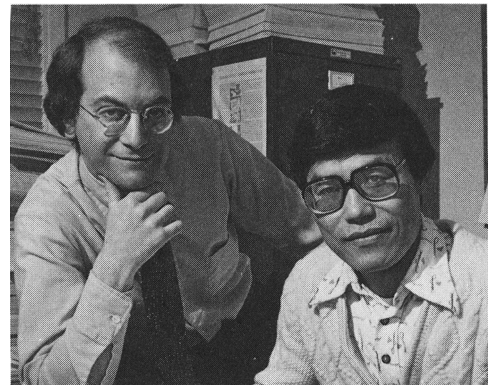


### REACTORS

#### A NEUTRONIC ANALYSIS OF BOILING WATER REACTOR IN-CORE DETECTOR NOISE

*Hsiang-Shou Cheng  
David J. Diamond*

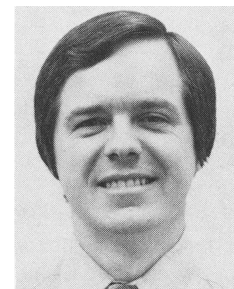
**Hsiang-Shou (Sam) Cheng** (right) (PhD, nuclear engineering, Massachusetts Institute of Technology, 1968) and **David J. Diamond** (PhD, nuclear engineering, Massachusetts Institute of Technology, 1968) are members of the Reactor Core Safety Analysis Group at Brookhaven National Laboratory, for which Diamond is group leader. Their interests lie in the areas of reactor physics and thermal-hydraulics and the application of these disciplines to core safety problems. They have been involved in the development of physics and engineering models and numerical methods used in safety analysis codes. In addition, they have done analyses of a wide range of light water reactor safety and core performance problems. This includes static and transient analysis of power distributions and reactivity effects and the interpretation of in-core and ex-core instrumentation.



#### MASS-ENERGY ANALYSES FOR GAS-COOLED FAST REACTOR AND FUSION-FISSION HYBRID REACTOR SYSTEMS

*Michael R. Jonzen*

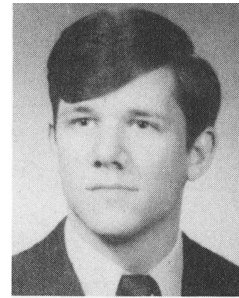
**Michael R. Jonzen** (BS, physics, Texas Technical University, 1971; MS, nuclear engineering, University of Wisconsin, 1973) is presently a boiling water reactor startup engineer with the Nuclear Energy Business Group of General Electric Company. At the time this study was performed, he was a senior engineer in the Fusion Division of General Atomic Company. He has been involved with studies on accelerator breeder reactors, fusion-fission hybrid reactors, fission waste transmutation by liner fusion devices, chemical production in fusion reactor blankets, computer simulations of a high-temperature gas-cooled reactor reprocessing plant, and design of a fusion experimental power reactor.



## APPLICATION OF DRIFT FLUX TO TRANSIENT TWO-PHASE LEVEL SWELL

**Leonard W. Ward** (BS, Marietta College, 1969; MS, Columbia University, 1970; Degree of Professional Engineer, Columbia University, 1971) is supervisor of the Reload Analysis Group in the Reactor Design Department at Combustion Engineering, Inc. He is responsible for all the large-break, small-break, and long-term cooling analyses associated with the loss-of-coolant accident. Other responsibilities include design-related activities for the emergency core cooling system and code development for the methodologies comprising the long-term cooling performance evaluation model.

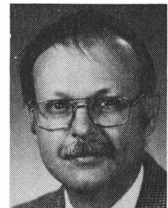
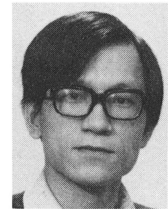
*Leonard W. Ward*



## NUCLEONIC DESIGN FOR A COMPACT TOKAMAK FUSION REACTOR BLANKET AND SHIELD

**E. T. Cheng** (top right) (PhD, nuclear engineering, University of Wisconsin, 1976) was formerly a research associate in the Nuclear Engineering Department of the University of Wisconsin, Madison, where he was responsible for SOLASE and NUWMAK blanket and shield nucleonic designs. He is now employed by the General Atomic Company and is participating in research activities in the Fusion Division. **Charles W. Maynard** (top left) (BS, electrical engineering, University of Maryland; PhD, applied physics, Harvard University, 1961) has been a professor of nuclear engineering at the University of Wisconsin, Madison, since 1965. He was employed at the Bettis Atomic Power Laboratory in the Reactor Theory and Methods Section, and was appointed associate professor of nuclear engineering at the University of Wisconsin in 1961. His research interests are centered on design and neutronics analysis of reactors. **William F. Vogelsang** (bottom right) (PhD, physics, University of Pittsburgh, 1956) is a professor of nuclear engineering at the University of Wisconsin. His interests have included critical assemblies, neutron diffraction, and nondestructive fuel assay. His current research interests are in the radioactivity and safety problems of fusion reactors. **Andrew C. Klein** (bottom left) (BS, nuclear engineering, Pennsylvania State University, 1977) is a graduate student at the University of Wisconsin. His interests include fusion reactor safety and radioactivity.

*E. T. Cheng  
C. W. Maynard  
W. F. Vogelsang  
A. C. Klein*



## RADIOACTIVE WASTE

## UNCERTAINTIES IN RADIOLOGICAL ASSESSMENTS—A STATISTICAL ANALYSIS OF RADIOIODINE TRANSPORT VIA THE PASTURE-COW-MILK PATHWAY

**D. Lynn Shaeffer** (right) (BS, physics, Carnegie Institute of Technology, 1963; PhD, earth and planetary sciences, University of Pittsburgh, 1970) has, for the past three years during his association with the Environmental Sciences Division of Oak Ridge National Laboratory (ORNL), been actively involved in the evaluation of radiological assessment models developed for predicting the fate of radionuclides in the environment after release from a nuclear facility. In particular, he has been applying statistical techniques to the determination of the uncertainties associated with the predictions of these models.

*D. Lynn Shaeffer  
F. Owen Hoffman*



He has also had an active interest in the hydrologic transport of pollutants in the environment. He is presently chief scientist and deputy manager of Jaycor, Oak Ridge Operations. **F. Owen Hoffman** (BA, biological conservation, California State University at San Jose, 1967; MS, limnology, Oregon State University, 1969) worked on problems relating to the assessment of the environmental safety of nuclear installations from 1971 to 1975 while employed at the Institut für Reaktorsicherheit in the Federal Republic of Germany, where he was also active as a member of the Advisory Council on Radioecology for the Federal Ministry of the Interior. He is currently a research staff member at ORNL. He has been interested in the environmental variables affecting the pasture-cow-milk transport of  $^{131}\text{I}$  since 1971, and has contributed to numerous reviews on the subject.

