

# NUCLEAR SCIENCE AND ENGINEERING®

VOLUME 61, NUMBER 3, NOVEMBER 1976

## CONTENTS

### TECHNICAL PAPERS

- 297 Two-Phase Pressure Drop Across Abrupt Area Changes in Oscillatory Flow *J. Weisman, T. Ake, R. Knott*
- 310 Transient Freezing of a Flowing Ceramic Fuel in a Steel Channel *Michael Epstein, Michael A. Grolmes, Robert E. Henry, Hans K. Fauske*
- 324 Experimental Development of Design Criteria to Limit Liquid Cross-Flow-Induced Vibration in Nuclear Reactor Heat Exchange Equipment *D. J. Gorman*
- 337 Cross Sections for the  $Al(n, xn)$  and  $Al(n, x\gamma)$  Reactions Between 1 and 20 MeV *G. L. Morgan, F. G. Perey*
- 346 Neutron Capture Cross Section of Cobalt-59 in the Energy Range 2.5 to 1000 keV *R. R. Spencer, R. L. Macklin*
- 356 Neutron Absorption Cross Section of Americium-241 *L. W. Weston, J. H. Todd*
- 366 Light Charged Particles and Fission Elements from Californium-252 Fission *Charles A. Bolig, Jr., R. R. Roy*
- 370 Critical Experiments with Low-Moderated Homogeneous Mixtures of Plutonium and Uranium Oxides Containing 8, 15, and 30 wt% Plutonium *S. R. Bierman, E. D. Clayton*
- 377 A Simple Approximate Treatment of Neutron Inelastic Scattering in a Fast Reactor Assembly *Yasunori Yamamura*
- 388 Synthesis of an Elementary Function for the Spatially Dependent Neutron Slowing Down Distribution in Hydrogen *Harvey J. Amster, K. Cheuk Chan*
- 399 Stability Analysis of Spatially Dependent Nonlinear Reactor Systems Using a Semigroup Approach *Ronald J. Onega, Lech Mync, John A. Burns*
- 408 A Method of Characteristics and Other Improvements in Solution Methods for the Transport Equation *Bengt G. Carlson*

(Continued)

## **CONTENTS**

(Continued)

### **TECHNICAL NOTES**

- 426** Observation of a Difference in Yields of Delayed Neutron Emitters from  $U_3O_8$  and  $UO_2$  *H. R. Lukens, R. L. Bramblett*
- 428** Critical Experiments and the 2200 m/sec Neutron Parameters *R. Gwin*
- 431** Acceleration of the Convergence of the Integral Transform Method *V. C. Boffi, V. G. Molinari, G. Spiga*
- 434** Generalized Exact Spatially Dependent Neutron Slowing Down Distribution Near Source Lethargy *K. Cheuk Chan, Harvey J. Amster*
- 437** Control Algorithms in a Coarse-Mesh Rebalance Framework *M. V. Gregory, H. C. Honeck*

**446** **ANNOUNCEMENT OF CURRENT PUBLICATIONS**