

# NUCLEAR SCIENCE AND ENGINEERING®

VOLUME 114, NUMBER 2, JUNE 1993

## CONTENTS

### TECHNICAL PAPERS

- 87** A Burnup-Compensated Madland-Nix Prompt Fission Neutron Source Term for Multigroup Nuclear Reactor Shielding Calculations  
*T. J. van Rooyen, G. P. de Beer*
- 102** A Model for Fission Product Release from Liquid-Metal Pools: Development and Sensitivity Investigation  
*P. R. McClure, M. T. Leonard, A. Razani*
- 112** Neutron Spectrum Measurements of a Thorium Dioxide Assembly  
*Paul S. Feigenbaum, Martin Becker, Donald R. Harris, Bimal K. Malaviya, Robert C. Block, S. A. Hayashi, S. Yamamoto*
- 118** Calculation of Recoil Ion Effective Track Lengths in Neutron-Radiation-Induced Nucleation  
*Mark J. Harper*
- 124** Calculation of Neutron Superinelastic Scattering in  $^{178m}\text{Hf}$   
*G. Reffo, M. H. MacGregor*
- 135** Condensation on Nonspherical Aerosol Particles: Numerical Solutions in the Continuum Regime  
*S. K. Loyalka, J. L. Griffin*
- 141** Sensor Fault Detection with the Single Sensor Parity Relation  
*T. M. Tsai, H. P. Chou*

### TECHNICAL NOTES

- 149** Measurements and Calculations of Radionuclides Created by  $^{181}\text{Ta}(\gamma, xn \gamma p)$  Reactions for Bremsstrahlung Photons Produced by 150-MeV Electrons  
*J. K. Dickens, M. A. Miller*
- 160** Analysis of ONEDANT Code Package for the Calculation of the Doppler Coefficient of Reactivity  
*I. Soares, W. F. Miller, Jr., R. T. Perry*
- 168** Derivation of Anisotropic Diffusion Coefficients in a Large Annular Cavity  
*Eiichi Suetomi, Hiroshi Sekimoto*

### COMPUTER CODE ABSTRACT

- 176** The HEXAB-3D Three-Dimensional Few-Group Improved Coarse-Mesh Diffusion Code for Hexagonal-z Geometry  
*K. N. Ivanov, T. G. Apostolov, M. A. Manolova*