

# NUCLEAR SCIENCE AND ENGINEERING®

VOLUME 122, NUMBER 1, JANUARY 1996

## CONTENTS

### TECHNICAL PAPERS

- 1 Uncertainty and Sensitivity Analysis for Gas and Brine Migration at the Waste Isolation Pilot Plant: Fully Consolidated Shaft  
*J. C. Helton, J. E. Bean, B. M. Butcher, J. W. Garner, J. D. Schreiber, P. N. Swift, P. Vaughn*
- 32 A Computational Model for an Open-Cycle Gas Core Nuclear Rocket  
*David I. Poston, Terry Kammash*
- 55 Computational Methods for Shape Restoration of Buried Objects in Compton Backscatter Imaging  
*Yoichi Watanabe, James Monroe, Shyam Keshavmurthy, Alan M. Jacobs, Edward T. Dugan*
- 68 Adaptive Estimation of the Prompt-Neutron Decay Constant Using Autoregressive Moving Average Modeling  
*Nela Zavaljevski, Ljiljana Kostić, Milan Pešić, Aleksandar Zavaljevski*
- 79 Analytic Score Distributions for a Spatially Continuous Tridirectional Monte Carlo Transport Problem  
*Thomas E. Booth*
- 93 Radionuclide Transport in Media with Time-Dependent Properties  
*M. M. R. Williams*
- 105 Transmutation of Neptunium, Americium, Technetium, and Iodine in Fast Spectrum Cores Driven by Accelerated Protons  
*M. Segev, H. Küsters, S. Pelloni*
- 121 An Experimental Study of Gamma-Ray Buildup Factors for a Point Isotropic Source in Stratified Spherical Shields  
*Uei-Tyng Lin, Chin-Chung Tseng, Shiang-Huei Jiang*
- 131 Calculation Modeling of Detector Activity in the VVER/Pressurized Water Reactor Vessel Surveillance  
*Krassimira D. Ilieva, Stoyan Y. Antonov, Sergey I. Belousov*
- 136 Proton Emission in Reaction of 14.6-MeV Neutrons with Natural Iron  
*Bangjiao Ye, Yangmei Fan, Zhongmin Wang, Rongdian Han, Zhenxi Xiao*

### TECHNICAL NOTE

- 142 Probabilistic Analysis of Nuclear Fuel Rod Behavior Using a Quasi-Monte Carlo Method  
*K. Forsberg, Ning He, A. R. Massih*