

# NUCLEAR SCIENCE AND ENGINEERING®

VOLUME 125, NUMBER 2, FEBRUARY 1997

## CONTENTS

### TECHNICAL PAPERS

- 111 Response Functions for Neutron Skyshine Analysis  
*Ah Auu Gui,  
J. Kenneth Shultis,  
Richard E. Faw*
- 128 A New Weight-Dependent Direct Statistical Approach Model  
*K. W. Burn*
- 171 The Generalized  $P_N$  Synthetic Acceleration Method for Linear Transport Problems with Highly Anisotropic Scattering  
*Kassem M. Khattab*
- 178 Resonance Calculations Using the Multiband Method and Interface Currents  
*Masahiro Tatsumi,  
Tomoko Ito,  
Toshikazu Takeda,  
Masatoshi Yamasaki,  
Akio Yamamoto,  
Masaharu Takayasu*
- 188 A Geometry-Independent Fine-Mesh-Based Monte Carlo Importance Generator  
*Lianyan Liu,  
Robin P. Gardner*
- 196 Study of Gamma Radiation from the Interaction of 14.6-MeV Neutrons with  $^{27}\text{Al}$   
*S. Hlaváč, L. Dostál,  
I. Turzo, A. Pavlik,  
H. Vonach*
- 205 Measurement of Neutron Energy Spectrum Below 10 keV in an Iron Shield Bombarded by Deuterium-Tritium Neutrons and Benchmark Test of Evaluated Nuclear Data from 14 MeV to 1 eV  
*F. Maekawa, Y. Oyama*
- 218 Positron-Emitting Radionuclide Yield in Deuterium Beam-Injected  $^3\text{He}$  Plasma  
*M. Yamagiwa*
- 223 Experimental Study on Buoyancy-Driven Exchange Flows Through Breaches of a Tokamak Vacuum Vessel in a Fusion Reactor Under the Loss-of-Vacuum-Event Condition  
*Kazuyuki Takase,  
Kunugi Tomoaki,  
Masurou Ogawa,  
Yasushi Seki*
- 232 Prediction of the Local Pressure Gradient During Partially Developed Subcooled Boiling in Research Reactors of High Power Density  
*Joel L. McDuffee,  
Arthur E. Ruggles*
- 243 Validation of Neutron Fluence Calculation Methodology for VVER-440 Vessel  
*K. Ilieva, T. Apostolov,  
S. Belousov, Iv. Penev,  
I. Popova*