

# NUCLEAR SCIENCE AND ENGINEERING®

VOLUME 83, NUMBER 3, MARCH 1983

## CONTENTS

### TECHNICAL PAPERS

- |     |  |   |
|-----|--|---|
| 327 | Solid Spot Thermal Conductance of Zircaloy-2/Uranium Dioxide Interfaces                            | <i>C. V. Madhusudana,<br/>L. S. Fletcher</i>              |
| 333 | Experimental Study of Neutron Streaming Through Steel-Walled Annular Ducts in Reactor Shields      | <i>Toshimasa Miura,<br/>Nobuo Sasamoto</i>                |
| 350 | On the Development of the Finite Element Method for Fast Reactor Kinetics with Material Motion     | <i>Emerson Paul Chivington,<br/>William E. Kastenberg</i> |
| 366 | Time-Dependent One-Dimensional Transport Calculations Using the Streaming Ray Method               | <i>W. L. Filippone,<br/>B. D. Ganapol</i>                 |
| 374 | On the Relation Between Decay Constants and Critical Parameters in Monoenergetic Neutron Transport | <i>E. B. Dahl, V. Protopopescu,<br/>N. G. Sjöstrand</i>   |
| 380 | An Assessment of Existing Klein-Nishina Monte Carlo Sampling Methods                               | <i>R. N. Blomquist,<br/>E. M. Gelbard</i>                 |

### TECHNICAL NOTES

- |     |   |  |
|-----|---|--|
| 385 | High-Temperature Isotopic Exchange Between Water Vapor and Hydrogen Gas in an Alumina-Supported Platinum Catalyst Bed | <i>Yamato Asakura,<br/>Makoto Kikuchi,<br/>Hideo Yusa,<br/>Shinpei Matsuda</i>               |
| 389 | Sensitivity Analysis for a Specific Fusion Reactor Shielding Experiment Containing Tungsten                           | <i>R. G. Alsmiller, Jr.,<br/>R. T. Santoro, R. L. Childs,<br/>J. M. Barnes, J. L. Lucius</i> |
| 393 | A Simple Approximation of the Fermi Function in Nuclear Beta Decay  | <i>G. K. Schenter, P. Vogel</i>  |
| 396 | Coupled-Channel Optical-Model Calculations for Evaluating Neutron Cross Sections of Odd-Mass Actinides                | <i>Ch. Lagrange, O. Bersillon,<br/>D. G. Madland</i>   |
| 401 | Calculated Gamma-Ray Spectra for keV Neutron Capture in $^{240}\text{Pu}$ , $^{242}\text{Pu}$ , and $^{238}\text{U}$  | <i>G. Reffo, F. Fabbri,<br/>K. Wissak, F. Käppeler</i>                                       |

### LETTERS TO THE EDITOR

- |     |  |  |
|-----|--|--|
| 408 | A Defense of Benoist's Corrected Diffusion Coefficient               | <i>R. P. Hughes</i>                        |
| 409 | Response to "A Defense of Benoist's Corrected Diffusion Coefficient" | <i>J. V. Muralidhar Rao,<br/>S. M. Lee</i> |

### 411 ANNOUNCEMENT OF CURRENT PUBLICATIONS