

NUCLEAR SCIENCE AND ENGINEERING®

VOLUME 90, NUMBER 2, JUNE 1985

CONTENTS

- 125 Editorial: The Need for Advanced Reactors *Bernard I. Spinrad*

TECHNICAL PAPERS

- 127 Determination of Effective Reflector and Baffle/Reflector Constants for Few-Group Diffusion Calculations *Walter J. Eich, Mark L. Williams, Chun-Mou Peng*
- 140 A Water Radiolysis Model in a Circulating Flow System with a Boiling Region and Its Application to Hydrogen Alternate Water Chemistry of Boiling Water Reactors *Eishi Ibe, Shunsuke Uchida*
- 158 Point Isotropic Buildup Factors of Gamma Rays, Including Bremsstrahlung and Annihilation Radiation for Water, Concrete, Iron, and Lead *Kiyoshi Takeuchi, Shun-ichi Tanaka*
- 165 A Study of Buildup Factors, Angular and Energy Distributions at Small Distances from Three Source Geometries—Plane Isotropic, Point Isotropic, and Plane Normal—for Low-Energy Gamma-Ray Incidence on Water *Y. Harima, S. Tanaka*
- 174 Investigation of the $^{93}\text{Nb}(n, xp)$ Reaction at $E_n = 14.1$ MeV *G. Traxler, A. Chalupka, R. Fischer, B. Strohmaier, M. Uhl, H. Vonach*
- 186 Neutron-Induced Reactions on ^{58}Ni *A. Pavlik, G. Winkler, M. Uhl, A. Paulsen, H. Liskien*

TECHNICAL NOTES

- 203 Direct Numerical Technique of Mathematical Programming for Optimal Control of Xenon Oscillation in Load Following Operation *Myung Hyun Yoon, Hee Cheon No*
- 209 A Bubble-Breaking Effect in a Sodium Boiling Test *A. Galati, S. Migliori*
- 213 Application of a Bayesian Approach to Data Adjustment to Microscopic Nuclear Data Evaluation *Zhao Zhixiang*