

nuclear technology®

CONTENTS / MAY 1992—VOL. 98, NO. 2

TECHNICAL PAPERS

FISSION REACTORS

- 137 Robust Optimal Control of Nuclear Reactors and Power Plants / *Robert M. Edwards, Kwang Y. Lee, Asok Ray*

NUCLEAR REACTOR SAFETY

- 149 DF-4 Analysis Using SCDAP/RELAP5 / *Judith K. Hohorst, Chris M. Allison*
- 160 Sensitivity, Uncertainty, and Importance Analysis of a Risk Assessment / *Risto S. Andsten, Jussi K. Vaurio*
- 171 Failure Probability of Axially Cracked Steam Generator Tubes: A Probabilistic Fracture Mechanics Model / *Borut Mavko, Leon Cizelj*

ENRICHMENT AND REPROCESSING SYSTEMS

- 178 Crud Formation by Palladium Particles as Insoluble Residues / *Kenzo Munakata, Hiroshi Sugai, Shigehiko Miyachi, Shouzo Yasu*
- 188 Emulsions Stabilized by Precipitates of Zirconium and Tributyl Phosphate Degradation Products / *Hiroshi Sugai, Kenzo Munakata, Shigehiko Miyachi, Shouzo Yasu*

RADIOACTIVE WASTE MANAGEMENT

- 196 Estimate of the Crud Contribution to Shipping Cask Containment Requirements / *Robert P. Sandoval, Robert E. Einziger, Hans Jordan, Anthony P. Malinauskas, Walter J. Mings*

MATERIALS

- 207 Analysis of Palladium Coatings to Remove Hydrogen Isotopes from Zirconium Fuel Rods in Canada Deuterium Uranium-Pressurized Heavy Water Reactors: Thermal and Neutron Diffusion Effects / *Cynthia L. Stokes, Robert E. Buxbaum*

RADIATION BIOLOGY AND MEDICINE

- 217 Neutron Autoradiography of Trace Amounts of Gadolinium / *Jing-Luen A. Shih, Robert M. Brugger*

(Continued)

ON THIS COVER

This month's cover is based on Figs. 2 and 5 of the paper by Andsten and Vaurio and Fig. 4 of the paper by Lee and Cho.

CONTENTS / MAY 1992–VOL. 98, NO. 2

(Continued)

HEAT TRANSFER AND FLUID FLOW

- 224 An Analysis for the Failed Steam Generator Tube Plug / *Hsu-Chieh Yeh, Robert F. Keating, R. Michael Roidt, L. E. Hochreiter*

REACTOR OPERATIONS

- 230 Semi-Markov Reliability Analysis of Alternating Systems in a Nuclear Power Plant / *Kwang Nam Lee, Nam Zin Cho*

TECHNICAL NOTES

NUCLEAR FUEL CYCLES

- 242 Electrochemical Decontamination of Metallic Surfaces Contaminated by Spent-Fuel Storage Pool Water / *Prakash B. Chaudhary, Manohar G. Bhide*
- 245 Consequences of Instability and Nonstoichiometry in High-Temperature Nuclear Fuels / *Donald G. Schweitzer*

DEPARTMENT

- 253 Letter to the Editor