# nuclear frehnology®

# CONTENTS / JUNE 1993-VOL. 102, NO. 3

## **TECHNICAL PAPERS**

#### **FISSION REACTORS**

- 287 Development of an Automatic Metal Analysis System for Boiling Water Reactor Primary Water and Its Application / *Hiroo Igarashi, Michio Nitto, Fumio Mizumiwa, Katumi Ohsumi*
- 297 Development of the Chinshan Plant Analyzer and Its Assessment with Plant Data / Shih-Jen Wang, Chun-Sheng Chien, Jung-Yuh Jang, Shaw-Cuang Lee

#### NUCLEAR REACTOR SAFETY

**304** Steam Generator Secondary pH During a Steam Generator Tube Rupture / James P. Adams, Eric S. Peterson

#### **NUCLEAR FUEL CYCLES**

- **313** Estimation of Burnup in Taiwan Research Reactor Fuel Pins by Using Nondestructive Techniques / *Lung Kwang Pan, Cheng Si Tsao*
- 323 Radiochemical Evaluation for Debris-Induced Failures / G. Goncarovs

#### ENRICHMENT AND REPROCESSING SYSTEMS

- **331** Cadmium Transport Through Molten Salts in the Reprocessing of Spent Fuel for the Integral Fast Reactor / K. Michael Goff, Alfred Schneider, James E. Battles
- 341 New Separation Process for Neptunium, Plutonium, and Uranium Using Butyraldehydes as Reductants in Reprocessing / *Gunzo Uchiyama, Sachio Fujine, Shinobu Hotoku, Mitsuru Maeda*

#### MATERIALS

**ON THIS COVER** 

- **353** A Liquid-Metal Reactor Core Demonstration Experiment Using HT-9 / Alvia E. Bridges, Alan E. Waltar, Robert D. Leggett, Ronald B. Baker, Jerry L. Ethridge
- 367 Fracture and Tensile Properties of Irradiated Zircaloy-2 Pressure Tubes / Frank H. Huang, William J. Mills
- **376** Tensile Behavior of Neutron-Irradiated Martensitic Steels: A Review / *R. L. Klueh*

#### (Continued)

This month's cover is an artist's abstraction of the graph in Fig. 15 of the paper by Siddique et al.

# CONTENTS / JUNE 1993-VOL. 102, NO. 3

#### (Continued)

#### HEAT TRANSFER AND FLUID FLOW

**386** Local Heat Transfer Coefficients for Forced-Convection Condensation of Steam in a Vertical Tube in the Presence of a Noncondensable Gas / *Mansoor Siddique, Michael W. Golay, Mujid S. Kazimi* 

#### **REACTOR OPERATIONS**

**403** Development of In-Service Inspection Plans for Nuclear Components at the Surry Unit 1 Nuclear Power Station / *Truong V. Vo, Frederic A. Simonen, Steven R. Doctor, Brian W. Smith, Bryan F. Gore* 

### **TECHNICAL NOTE**

#### HEAT TRANSFER AND FLUID FLOW

**416** Modification to Unal's Subcooled Flow Boiling Bubble Model / *Richard A. Riemke* 

## DEPARTMENTS

- 418 Volume 102 Indexes
- v Volume 102 Contents