

# CONTENTS / JANUARY 1983-VOL. 60, NO. 1

# **TECHNICAL PAPERS**

#### **FISSION REACTORS**

- 7 Critical Heat Flux Predictions in Rod Bundles / Shih-Ping Kao, Mujid S. Kazimi
- 14 Performance of a Pressurized Water Reactor Power Estimation Algorithm / Michael O. Fryer, William M. Yarbrough
- 23 Frequency-Dependent Nodal Analysis of Boiling Water Reactor Stability / Jong-Kyun Park, Martin Becker, Goon-Cherl Park

#### **NUCLEAR SAFETY**

- 35 A Theoretical Study of the Growth of Large Sodium Vapor Bubbles in Liquid Sodium, Including the Effect of Noncondensables and of Vapor Convection / Folco Casadei, Mario Dalle Donne
- 50 The Weather Information and Display Emergency Response System / Alfred J. Garrett, Melvin R. Buckner, Richard A. Mueller
- 60 Large Population Center and Core Melt Accident Considerations in Siting / Leonidas Camarinopoulos, George Yadigaroglu

## **NUCLEAR FUELS**

69 GRABB—A Computer Code for Simulating Fission Gas Disposition in Oxide Fuel During Fast Thermal Transient / Shan H. Chien, A. R. Wazzan, D. Okrent

# RADIOACTIVE WASTE MANAGEMENT

- 84 Limiting-Individual Dose from an Extended-Source High-Level Waste Repository Model / Leslie L. Edwards, Ted F. Harvey
- 97 Migration of Concentrated Radionuclide Solutions in Water-Saturated Soil— Investigation of a Hypothetical High Activity Waste Solution Discharge Accident / Klemens Schwarzer, Josef Thelen, Werner Katscher

# (Continued)

ON THIS COVER

This month's cover is taken from the filling pattern shown in Fig. 5 of the paper by Edwards and Harvey.

# CONTENTS / JANUARY 1983-VOL. 60, NO. 1

#### (Continued)

#### **MATERIALS**

104 Uniaxial In-Reactor Creep of Zircaloy-2: Stress, Flux, and Temperature Dependence / Franco Tinti

#### RADIATION BIOLOGY AND ENVIRONMENT

114 Assessment of Radiation Dose and Effects from Radon and Its Progeny in Energy-Efficient Homes / Werner Burkart

# **HEAT TRANSFER AND FLUID FLOW**

- 124 Study of Stream Flow Effects on Bubble Motion / Samir S. Sami
- 137 Thermodynamic Disequilibrium in the Critical Flow of Subcooled Liquids / Gian Piero Celata, Maurizio Cumo, Giovanni Elvio Farello, Pier Carmelo Incalcaterra, Antonio Naviglio
- 143 Steady-State and Transient Prediction of a 19-Tube Once-Through Steam Generator Using RELAP5/MOD1 / Yassin A. Hassan, Charles D. Morgan

### **TECHNIQUES**

151 Development of a Wide Range Environmental Gamma-Ray Dosimeter / W. Reed Johnson, Rion A. Causey, Paul J. Rodi, Gustave E. Carlson

### **TECHNICAL NOTE**

#### **TECHNIQUES**

155 Neutron Moisture Meters: The Effects of Various Soil Parameters / David J. Wilson

# **DEPARTMENTS**

- 1 Authors
- 164 Book Reviews
- 169 Corrigendum