

## CONTENTS / APRIL 1994—VOL. 106, NO. 1

### TECHNICAL PAPERS

#### FISSION REACTORS

- 1 Monte Carlo Simulation of the Massachusetts Institute of Technology Research Reactor / *Everett L. Redmond II, Jacquelyn C. Yanch, Otto K. Harling*
- 15 Assessment of the Impact of Neutronic/Thermal-Hydraulic Coupling on the Design and Performance of Nuclear Reactors for Space Propulsion / *Shashikant M. Aithal, Tunc Aldemir, Kambiz Vafai*

#### NUCLEAR REACTOR SAFETY

- 31 Conceptual Design Station Blackout and Loss-of-Flow Accident Analyses for the Advanced Neutron Source Reactor / *C. D. Fletcher, L. S. Ghan, J. C. Determan, H. H. Nielsen*
- 46 Simultaneous Bottom and Top-Down Rewetting Calculations with the CATHARE Code / *Jan Bartak, Timo Haapalehto*

#### NUCLEAR FUEL CYCLES

- 60 Mixed-Oxide Fuel Fabrication Technology and Experience at the Belgonucléaire and CFCa Plants and Further Developments for the MELOX Plant / *Didier Haas, Alain Vandergheynst, Jean van Vliet, Robert Lorenzelli, Jean-Louis Nigon*

#### HEAT TRANSFER AND FLUID FLOW

- 83 A Two-Dimensional Finite Element Method Large Eddy Simulation for Application to Turbulent Steam Generator Flow / *Freddie J. Davis, Jr., Yassin A. Hassan*
- 100 Visualization of the Lower Plenum Anomaly in the Westinghouse AP600 Reactor / *Thomas D. Radcliff, William S. Johnson, J. Roger Parsons, Douglas E. Ekeroth*

#### REACTOR OPERATIONS

- 110 Development of In-Service Inspection Priorities for Pressurized Water Reactor High-Pressure Injection System Components / *Truong V. Vo, Doyle R. Edwards*

(Continued)

### ON THIS COVER

This month's cover is an artist's abstraction of Fig. 5 in the paper by Radcliff et al.

# CONTENTS / APRIL 1994–VOL. 106, NO. 1

(Continued)

## TECHNICAL NOTES

### FISSION REACTORS

- 125 Development of the Kuosheng Plant Analyzer and Its Assessment with Plant Data / *Shih-Jen Wang, Chun-Sheng Chien, Chia-Yu Wang, Tsu-Chi Lyie, Shih-Hsiin Chang, Der-Chyuan Wang, Suh-Chyn Jeng*

### REACTOR CONTROL

- 135 The Scaling Parameter of the Sigmoid Function in Artificial Neural Networks / *Tim H. J. J. van der Hagen*