

# nuclear technology®

CONTENTS / NOVEMBER 2008—VOL. 164, NO. 2

## TOUGH2-06

- 153 Recent Advances in Nuclear Waste Isolation Through Simulations with the TOUGH Codes / *Jens Birkholzer*

## TECHNICAL PAPERS

- 155 Numerical Modeling of the Gas Migration Test at the Grimsel Test Site (Switzerland) / *Rainer Senger, Bill Lanyon, Paul Marschall, Stratis Vomvoris, Ai Fujiwara*
- 169 Sensitivity Analysis for Joint Inversion of Ground-Penetrating Radar and Thermal-Hydrological Data from a Large-Scale Underground Heater Test / *M. B. Kowalsky, J. Birkholzer, J. Peterson, S. Finsterle, S. Mukhopadhyay, Y. Tsang*
- 180 Modeling Reactive Multiphase Flow and Transport of Concentrated Solutions / *Guoxiang Zhang, Nicolas Spycher, Eric Sonnenthal, Carl Steefel, Tianfu Xu*
- 196 Using TOUGHREACT to Model Laboratory Tests on the Interaction of  $\text{NaNO}_3$ -NaOH Fluids with Sandstone Rock at a Deep Radionuclide Repository Site / *A. V. Kiryukhin, E. P. Kaymin, E. V. Zakharova*
- 

## REGULAR TECHNICAL PAPERS

### FISSION REACTORS

- 207 Lessons Learned from Sodium-Cooled Fast Reactor Operation and Their Ramifications for Future Reactors with Respect to Enhanced Safety and Reliability / *J. Guidez, L. Martin, S. C. Chetal, P. Chellapandi, Baldev Raj*

### REACTOR SAFETY

- 221 An Enhanced Code for the Safety Analysis of Pool-Type Sodium-Cooled Fast Reactors / *Kwi Seok Ha, Hae Yong Jeong, Young Min Kwon, Yong Bum Lee, Dohee Hahn, James E. Cahalan, Floyd E. Dunn*
- 232 Experimental Investigations on the ESBWR Stability Performance / *C. P. Marcel, M. Rohde, T. H. J. J. Van der Hagen*
- 245 Radiolytic Oxidation of Ruthenium Oxide Deposits / *C. Mun, L. Cantrel, C. Madic*

### FUEL CYCLE AND MANAGEMENT

- 255 Spherical Fuel Element Concept for Small Reactor Design / *Kenneth Geelhood, Dean Matson, David Senior, Chad Painter*

(Continued)

# CONTENTS / NOVEMBER 2008—VOL. 164, NO. 2

(Continued)

## THERMAL HYDRAULICS

- 265 RELAP5 Analyses of Thermal-Hydraulic Behavior in Steam Generator U-Tubes During Reflux Condensation / *Noritoshi Minami, Toshiaki Chikusa, Michio Murase*

## MATERIALS FOR NUCLEAR SYSTEMS

- 278 Experimental Study and Model Development on the Moisture Effect for Nuclear Graphite Oxidation / *Eung Soo Kim, Chang Ho Oh, Hee Cheon No*
- 286 Advanced Polymer Composites for the Fabrication of Spent Nuclear Fuel Disposal Containers / *Hugues W. Bonin, Ian Miedema, Van Tam Bui*

## TECHNICAL NOTE

### RADIATION MEASUREMENTS AND INSTRUMENTATION

- 305 Nondestructive Determination of Relative Plutonium Content in MOX Fuel Pins for Pressurized Heavy Water Reactors Using Passive Gamma Scanning / *K. V. Vrinda Devi, T. Soreng, J. P. Panakkal, H. S. Kamath*