

### TECHNICAL PAPERS

#### FISSION REACTORS

- 1 Gaussian Processes for State Identification in Pressurized Water Reactors / *Andreas Ikonomopoulos, Miltiadis Alamaniotis, Stylianos Chatzidakis, Lefteri H. Tsoukalas*

#### FISSION REACTORS/NUCLEAR PLANT OPERATIONS AND CONTROL

- 13 Assessment of the Efficiency of Extended Power Uprates at U.S. Boiling Water Reactors / *Brenden Heidrich, Samuel A. Oyewole, Richard Olawoyin*

#### FISSION REACTORS/FUEL CYCLE AND MANAGEMENT

- 26 Salt-Cooled Modular Innovative Thorium Heavy Water-Moderated Reactor System / *Holly R. Trelue, Richard J. Kapernick, D. V. Rao, J. Zhang, Jack D. Galloway*
- 39 Viability Assessment of Noble Gas Bundle Tagging for Failed-Fuel Identification in CANDU Reactors / *B. Pollack, B. J. Lewis, D. Kelly*
- 49 The Effect of Coating Parameters and Annealing on the Crushing Strength of TRISO Coated Particles / *J. J. Hancke, G. T. Van Rooyen, J. P. R. De Villiers*

#### FUEL CYCLE AND MANAGEMENT/MISCELLANEOUS

- 57 The Role of  $Gd_2O_3$  Phase Transition on  $UO_2$ - $Gd_2O_3$  Fuel Sintering / *Michelangelo Durazzo, Ricardo Mendes Leal Neto, Adonis Marcelo Saliba-Silva, Elita Fontenele Urano de Carvalho, Humberto Gracher Riella*

#### RADIATION TRANSPORT AND PROTECTION

- 63 Hybrid Monte Carlo/Deterministic Methods for Accelerating Active Interrogation Modeling / *Douglas E. Peplow, Thomas M. Miller, Bruce W. Patton, John C. Wagner*

#### NUCLEAR PLANT OPERATIONS AND CONTROL/MISCELLANEOUS

- 75 Updating of Analytical Model to Consider Aging Effects of Lead-Rubber Bearings for the Seismic Design of Base-Isolated Nuclear Power Plants / *Thuy Dung Vu, Dookie Kim, Sung Gook Cho*

#### REPROCESSING

- 84 Single-Stage Dual-Column HPLC Technique for Separation and Determination of Lanthanides in Uranium Matrix: Application to Burnup Measurement on Nuclear Reactor Fuel / *Arpita Datta, N. Sivaraman, T. G. Srinivasan, P. R. Vasudeva Rao*

# CONTENTS / APRIL 2013—VOL. 182, NO. 1

(Continued)

- 98** Modeling the Anodic Behavior of U, Zr, and U-Zr Alloy in Molten LiCl-KCl Eutectic / *Aligati Venkatesh, Suddhasattwa Ghosh, S. Vandarkuzhali, B. Prabhakara Reddy, K. Nagarajan, P. R. Vasudeva Rao*

## **MATERIALS FOR NUCLEAR SYSTEMS**

- 111** Long-Term Electrochemical Criteria for Crevice Corrosion in Concentrated Chloride Solutions / *T. Ahn, H. Jung, P. Shukla, X. He*