

## Contents

### RESEARCH ARTICLES

- 1279** Elastic, Anelastic, and Thermal Properties of P91 Steel with Microstructural Variability  
*Z. Miles, A. Balodhi, T. Seuaciuc-Osorio, J. J. Wall, M. Guimaraes, A. Zevalkink, S. K. Chakrapani*
- 1295** Enhancement of Gamma-Ray and Neutron Shielding Properties of  $\text{TeO}_2\text{-Li}_2\text{O-ZnO-Nb}_2\text{O}_5$  Glass System with the Addition of  $\text{Sm}_2\text{O}_3$   
*Zhigang Li, Junfeng Zhao, Yuanjie Sun, Yi Wang, Hongtao Zhao*
- 1304** A Novel Communication Framework for Reduction of Staffs in Advanced MCRs of SMRs: A Prototype Development of a NLP-Based System  
*Taejin Kim, Donghan Yoo, Jongin Yang, Seoryong Koo, KyungTae Lim*
- 1319** Irregular, Backward-Compatible PWR Assemblies with More Pins to Facilitate Upgrades  
*Ben Lindley*
- 1336** Evaluation of Reaction Rate Distribution Measurement in the Prototype Fast Reactor Monju  
*Kazuya Ohgama, Taira Hazama, Hiroki Katagiri, Atsushi Takegoshi, Tetsuya Mouri*
- 1354** Safeguards and Security for High-Burnup TRISO Pebble Bed Spent Fuel and Reactors  
*Charles Forsberg, Andrew Kadak*
- 1366** Multicriteria Decision Making in Site Selection for Nuclear Power Plants  
*Berna Tuncer, Aysen D. Akkaya, M. Semih Yucemen*
- 1392** Prediction of Flooding Characteristic in Pulsed Disc and Doughnut Extraction Column Using LASSO Method  
*Lei Jin, Hui He, Yu Zhou, Hongguo Hou, Meng Zhang, Yang Gao*
- 1414** Study on Flow Characteristics of Integrated Natural Circulation Reactor Under Inclined Conditions  
*Haibo Lian, Shengqiang Li, Shengyao Jiang, Hongye Zhu*
- 1427** Retention of Hydrogen Bubbles Generated from Water Radiolysis in Carbonate Slurry  
*Tatsuya Ito, Ryuji Nagaishi, Ryo Kuwano*

—continued—

## Contents continued

VOLUME 210 · NUMBER 8 · AUGUST 2024

**1444** Discrete Element Method Simulation of the Idaho Calcine Simulant for Hot Isostatic Pressing Canister-Filling Process: Part 1  
*Simon Chung, Martin Stewart, Andrew Grima, Peter Wypych, Sam Moricca*

**1464** In Situ Chlorine Generation and Rare Earth Chlorination by Molten Salt Electrolysis  
*Mark Schvaneveldt, Tyler Williams, Ranon Fuller, Devin Rappleye*

**1475** Sorption of U(VI) on MX-80 Bentonite and Granite in Ca-Na-Cl Saline Solutions  
*Zhiwei Zheng, Fabiola Guido Garcia, Jianan Liu, Shinya Nagasaki, Tammy (Tianxiao) Yang*

### NOTES

**1487** Bentonites as Natural Sources of Thorium and Uranium  
*Javiera Cervini-Silva*

**1496** Effect of Gamma Heating on Heat Pipe–Cooled, Calcium Hydride–Moderated Core  
*Rei Kimura, Kazuhito Asano*

### CORRECTION

**1503** Determination of the Gas Plenum Temperature of the P2M Instrumented Fuel Rodlets on the Basis of a Thermal-Hydraulic Study of the Belgian Reactor 2 Pressurized Water Capsule  
*A. Fayet, S. Béjaoui, T. Cadiou, J. Perez-Manes, E. Deveaux, A. Vernier, V. D'Ambrosi, J. Sercombe, C. Nonon-Solaro, G. Bignan, C. Koren, S. Mimouni, A. Ambard, B. Rossaert, P. Gouat, B. Boer, R. Wouter-Bosch*