

Contents

REVIEW ARTICLE

- 185** Nuclear Data–Induced Uncertainties in Criticality Safety Analyses for High-Burnup and Extended Enrichment Fuels
W. A. Metwally, M. N. Dupont, W. J. Marshall, C. Celik, V. Karriem, A. Lang, K. L. Fassino, A. M. Shaw

RESEARCH ARTICLES

- 194** On the Accuracy of Transport Spatial Discretization Methods for Diffusive Regimes
Rodolfo M. Ferrer, Edward W. Larsen
- 209** Thermal Release Mechanisms of a Typical Absorber at the Synchrotron Radiation Front End Based on Finite Element Analysis
Yunfei Sun, Tong Li, Lan Lan, Shuhao Xu, Jiahua Chen, Wanqian Zhu, Song Xue, Hongxin Luo, Limin Jin
- 223** A Method to Calculate the Maturity Time for Low Neutron Source Nuclear Reactor Startup Simulations
T. L. Gordon, M. M. R. Williams, M. D. Eaton
- 239** In Situ Electronic Structure Analysis of Water-Corroded UN_x in High Vacuum
Zhilei Chen, Huoping Zhong, Yin Hu, Tingwen Yan, Ruilong Yang, Qifa Pan, Lizhu Luo, Yongbin Zhang, Daoming Chen, Kezhao Liu
- 253** The Q-cascade Theory with Material Losses and Gains
Shi Zeng
- 266** Practical Design of a Breed-and-Burn Lead-Cooled Fast Reactor with Rotational Fuel Shuffling Strategy
Alexandru Catalin Stafie, Jun Nishiyama, Toru Obara
- 280** Verification of Adjoint Solution Commutativity with the New OpenNode Nodal Diffusion Code
Hicham Satti, Otman El Hajjaji, Tarek El Bardouni, Tarik El Ghalbzouri
- 295** Review and Modeling of Integrated Energy Systems with Nuclear Reactor Coupled Desalination and District Heating
Md Akhlak Bin Aziz, C. T. Callaway, Nicholas R. Brown, Caleb Brooks

—continued—

Contents continued

VOLUME 199 · NUMBER 2 · FEBRUARY 2025

- 314** Examining Beam Matching in the Commissioning of a Halcyon Accelerator
*Duong Thanh Tai, Hoang Duc Tuan, Nguyen Xuan Hai, Nguyen Ngoc Anh,
David Bradley, Peter Sandwall, James C. L. Chow*

NOTE

- 325** A Modified Implicit Monte Carlo Method for Frequency-Dependent Three Temperature Radiative Transfer Equations
Min Gao, Yi Shi