

CONTENTS / OCTOBER 2013—VOL. 184, NO. 1

TECHNICAL PAPERS

REACTOR PHYSICS / PRESSURIZED WATER REACTORS

1 A Stylized Three-Dimensional Pressurized Water Reactor Benchmark Problem with UO₂ and MOX Fuel / Farzad Rahnema, Ryan Hon, Steven Douglass

NEUTRON TRANSPORT AND SHIELDING

29 Three-Dimensional Particle Transport Using Green's Functions in TRIPOLI-4 Monte Carlo Code: Application to PWR Neutron Fluence and Ex-Core Response Studies / S. Bourganel, O. Petit, C. M. Diop

FUEL DESIGN/DEFECTS/EXAMINATION / FUEL PERFORMANCE/Bu/ISOTOPES

- **42** Improved Irradiation Performance of Uranium-Molybdenum/Aluminum Dispersion Fuel by Silicon Addition in Aluminum / *Yeon Soo Kim, G. L. Hofman, A. B. Robinson, D. M. Wachs*
- 54 Rod-Inserted Sintering of Annular Pellets for Dual-Cooled Annular Fuel / Young Woo Rhee, Dong Joo Kim, Jong Hun Kim, Jae Ho Yang, Keon Sik Kim

FUEL DESIGN/DEFECTS/EXAMINATION / MATERIALS FOR NUCLEAR FUELS

63 Development and Application of an Integrated Fuel Performance and Subchannel Model for Analysis of Sodium Fast Reactors / J. W. Fricano, J. Buongiorno

SOURCE TERM ASSESSMENT

78 Evolution of Charged Aerosols: Role of Charge on Coagulation / John F. Palsmeier, Sudarshan K. Loyalka

SOURCE TERM ASSESSMENT / TECHNIQUES FOR MEASUREMENTS OF NUCLEAR DATA / NONDESTRUCTIVE EXAMINATION/TESTING METHODS

96 Method for Analyzing Fission Gas Release in Fuel Rods Based on Gamma-Ray Measurements of Short-Lived Fission Products / Scott Holcombe, Staffan Jacobsson Svärd, Knut Eitrheim, Lars Hallstadius, Christofer Willman

PYROMETALLURGICAL REPROCESSING

107 Performance of Pyroprocess Equipment of Semi-Industrial Design and Material Balance in Repeated Engineering-Scale Fuel Cycle Tests Using Simulated Oxide/Metal Fuels / Masatoshi Iizuka, Kensuke Kinoshita, Yoshiharu Sakamura, Takanari Ogata, Tadafumi Koyama

PROLIFERATION ISSUES/NUCLEAR SAFEGUARDS

121 Resource Requirements and Proliferation Risks Associated with Small Modular Reactors / Alexander Glaser, Laura Berzak Hopkins, M. V. Ramana