

# Contents

## “Radioactive Waste Management”

Making the Case for Safe Storage of Used Nuclear Fuel for Extended Periods of Time: Combining Near-Term Experiments and Analyses with Longer-Term Confirmatory Demonstrations <i>Ken B. Sorenson and Brady Hanson</i> .....	421
Considerations Regarding ROK Spent Nuclear Fuel Management Options <i>Chaim Braun and Robert Forrest</i> .....	427

## Papers

### Thermal Hydraulics

TAPINS: A Thermal-Hydraulics System Code for Transient Analysis of A Fully-Passive Integral PWR <i>Yeon-Gun Lee and Goon-Cherl Park</i> .....	439
--	-----

### Nuclear Safety

Establishment of a Severe Accident Mitigation Strategy for an SBO at Wolsong Unit 1 Nuclear Power Plant <i>Sungmin Kim and Dongha Kim</i> .....	459
Thermal and Structural Analysis of Calandria Vessel of a PHWR during a Severe Accident <i>P.P. Kulkarni, S. V. Prasad, A. K. Nayak, and P. K. Vijayan</i> .....	469

### Nuclear I&C

A Research on Seamless Platform Change of a Reactor Protection System from PLC to FPGA <i>Junbeom Yoo, Jong-Hoon Lee, and Jang-Soo Lee</i> .....	477
A Behavior-Preserving Translation from FBD Design to C Implementation for Reactor Protection System Software <i>Junbeom Yoo, Eui-Sub Kim, and Jang-Soo Lee</i> .....	489

### Nuclear Fuel and Reactor Materials

Influence of Alloy Composition on Work Hardening Behavior of Zirconium-based Alloys <i>Hyun-Gil Kim, Il-Hyun Kim, Jeong-Yong Park, and Yang-Hyun Koo</i> .....	505
A review on the ODS/CC of Steam Generator Tubes in Korean NPPs <i>Hansub Chung, Hong-Deok Kim, Seungjin Oh, Myung Hwan Boo, Kyung-Hwan Na, Eunsup Yun, Yong-Seok Kang, Wang-Bae Kim, Jae Gon Lee, Dong-Jin Kim, and Hong Pyo Kim</i> .....	513

### Radiation Applications and Shielding

Design and Fabrication of the Beam Position Monitor for the PEFPP Linac <i>Hyeok-Jung Kwon, Han-Sung Kim, Kyung-Tae Seol, Jin-Yeong Ryu, Ji-Ho Jang, and Yong-Sub Cho</i> .....	523
Scattering Correction for Image Reconstruction in Flash Radiography <i>Liangzhi Cao, Mengqi Wang, Hongchun Wu, Zhouyu Liu, Yuxiong Cheng, and Hongbo Zhang</i> .....	529

# Contents

---

## **Nuclear Structural Analysis and Plant Management & Maintenance**

Factors of Groundwater Fluctuation in Shin Kori Nuclear Power Plants in Korea

*Seung Gyu Hyun, Nam C. Woo, Kue-Young Kim, Hyun-A Lee* ..... 539

Local Collision Simulation of an SC Wall Using Energy Absorbing Steel

*Chul-Hun Chung, Hyun Choi, and Jaegyun Park* ..... 553

## **Technical Note**

### **Nuclear Fuel and Reactor Materials**

Fabrication and Material Issues for the Application of SiC Composites to LWR Fuel Cladding

*Weon-Ju Kim, Daejong Kim, and Ji Yeon Park* ..... 565