

Energy and Sustainability

MRS Advances Volume 8, Issue 6

Held Various Dates and Locations

ISBN: 978-1-7138-7677-9

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

Copyright© (2023) by Springer Nature
All rights reserved.

Printed with permission by Curran Associates, Inc. (2023)

For permission requests, please contact Springer Nature
at the address below.

Springer Nature
The Campus 4 Crinan St.
London N1 9XW
United Kingdom

www.springernature.com

Additional copies of this publication are available from:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: 845-758-0400
Fax: 845-758-2633
Email: curran@proceedings.com
Web: www.proceedings.com

TABLE OF CONTENTS

A Snapshot Review on Uranyl Secondary Phases Formation in Aqueous Systems	207
<i>N. Rodríguez-Villagra, L. J. Bonales, A. Milena-Pérez, H. Galán</i>	
Long-Term Diffusion of Neptunium and Other Elements in Compacted Bentonite Reveals Filtration	214
<i>Kazuya Idemitsu, Yoohiro Inagaki, Tatsumi Arima</i>	
Sorption Behavior of Cesium and Strontium During the Formation Process of Calcium Silicate Hydrate as a Secondary Mineral Under the Condition Saturated with Groundwater	224
<i>Tsugumi Seki, Reo Tamura, Taiji Chida, Yuichi Niibori</i>	
Candidate Wasteforms for the Immobilisation of Lithium Sulphate-Bearing Nuclear Wastes: A Scoping Study.....	231
<i>Rifat Farzana, Pranesh Dayal, Phillip Sutton, Inna Karatchevtseva, Zaynab Aly, Daniel Gregg</i>	
Exploring a Surrogate of Pellet–Cladding Interaction: Characterization and Oxidation Behavior	238
<i>N. Rodríguez-Villagra, L. J. Bonales, S. Fernández-Carretero, A. Milena-Pérez, L. Gutierrez, H. Galán</i>	
Study on Borehole Sealing Corresponding to Hydrogeological Structures by Groundwater Flow Analysis.....	243
<i>Takuma Sawaguchi, Shizuka Takai, Tsuyoshi Sasagawa, Emiko Uchikoshi, Yosuke Shima, Seiji Takeda</i>	
Radionuclide Distribution in Irradiated BWR Tie Plate	250
<i>Tomofumi Sakuragi, Yuki Nakai, Shuji Yamamoto, Naoto Kume, Tsukasa Sugita, Yu Yamashita, Hiroyoshi Ueda</i>	
Accelerated Dissolution of Doped UO ₂ -Based Model Systems as Analogues for Modern Spent Nuclear Fuel Under Repository Conditions	255
<i>Philip Kegler, Stefan Neumeier, Martina Klinkenberg, Andrey Bukaemskiy, Guido Deissmann, Felix Brandt, Dirk Bosbach</i>	
Caustic Scrubber Waste Converted to Aluminosilicates: Structures Determined by Nuclear Magnetic Resonance.....	261
<i>John McCloy, Nicholas Stone-Weiss, David Bollinger</i>	
Solid Solubility in the CeTi ₂ O ₆ –CeTiNbO ₆ System: A Multi-Element X-Ray Spectroscopic Study	267
<i>M. Wilkins, M. Stennett, J. McCloy, C. Corkhill</i>	
Potential Methods to Reduce the Thermal Impact of Vitrified Waste from Spent Mixed Oxide Fuel on Geological Repositories.....	274
<i>Ryo Hamada, Tomofumi Sakuragi, Hidekazu Asano, Toshiro Oniki, Midori Uchiyama</i>	
Structural Incorporation of Europium into Uranium Oxides	278
<i>Shannon Potts, Philip Kegler, Giuseppe Modolo, Martina Klinkenberg, Simon Hammerich, Irmgard Niemeyer, Dirk Bosbach, Stefan Neumeier</i>	
Simulating the Carbon Distribution in Zirconium Alloy Spent Fuel Cladding	285
<i>Teppei Otsuka, Yuya Kondo, Hiroyuki Ogawa, Tomofumi Sakuragi</i>	

Shelf-Life of Uranium Oxide Microparticle Reference Materials and Possible Implications for the Identification of Optimal Storage Conditions.....	290
<i>Simon Hammerich, Shannon Potts, Philip Kegler, Stefan Neumeier, Axel Schmitt, Mario Trieloff</i>	
Novel Method of Recycling Perovskite Solar Cells Using Iodide Solutions.....	296
<i>Tanner O'Hara, Achyuth Ravilla, Emma McCalmont, Brett Carlson, Jon Kellar, Zhaoning Song, Ilke Celik</i>	
Increasing the Ionic Conductivity of Lithium Carbonphosphonitride Thermosets Through Plasticization and Increased Li Concentration.....	302
<i>Andrew Purdy, Daniel Fragiadakis, A. Klug, Brian Chaloux, Hunter Ford, Mark Bovee, Megan Sassin</i>	
Optimized 2D Nanostructures for Catalysis of Hydrogen Evolution Reactions.....	307
<i>Caique De Oliveira, Pedro Da Silva Autreto</i>	
A Recyclable Screen Ink with State-of-the-Art Performance Developed Using a Bottom-Up, Safety and Sustainability-Driven Approach	311
<i>Anna-Marie Gorman, Amy Clayton, Trevor O'Connell, David Johnson</i>	
Life Cycle Cost Assessment of Material Recovery from Perovskite Solar Cells	317
<i>Emma McCalmont, Achyuth Ravilla, Tanner O'Hara, Brett Carlson, Jon Kellar, Ilke Celik</i>	

Author Index