

American Institute of Chemical Engineers

Conference of the Nuclear
Engineering Division
2007

Held at the 2007 AIChE Spring National Meeting

April 22-27, 2007
Houston, Texas, USA

Printed from e-media with permission by:

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

ISBN: 978-1-60423-365-0

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

ISBN: 978-1-60423-365-0

Copyright (2006) by the American Institute of Chemical Engineers.
All rights reserved.

For permission requests, please contact the American Institute of Chemical Engineers at the address below.

American Institute of Chemical Engineers
Proceedings
Three Park Avenue
New York, NY 10016-5991
Phone: 212-591-8100

www.aiche.org

TABLE OF CONTENTS

Session 2 – Advanced Oxidation and Separation Processes for Environmental & Energy Industries

Purification of Simulated Neptunium Filtrate Solution by Anion Exchange	1
<i>Mark L. Crowder, Edward A. Kyser</i>	
Cesium Removal Performance of Resorcinol-Formaldehyde Resin	2
<i>Charles A. Nash, Sebastian E. Aleman, Cheryl E. Duffey, Murray R. Thorson</i>	
Appropriateness of Mechanistic and Non-mechanistic Models for the Application of Ultrafiltration to Mixed Waste	3
<i>Henry Foust, Malay Ghosehajra</i>	
Yield Stress Reduction of DWPF Melter Feed Slurries	11
<i>M.E. Stone, M.E. Smith</i>	
Combining Advanced Oxidation Processes: Assessment of Process Additivity, Synergism, and Antagonism	18
<i>Robert W. Peters, M.P. Sharma, Yusuf Gbadebo Adewuyi</i>	
Filtration of Modified Monosodium Titanate Slurries	26
<i>Michael Poirier, Samuel D. Fink</i>	

Session 33 – Hydrogen Production from Nuclear Energy

Novel Separation Process of Gaseous Mixture of SO₂ and O₂ with Ionic Liquid for Hydrogen Production in Thermochemical Sulfur-Iodine Water Splitting Cycle	27
<i>Chang Soo Kim, Ki Yong Lee, Kwang Ho Song, Gyeong Taek Gong, Kye Sang Yoo, Honggon Kim, Byoung Gwon Lee, Byoung Sung Ahn, Kwang Deog Jung</i>	
MELCOR-H2 Benchmarking of the SNL Transient Sulfuric Acid Decomposition Experiments	34
<i>Sal B. Rodriguez, David Louie, Randall O. Gauntt, Fred Gelbard, Paul Pickard, Randy Cole, Katherine McFadden, Tom Drennen, Billy Martin, Louis Archuleta, Shripad T. Revankar, Karen Vierow, Mohamed El-Genk, Jean Michel Tournier</i>	
High Temperature Gas-Cooled Reactor Coupled with High Temperature Steam Electrolysis	45
<i>Chang H. Oh, Cliff Davis, Robert Barner, Eung S. Kim, Steven Sherman, R. Vilim</i>	
Molten-Phase Hydrolysis Stage Analysis and Experiments for the Calcium Bromine Thermochemical Cycle	58
<i>Richard D. Doctor, C.B. Panchal, Steven A. Lottes, Robert W. Lyczkowski, Jianhong Yang</i>	

Author Index