

CONTENTS / APRIL 2012—VOL. 178, NO. 1

SPECIAL ISSUE ON THE SECOND INTERNATIONAL TOPICAL MEETING ON THE SAFETY AND TECHNOLOGY OF NUCLEAR HYDROGEN PRODUCTION, CONTROL, AND MANAGEMENT

- 1 Dedication / Kenneth R. Schultz, J. Stephen Herring, Kevin R. O'Kula
- 3 Foreword: Special Issue on the Second International Topical Meeting on the Safety and Technology of Nuclear Hydrogen Production, Control, and Management / J. Stephen Herring

TECHNICAL PAPERS

HYDROGEN SAFETY AND RECOMBINERS

- 5 Flammability Limits of Hydrogen-Air Mixtures / H. Cheikhravat, N. Chaumeix, A. Bentaib, C.-E. Paillard
- 17 Numerical Study of Hydrogen Ignition by Passive Autocatalytic Recombiners / N. Meynet, A. Bentaib
- 29 Catalyst for Recombination of Hydrogen and Oxygen in Confined Spaces Under High Concentrations of Hydrogen / V. Shepelin, D. Koshmanov, E. Chepelin
- 39 Improved Model for Hydrogen Generation Rate of Radioactive Waste at the Hanford Site / T. Albert Hu

NUCLEAR HYDROGEN PRODUCTION

- 55 Review of the Potential of Nuclear Hydrogen for Addressing Energy Security and Climate Change / James E. O'Brien
- 66 Nuclear-Renewables Energy System for Hydrogen and Electricity Production / Geoffrey Haratyk, Charles W. Forsberg
- 83 Integrated Operation of the INL HYTEST System and High-Temperature Steam Electrolysis for Synthetic Natural Gas Production / Carl Stoots, Lee Shunn, James O'Brien
- 94 Summary of the Sulfur-Iodine Process Integrated Laboratory-Scale Experiment / Benjamin Russ, Robert Buckingham, Lloyd Brown, Robert Moore, Max Helie, Philippe Carle, Nicolas Pons, Denis Ode, Jean Duhamet, Jean Leybros
- 111 Sulfuric Acid Decomposition for the Sulfur-Based Thermochemical Cycles / Robert C. Moore, Milton E. Vernon, Edward J. Parma, Paul S. Pickard, Gary E. Rochau
- 119 Influence of HTR Core Inlet and Outlet Temperatures on Hydrogen Generation Efficiency Using the Sulfur-Iodine Water-Splitting Cycle / Robert Buckingham, Lloyd Brown, Ben Russ, Patrick Lovera, Philippe Carles, Jean-Marc Borgard, Pascal Yvon