

CONTENTS / JUNE 1983—VOL. 61, NO. 3

NEW DIRECTIONS IN NUCLEAR ENERGY WITH EMPHASIS ON FUEL CYCLES

379 Editor's Note / Karl Wirtz

TECHNICAL PAPERS

- 380 Evaluation of Potential Head-End Procedures for Graphite-Containing Fuel Elements / Norbert G. Hoogen, Erich R. Merz
- 388 Reprocessing in Breeder Fuel Cycles / William D. Burch, W. S. Groenier
- 398 Reprocessing of Plutonium-Enriched Light Water Reactor Fuels / E. J. Detilleux, Werner Hild, L. Geens
- 403 Irradiation Performance of Advanced Coated Particles for High-Temperature Gas-Cooled Reactor Fuel Cycles / Rainer P. Conrad, Cesare Merlini, Alfred-W. Mehner
- **416** Plutonium-Enriched Thermal Fuel Production Experience in Belgium / J. M. Leblanc
- **423** The Radioactive Waste Management Program of the Commission of the European Communities: Past, Present, and Future Trends / Serge M. Orlowski
- 432 Incentives for Integrating an Alpha Waste Management Strategy into the Fuel Cycle / Heinz Dworschak, Brian A. Hunt, Francesco Mannone, Francis Mousty
- 444 Methodology for a Consequence Analysis of a Nuclear Waste Disposal Facility / Bernd K. Buchheim, Hans Bunschi, Franz J. Hoop, James Fitzpatrick
- **450** The Decontamination of Soft-Plated Nickel Surfaces Compared to Alternative Surface Materials Used in Radioactive Transport and Storage Containers / Hans-Urs Zwicky, Ian M. Böhringer, Ferdinand Petrik, Dieter O. Bedenig
- 455 Nuclear Waste Management Policy in France / Jean F. Lefevre
- 460 Highly Dense Graphite Matrix: A New Material for the Conditioning of Radioactive Wastes / Milan Hrovat, Karl-Gerhard Hackstein, Hans Huschka, H. A. Pirk, Thomas Schmidt-Hansberg

(Continued)

ON THIS COVER

This month's cover is taken from a figure in the paper by W. D. Burch and W. S. Groenier, showing an incell (slave) manipulator system manufactured by Central Research Laboratories for the Oak Ridge National Japanet

CONTENTS / JUNE 1983—VOL. 61, NO. 3

(Continued)

NUCLEAR SAFETY

465 A Computer Program for Assessment of Emergency Operation Procedures Under Non-LOCA Transient Conditions in BWRs / Yukiharu Ohga

NUCLEAR FUELS

- 475 Diffusion of Silver and Cesium in Silicon-Carbide Coatings of Fuel Particles for High-Temperature Gas-Cooled Reactors / Winfried Amian, Detlev Stöver
- **487** Optimized Depletion of Lumped Burnable Poisons in Pressurized Water Reactors / Ziad H. Kodah, Samuel H. Levine

RADIOACTIVE WASTE MANAGEMENT

- 496 The Significance of Leach Rates in Determining the Release of Radioactivity from Vitrified Nuclear Waste / Antony E. Hughes, J. Angwin C. Marples, A. Marshall Stoneham
- 503 Actinide Hazard Reduction by Partitioning and Transmutation in a Coupled Reactor System / Alireza Haghighat, Maurice A. Robkin
- 514 Measured Thermal Response of Full-Scale Spent Fuel Cask to a Torch Environment / Manuel G. Vigil, Amado A. Trujillo, H. Richard Yoshimura

ECONOMICS

521 Preliminary Study of Cost Benefits Associated with Duplex Fuel Pellets of the LOWI Type / John Brian Ainscough, David Norman Coucill, David Anthony Howl, Arne Jensen, Ib Misfeldt

MATERIALS

533 Radiation-Induced Gas Evolution from Commercial Lubricant Base Oil / Kazuo Arakawa, Naohiro Hayakawa, Hiroshi Nakanishi

RADIATION BIOLOGY AND ENVIRONMENT

540 Generalization of Radioiodine Adsorption on Geological Materials / Toshiaki Ohe, Akira Nakaoka

TECHNICAL NOTE

HEAT TRANSFER AND FLUID FLOW

547 Digital Simulation of the Pressurizer in a Pressurized Water Nuclear Reactor / V. V. Athani, L. Vijaykumar

DEPARTMENTS

- 369 Authors
- 550 Book Reviews
- 553 Volume 61 Indexes
- Volume 61 Contents