

NUCLEAR SCIENCE AND ENGINEERING®

VOLUME 88, NUMBER 3, NOVEMBER 1984

CONTENTS

NUCLEAR REACTOR THERMAL HYDRAULICS

- 203 Editorial *The Editors*
- 205 Preface: Nuclear Reactor Thermal Hydraulics
*S. Levy, S. Banerjee,
T. G. Theofanous, Y. Y. Hsu*

TECHNICAL PAPERS

- 206 Heat Transfer in Rod Bundles with Severe Clad Deformations *P. Ihle*
- 220 Thermal Hydraulics of Valves for Nuclear Applications *Dirse W. Sallet*
- 245 Valve Qualification for Normal and Accident Conditions in Light Water Reactors
*B. Dernbach, K. Riedle,
U. Simon*
- 261 Two-Phase Critical Flow in Slits *C. N. Amos, V. E. Schrock*
- 275 Experimental Study of Two-Phase, Two-Component Flow in Centrifugal Pumps
*Juan J. Manzano-Ruiz,
David Gordon Wilson*
- 287 De-Entrainment of Liquid on Vertical Rods in Air/Water Cross Flow
*Ramu K. Sundaram,
John C. Chen,
John C. Dallman*
- 297 Flow Through a Small Break at the Bottom of a Large Pipe with Stratified Flow *J. Reimann, M. Khan*
- 311 Natural Circulation Cooling in a Pressurized Water Reactor Geometry Under Accident-Induced Conditions
*D. J. Shimeck,
G. W. Johnsen*
- 321 Effect of System Pressure on Film-Boiling Heat Transfer, Minimum Heat Flux, and Minimum Temperature
*Akira Sakurai,
Masahiro Shiotsu,
Koichi Hata*
- 331 A Study of Subcooled Film-Boiling Heat Transfer Under Reactivity-Initiated Accident Conditions in Light Water Reactors
*Nobuaki Ohnishi,
Kiyomi Ishijima,
Sadamitsu Tanzawa*
- 342 Aerosol Source Term in High Pressure Melt Ejection
*J. E. Brockmann,
W. W. Tarbell*
- 357 Erosion of Steel Structures by High-Temperature Melts *D. A. Powers*

(Continued)

CONTENTS

(Continued)

- 367** Monitoring Reactor Vessel Liquid Level with a Vertical String of Self-Powered Neutron Detectors
J. P. Adams, V. T. Berta
- 376** Fluid Dynamic Effects in the Fuel Element Top Nozzle Area During Refilling and Reflooding
A. Hawighorst, H. Kröning, F. Mayinger
- 386** An Experimental Study of Blowdown Thrust and Jet Forces for a Pipe Under Boiling Water Reactor Loss-of-Coolant Accident Conditions
T. Yano, T. Isozaki, S. Ueda, N. Miyazaki, R. Kurihara, R. Kato, S. Miyazono
- 396** Comparison of Calculated and Measured Fluid Jet Impingement Velocities in a Simulated Reactor Geometry
A. K. Hertrick, R. A. Riddell, R. E. Schwirian, G. M. Dorogy, W. J. Bryan, R. J. Hopkins
- 404** NUFREQ-NP: A Computer Code for the Stability Analysis of Boiling Water Nuclear Reactors
S. J. Peng, M. Z. Podowski, R. T. Lahey, Jr., M. Becker
- 412** A CANDU Figure-of-Eight Flow Stability Model
P. Gulshani, N. J. Spinks
- 425** Degraded Cooling in a CANDU Reactor
R. A. Brown, C. Blahnik, A. P. Muzumdar
- 436** Hydrogen Combustion in Aqueous Foams
M. R. Baer, S. K. Griffiths, J. E. Shepherd
- 445** Thermal-Hydraulic Characteristics in a Liquid-Metal Fast Breeder Reactor Hot Plenum
Nobukazu Tanaka, Shoichi Moriya, Akira Wada
- 464** Boiling and Dryout Conditions in Disturbed Cluster Geometry and Their Application to the Liquid-Metal Fast Breeder Reactor Local Fault Assessment
K. Yamaguchi, H. Nakamura, K. Haga