

MECHANICS APPLICATIONS TO FAST BREEDER REACTOR SAFETY

- 269 Preface: Mechanics Applications to Fast Breeder Reactor Safety / *Stanley H. Fistedis*

TECHNICAL PAPERS

- 271 Characterization of Liquid-Metal Fast Breeder Reactor Engineering Mechanics Effort by Lines-of-Assurance / *Stanley H. Fistedis*
- 290 A Quasi-Eulerian Fluid-Structure Code for Simulation of High-Pressure Transients in Core Components / *James M. Kennedy, Ted B. Belytschko, Daniel F. Schoeberle*
- 303 Effects of Cracks on the Response of Circular Cylindrical Shells / *Henry J. Petroski, John L. Glazik, Jr.*
- 317 The Dynamic Response of Cracked Fast Reactor Subassembly Ducts / *John L. Glazik, Jr., Henry J. Petroski*
- 332 A Eulerian Method for Analyzing Above-Core Hydrodynamics and Sodium Spillage During a Hypothetical Core Disruptive Accident / *Chung-Yi Wang*
- 349 Three-Dimensional Nonlinear Structural Model for Above-Core Structures / *James M. Kennedy*
- 363 Arbitrary Lagrangian-Eulerian Method for Transient Fluid-Structure Interactions / *Han Y. Chu*
- 378 Theory and Application of Three-Dimensional Treatment of Pool-Type Liquid-Metal Fast Breeder Reactor Components / *Ronald F. Kulak*
- 388 Validation of Primary Containment Computer Codes / *Yao W. Chang, Joseph Gvildys*
- 400 Analysis of High-Energy Excursions Using the Implicit Continuous-Fluid Eulerian Containment Code (ICECO) / *Chung-Yi Wang*
- 414 Three-Dimensional Analysis of Reactor Decks and Their Supports / *Ronald F. Kulak*

(Continued)

ON THIS COVER

This month's cover gives the names of the engineering mechanics codes for liquid-metal fast breeder reactor safety currently in national or international use that were developed by the staff of the Engineering Program of Argonne National Laboratory's Reactor and Safety Analysis Division.

CONTENTS / MID-DECEMBER 1980—VOL. 51, NO. 3

(Continued)

- 421 Analysis of Sodium Spillage from Primary Containment Following Slug Impact / *Wayne R. Zeuch, Chung-Yi Wang*
- 433 Transient Analysis of a Prestressed Concrete Reactor Vessel for Liquid-Metal Fast Breeder Reactor Primary Containment / *Algirdas H. Marchertas, Ted B. Belytschko*
- 443 Increasing Primary Containment Capabilities of Liquid-Metal Fast Breeder Reactor Plants by the Use of Prestressed Concrete / *Ralph W. Seidensticker, Algirdas H. Marchertas, Zdeněk P. Bazant*
- 452 Recent Applications and Improvements of the Hydrodynamic-Structural Piping Code ICEPEL / *M. T. A-Moneim*
- 464 Three-Dimensional Finite Element Formulation for Elastic-Plastic Nonlinear Analysis of Piping Systems / *M. T. A-Moneim*
- 476 Events Contributing to Internal Loading of Secondary Containment: An Integrated Approach / *Wayne R. Zeuch*
- 489 Potential Advantages of Prestressed Concrete for Liquid-Metal Fast Breeder Reactor Secondary Containment / *Ralph W. Seidensticker, Howard L. Schreyer*
- 499 Perspective: Mechanics Applications to Fast Breeder Reactor Safety / *Stanley H. Fistedis*

DEPARTMENTS

- 263 Authors
- 501 Volume 51 Indexes