

# nuclear technology/Fusion

## CONTENTS / APRIL 1982—VOL. 2, NO. 2

141 Comments / *George Miley*

### OVERVIEW

- 143 A Critical Review of Fusion Systems for Radiolytic Conversion of Inorganics to Gaseous Fuels / *Mark A. Prelas, Jacob B. Romero, Earl F. Pearson*
- 165 A Critical Assessment of the Effects of Pulsed Irradiation on the Microstructure, Swelling, and Creep of Materials / *N. M. Ghoniem, G. L. Kulcinski*

### TECHNICAL PAPERS

#### PLASMA ENGINEERING

- 199 Plasma Heating with Multi-MeV Neutral Atom Beams / *Larry R. Grisham, Douglass E. Post, David R. Mikkelsen, Harold P. Eubank*

#### ICF CHAMBER ENGINEERING

- 215 Time-Dependent Neutronics Analysis for the HIBALL Heavy Ion Beam Fusion Reactor / *Mohamed E. Sawan, Gregory A. Moses, Gerald L. Kulcinski*

#### BLANKET ENGINEERING

- 224 Investigation of Lanthanides as Neutron Multipliers for Hybrid and Fusion Reactor Blankets / *Sümer Şahin*

#### SAFETY/ENVIRONMENTAL ASPECTS

- 233 Modeling of Lithium Fires / *M. S. Tillack, M. S. Kazimi*

### DEPARTMENTS

- 137 Authors

(Continued)

#### ON THIS COVER

This month's cover shows the two-dimensional R-Z DOT calculation model and part of a three-dimensional model for the Monte Carlo penetration calculation illustrated as a freehand blackboard drawing. The sketch is based on Figs. 4 and 5 from the article by Long-poe Ku and Joseph G. Kolibal.

# CONTENTS / APRIL 1982—VOL. 2, NO. 2

(Continued)

- 246 Meeting Report  
Conference Summary on the 3rd IAEA Technical Committee Meeting and  
Workshop on Fusion Reactor Design and Technology, Tokyo, Japan,  
October 5-16, 1981
- 250 Book Review
- 251 Topical Areas for *NT/F* Articles

## SPECIAL SECTION CONTENTS

### FUSION DEVICE RADIATION STREAMING AND SHIELDING

- 259 Preface: Fusion Device Radiation Streaming and Shielding / *Bernard A. Engholm*

### TECHNICAL PAPERS

- 261 Engineering Test Facility Vacuum Pumping Duct Shield Analysis / *W. T. Urban, T. J. Seed, Donald J. Dudziak*
- 272 Radiation Streaming Calculations for INTOR-J / *Yasushi Seki, Hiromasa Iida, Robert T. Santoro, Hiromitsu Kawasaki, Michinori Yamauchi*
- 286 Neutron Streaming Analysis for Shield Design of the Fusion Materials Irradiation Test Facility / *L. L. Carter*
- 301 Prompt and Delayed Radiation Shielding Calculations for the ZEPHYR Deuterium-Tritium Ignition Experiment / *G. Prillinger, A. Fischer, Eva Fischer, H. Krause*
- 313 Neutronic Calculations for the Tokamak Fusion Test Reactor Diagnostic Penetrations / *Long-poe Ku, Joseph G. Kolibal*
- 325 Neutron and Gamma-Ray Streaming Calculations for the Engineering Test Facility Neutral Beam Injectors / *R. A. Lillie, R. T. Santoro, R. G. Alsmiller, Jr., J. M. Barnes*

### DEPARTMENT

- 255 Authors