

Fusiontechnology™

CONTENTS / JULY 1987—VOL. 12, NO. 1

TECHNICAL PAPERS

FUSION REACTORS

- 11 A Fusion Reactor for Space Applications / *Terry Kammas, David L. Galbraith*
- 22 Tokamak Fusion Reactor Start-Up Simulation / *K. M. Ling, S. C. Jardin, F. W. Perkins*
- 30 Updated Reference Design of a Liquid-Metal-Cooled Tandem Mirror Fusion Breeder / *David H. Berwald, R. H. Whitley, J. K. Garner, R. J. Gromada, Thomas J. McCarville, Ralph W. Moir, Joseph D. Lee, Bernard R. Bandini, Fred J. Fulton, Clement P. C. Wong, Isaac Maya, C. G. Hoot, Kenneth R. Schultz, Lowell G. Miller, Joseph M. Beeston, Bob L. Harris, Russell A. Westman, N. M. Ghoniem, George Orient, W. G. Wolfer, Jackson H. DeVan, Peter F. Tortorelli*

EXPERIMENTAL DEVICES

- 71 A Macroscopic Study of the Neutron, Gamma- and X-Ray Emissivity in the Frascati Plasma Focus / *Jan S. Brzosko, B. V. Robouch, Joanna Klobukowska*
- 92 Similarities Between the Plasma Vortex Filaments (Relativistic and Nonrelativistic) Observed in the Plasma Focus and in Conventional Relativistic Electron-Beam Machines / *Winston H. Bostick*

BLANKET ENGINEERING

- 104 Special Features of First-Wall Heat Transfer in Liquid-Metal Fusion Reactor Blankets / *K. Taghavi, M. S. Tillack, H. Madarame*
- 114 14-MeV Neutron Multiplication Measurement in Lead / *Om Prakash Joneja, Vijay R. Nargundkar, Tejen Kumar Basu*

TRITIUM SYSTEMS

- 119 Minimization of the Tritium Content Within the First Wall of a Tokamak Reactor / *A. Nicolai, P. Börner*

(Continued)

ON THIS COVER

This cover was inspired by Fig. 3 of the paper by Kammas and Galbraith. It shows the variation of the payload with exhaust velocity for a fusion-driven space system.

CONTENTS / JULY 1987—VOL. 12, NO. 1

(Continued)

MATERIALS ENGINEERING

- 137 Comparison of Inelastic Response of Type 316 Stainless Steel and HT-9 Materials on the Fusion Reactor First Wall / *Ge-Ping Yu*

DIVERTOR SYSTEMS

- 145 Power Transport to the Poloidal Divertor Experiment Scoop Limiter / *H. W. Kugel, R. Budny, R. Fonck, R. Goldston, B. Grek, R. Kaita, S. Kaye, R. J. Knize, D. Manos, R. McCann, D. McCune, K. McGuire, D. K. Owens, D. Post, G. Schmidt, M. Ulrickson*

PLASMA HEATING SYSTEMS

- 153 Multimode Analysis of a Dual Electron-Beam Quasi-Optical Gyrotron / *Yasuyuki Itoh, Tohru Sugawara*

TECHNICAL NOTES

ICF DRIVER TECHNOLOGY

- 160 Alignment of the Eight-Beam Octal Laser / *Michel Josse*

MATERIALS ENGINEERING

- 163 An Analytical Formula for the Concentration Distribution of Implanted Ions / *Janusz Martan, Andrzej Mulak*

PLASMA ENGINEERING

- 166 Anomalous Temperature Equilibria Due to $E \times B$ Drive / *J. Rand McNally, Jr.*

DEPARTMENTS

1 Authors

- 169 Meeting Report
Summary of the Workshop on Alpha-Particle Diagnostics, Abingdon, United Kingdom, December 9–10, 1986 / *O. N. Jarvis, A. E. Costley*
- 172 Book Review
American Institute of Physics Conference Proceedings: Sixth Topical Conference on Radiofrequency Plasma Heating, Calloway Gardens, Georgia, May 1985 / reviewed by *Edward C. Morse*