

nuclear technology/Fusion

CONTENTS / OCTOBER 1982—VOL. 2, NO. 4

TECHNICAL PAPERS

FUSION REACTORS

- 563** Studies of the Physics and Engineering of Deuterium-Deuterium Barrier Tandem Mirror Reactors / *R. W. Conn, V. K. Dhir, N. M. Ghoniem, D. M. Goebel, S. P. Grotz, F. Kantrowitz, N. S. Kim, T. K. Mau, G. W. Shuy, M. Z. Youssef*

PLASMA ENGINEERING

- 590** Partially Catalyzed Deuterium and Tritium-Assisted Plasma Characteristics / *Ehud Greenspan, George H. Miley*
- 609** Burn Control in a Moving Ring Compact Torus Reactor / *Masami Ohnishi*
- 617** Electromagnetic Induction Phenomena in Plasma Systems / *Béla Karlovitz*

PLASMA HEATING SYSTEMS

- 623** Electron Cyclotron Heating in Weakly Relativistic Finite-Beta Tandem Mirror Plasmas / *Karl R. Audenaerde, John E. Scherer*
- 637** Burnout Experiment in Subcooled Forced-Convection Boiling of Water for Beam Dumps of a High Power Neutral Beam Injector / *Hiroshi Horiike, Masaaki Kuriyama, Hiroaki Morita*

BLANKET ENGINEERING

- 648** Impact of Cross-Section Uncertainties on the Nuclear Design of Hybrid Reactors / *Mahmoud Z. Youssef, Robert W. Conn, Charles W. Maynard*
- 667** Neutronic, Photonic, and Thermal Calculations Relevant to a Major Plasma Disruption in a Canister-Type Tokamak Blanket / *Ronald J. Onega, Bill M. Su*
- 687** Cyclic Temperature and Thermal Stress Fluctuations in Fusion Reactors / *Ihor O. Bohachevsky, Ronald N. Kostoff*

(Continued)

ON THIS COVER

This month's cover is taken from the paper by R. W. Conn et al. It is a simulation showing a perspective view of the coil system in SATYR as it would appear on a computer screen.

CONTENTS / OCTOBER 1982—VOL. 2, NO. 4

(Continued)

EXPERIMENTAL DEVICES

- 700** Neutral Xenon Beam for Plasma Diagnostics / *Ady I. Hershcovitch, George M. Gammel, James W. Davenport*

ICF TARGETS

- 707** A Phenomenological Description of Rayleigh-Taylor and Helmholtz Instabilities in Small Fusion Targets / *Ronald C. Kirkpatrick*

FIRST-WALL TECHNOLOGY

- 712** The Design of the Poloidal Divertor Experiment Tokamak Wall Armor and Inner Limiter System / *H. W. Kugel, M. Ulrickson*

SAFETY/ENVIRONMENTAL ASPECTS

- 723** Occupational Radiation Exposures at a Fusion Power Station / *Clay E. Easterly*

DEPARTMENTS

- 557** Authors

- 740** Book Review

Some Aspects of the Study of Gas-Discharge Plasma and Production of High Magnetic Fields / reviewed by *E. B. Hooper, Jr.*

- 741** Volume 2 Indexes

- v Volume 2 Contents