

Fusion Science and Technology

CONTENTS / JANUARY 2003—VOL. 43, NO. 1

TECHNICAL PAPERS

- 1 Feasibility Study of a Compact Ignition Tokamak Based upon GyroBohm Scaling Physics / *Clinton Craig Petty, James Craig DeBoo, Robert John La Haye, Timothy Charles Luce, Peter A. Politzer, Clement Po-Ching Wong*
- 18 Burn Control in Fusion Reactors via Nonlinear Stabilization Techniques / *Eugenio Schuster, Miroslav Krstić, George Tynan*
- 38 Development of Plasma Multivariable Control Model in HT-7 Superconducting Tokamak / *Peng Fu, Zhengzhi Liu, Jiarong Luo*
- 45 Pellet and Molecular Beam Injection Fueling on the HL-1M Tokamak / *Zhenggui Xiao, Bo Li, Li Li, Dequan Liu, Lianghua Yao, Jiafu Dong, Gancheng Guo, Zhongchao Deng, Yin Jia Zheng, Wenyu Hong, Longwen Yan, Yi Liu, Yong Liu, Enyao Wang*
- 55 Numerical Raytrace Verification of Optical Diagnostics of Ice Surface Roughness for Inertial Confinement Fusion Experiments / *Jeffrey A. Koch, Thomas P. Bernat, Gilbert W. Collins, Bruce A. Hammel, Andrew J. MacKinnon, Charles H. Still, James D. Sater, Donald N. Bittner*
- 67 Plasma Current Rampup by the Outer Vertical Field Coils in a Spherical Tokamak Reactor / *Osamu Mitarai, Yuichi Takase*
- 91 Space Propulsion via Spherical Torus Fusion Reactor / *Craig H. Williams, Albert J. Juhasz, Stanley K. Borowski, Leonard A. Dudzinski*
- 110 Neutronic and Thermal Analysis of a Peaceful Nuclear Explosion Reactor / *Sebahattin Ünalán, S. Orhan Akansu*
- 122 Production of ^4He in D_2 -Loaded Palladium-Carbon Catalyst I / *W. Brian Clarke*

TECHNICAL NOTE

- 128 Neutral Pion-Catalyzed Fusion in Palladium Lattice / *Mukio Fukuhara*

LETTERS TO THE EDITOR

- 134 Comments on "Search for ^3He and ^4He in Arata-Style Palladium Cathodes I: A Negative Result" and "Search for ^3He and ^4He in Arata-Style Palladium Cathodes II: Evidence for Tritium Production" / *Ben Bush, J. J. Lagowski*
- 135 Response to "Comments on 'Search for ^3He and ^4He in Arata-Style Palladium Cathodes I: A Negative Result' and 'Search for ^3He and ^4He in Arata-Style Palladium Cathodes II: Evidence for Tritium Production'" / *W. Brian Clarke, Brian M. Oliver*

(Continued)

CONTENTS / JANUARY 2003—VOL. 43, NO. 1

(Continued)

MEETING REPORTS

137 Tenth International Conference on Fusion Reactor Materials / *Roberto Andreani*

138 Summary of the 4th Symposium on Current Trends in International Fusion Research / *T. J. Dolan, D. F. Düchs, R. Kirkpatrick, D. Kraft, E. Lindman, C. Orth, R. F. Post, J. R. Roth, M. J. Sadowski, G. Van Oost*

143 **TECHNICAL REVIEWERS ADDENDUM**