

Fusion Science and Technology

VOLUME 73 · NUMBER 1 · JANUARY 2018

Note: This issue was coordinated by Editor Emeritus Dr. Nermin A. Uckan.

Contents

iii In Honor of Dr. Nermin A. Uckan

RAPID COMMUNICATION

- 1 Interrupting an Imminent Body Current Fault and Restoring Full Power in Milliseconds on a DIII-D National Fusion Facility Gyrotron
D. Ponce, R. Brambila, M. Cengher, Y. Gorelov, W. Grosnickle, J. Lohr, A. Torrezan

TECHNICAL PAPERS

- 5 Surface Topography and Deuterium Retention of Polycrystalline Tungsten and Nanocrystalline Tungsten Film Exposed to Deuterium Plasma
Jiangang Yu, Wenjia Han, Ziwei Lian, Kaigui Zhu
- 13 Improving Activation Cross Sections for Fusion Applications
N. Dzysiuk, A. J. Koning, D. Rochman, U. Fischer
- 25 Comparison of an Electrothermal Plasma Source to a Light Gas Gun for Launching Large Cryogenic Pellets for Tokamak Disruption Mitigation
T. E. Gebhart, S. K. Combs, L. R. Baylor

TECHNICAL NOTES

- 34 Assessment of Tritium Release Through Permeation and Natural Leakage in ITER CN HCCB TBS Under Normal Operations
Chang An Chen, Xin Zhou, Zhanlei Wang, Bo Wang, Lingbo Liu, Xin Xiang, Yong Yao, Jiangfeng Song
- 43 Structural Analysis of Wendelstein 7-X Nonplanar Coil Type 1 in Self-Field Test Conditions
Shanwen Zhang, Yuntao Song, Zhongwei Wang, Xuebing Peng, Jianfeng Zhang, Yongfa Qin, Linlin Tang, Qiang He
- 50 Preparation of Multifunctional Detritiation Catalyst and Design of Detritiation Reactor in Fusion Facility
Quanwen Wu, Wenhua Luo, Xiayan Yan, Jingwen Ba, Zhenhua Zheng, Zhiyong Huang, Jinchun Bao, Danling Dai, Daqiao Meng
- 59 Investigation of Craze and Cracks of Polystyrene Shells During Drying Process
Dawei Pan, Weixing Huang, Qiang Chen, Sufen Chen, Zhanwen Zhang, Meifang Liu, Bo Li

—continued—

Contents continued

VOLUME 73 · NUMBER 1 · JANUARY 2018

- 68** Design of the Horizontal Preload System for the Toroidal Field Coils of HL-2M Project
Tao Lin, Dequan Liu, Lijun Cai, Qiang Li, Laizhong Cai, Tao Qiao
- 75** Development of Data Acquisition and Protection System of Infrared Thermometer for EAST NBI
C. D. Hu, W. Liu, C. C. Jiang, L. Z. Liang, S. Liu, S. H. Song, J. X. Wang, L. Tao