Fusion Science and Technology
VOLUME 75 · NUMBER 4 · MAY 2019

Contents

Special section on Advanced Fusion Concepts

iii Foreword
   Leigh Winfrey

TECHNICAL PAPERS

245 A Composite Neoclassical Toroidal Viscosity Model Incorporating Torques from both Axisymmetric and Nonaxisymmetric Tokamak Magnetic Fields
   Weston M. Stacey

251 A Particle-, Momentum-, and Energy-Conserving Fluid Transport Theory for the Tokamak Plasma Edge
   Weston M. Stacey

264 A Road Map for the Advanced Manufacturing of Ferritic-Martensitic Steels
   Nyanth Sridharan, Kevin Field

275 Magnetothermodynamics in SSX: Measuring the Equations of State of a Compressible Magnetized Plasma
   M. R. Brown, M. Kaur

REGULAR TECHNICAL PAPERS

283 Discrete Element Analysis of Heat Transfer in the Breeder Beds of the European Solid Breeder Blanket Concept
   M. Moscardini, S. Pupeschi, Y. Gan, F. A. Hernández, M. Kamlah

299 Takagi Sugeno Fuzzy Controller for ITER Poloidal Field ac/dc Converter Using Active Power Filter
   Mahmood Ul Hassan, Peng Fu, Zhiquan Song, Humayun Muhammad, Li Hua, Xiuqing Zhang

308 Determination of Doping Concentration of ICF Shells by an Improved Equivalent Absorption Method Based on Real-Time X-Ray Imaging
   Zongwei Wang, Qi Wang, Xuesen Zhao, Yong Hu, Dangzhong Gao, Jie Meng, Xing Tang, Xiaojun Ma

317 A Numerical Algorithm for Nuclear Reaction in Deuterium-Tritium Plasma
   Dongmei Pan, Zijia Zhao, Zhong Chen, Zhongliang Lv, Junhan Li

—continued—
Contents continued
VOLUME 75 · NUMBER 4 · MAY 2019

324 Characterization of Arc Plasma by Movable Single and Double Langmuir Probes
Ghanshyam Thakur, Raju Khanal, Bijoyendra Narayan

TECHNICAL NOTE
330 Design and Test of the Interlock Protection System for Extraction Power Supply of Negative
Ion Source at ASIPP
M. C. Huang, C. D. Hu, C. C. Jiang, Y. Z. Zhao, Y. H. Xie, J. L. Wei, S. Y. Chen,
Q. L. Cui, J. J. Pan, Y. L. Xie