

# Fusion Science and Technology

VOLUME 77 · NUMBER 1 · JANUARY 2021

## Contents

### TECHNICAL PAPERS

- 1 A Hard X-Ray Pinhole Camera System for Fast Electron Bremsstrahlung Measurements in the HL-2A Tokamak  
*Y. P. Zhang, D. Mazon, J. Zhang, P. F. Zhang, P. Malard, H. B. Xu, J. Zhou, Y. Peysson, X. L. Zou, J. W. Yang, G. L. Yuan, M. Isobe, X. Y. Song, X. Li, Yi Liu, Z. B. Shi, M. Xu, X. R. Duan, HL-2A Team*
  
- 9 High Heat Flux Testing of Castellated Graphite Plasma-Facing Components  
*T. K. Gray, D. L. Youchison, R. E. Ellis, M. A. Jaworski, A. Khodak, T. Looby, M. L. Reinke, G. Smalley, D. E. Wolfe*
  
- 19 Adsorption Study of Main Gas Products from Water Radiolysis on 4A Zeolite by Numerical Simulations  
*Joharimanitra Randrianandraina, Manuel Grivet, Christophe Ramseyer, Jean-Emmanuel Groetz, Bruno Cardey, Freddy Torrealba Anzola, Didier Ducret, Caroline Chambelland*
  
- 26 Study of Electrolyzer Materials at High Tritium Concentrations  
*T. J. J. Whitehorne, C. Muirhead, S. N. Thomson, H. Li, R. Carson, H. Boniface, S. Suppiah*
  
- 33 Analysis of the Shattered Pellet Injection Fragment Plumes Generated by Machine Specific Shatter Tube Designs  
*T. E. Gebhart, L. R. Baylor, S. J. Meitner*
  
- 42 Targeting a Versatile Actuator for EU-DEMO: Xenon Doping of Fueling Pellets  
*P. T. Lang, B. Ploeckl, M. Bernert, A. Bock, R. Dux, A. Kallenbach, V. Rohde, M. Siccinio, W. Suttrop, A. Zito, ASDEX Upgrade Team*
  
- 51 Effects of Temperature and Pressure on Purge Gas Chemical Compositions in Tritium Breeding Blanket  
*Michiko Ahn Furudate, Seungyon Cho*
  
- 57 Impact of High-Power Heat Load and W Surface Carbide Formation on Its Structural-Phase Composition and Properties  
*Mazhyn Skakov, Gainiya Zhanbolatova, Arman Miniyazov, Timur Tulenbergenov, Igor Sokolov, Yerzhan Sapatayev, Yernat Kozhakhmetov, Olga Bukina*

—continued—

## Contents continued

VOLUME 77 · NUMBER 1 · JANUARY 2021

- 67** Estimation of Power Transmission of Fast Wave in ICRF Range Through Tokamak Plasma Edge with the Help of Reflection Coefficient  
*Ajit Kumar Dash, Asim Kumar Chattopadhyay*

### RAPID COMMUNICATION

- 76** Effects of Helium Seeding on Deuterium Retention in Neutron-Irradiated Tungsten  
*Yuji Nobuta, Masashi Shimada, Chase N. Taylor, Yasuhisa Oya, Yuji Hatano, Yaqiao Wu, Megha Dubey*