

## Contents

### RESEARCH ARTICLES

- 1 Fusion Gain and Triple Product for the Sheared-Flow-Stabilized Z Pinch  
*U. Shumlak, E. T. Meier, B. J. Levitt*
- 17 A Poloidal CO<sub>2</sub> Laser Collective Scattering System for Measuring Electron-Scale Turbulence in the EAST  
*Jingsen Geng, Yadong Li, Guojiang Wu, Pan Li, Fei Chen, Yuhao Wang, Ning Sun*
- 26 Targeting a Versatile Actuator for EU-DEMO: Real Time Monitoring of Pellet Delivery to Facilitate Burn Control  
*P. T. Lang, M. van Berkel, W. Biel, T. O. S. J. Bosman, P. David, Ch. Day, E. Fable, L. Giannone, M. Griener, T. Giegerich, A. Kallenbach, M. Kircher, A. Krimmer, O. Kudlacek, M. Maraschek, B. Ploeckl, B. Sieglin, W. Suttrop, H. Zohm, ASDEX Upgrade Team*
- 38 Effects of a Gap/Open Space on Hydrogen Permeation Through Double Membranes of Ni/Ni and Pd/Ni  
*T. Otsuka, T. Tanabe, M. Shinohara*
- 48 Screening the Optimal Loading of a Pt-Catalyzed Zeolite for Hydrogen Isotope Exchange  
*Benjamin Ruiz-Yi, Lucas M. Angelette, Paul R. Beaumont*
- 55 Hydrogen Solution in Tetrahedral Interstitial Sites in ZrCo Hydrides: A First-Principles Study  
*Youshan Yang, Lusheng Wang*
- 68 Effect of Welding Speed and Postweld Heat Treatment on Microstructural Characterization and Mechanical Properties of Gas Tungsten Arc Welded Ti-15V-3Al-3Cr-3Sn Joints  
*K. Vamsi Krishna, Sriharitha Rowthu, Vijay N. Nadakuduru, Ganesh Pilla, N. Kishore Babu*
- 82 Microstructural Characterization and Mechanical Properties of Metastable Beta and  $\alpha+\beta$  Titanium Alloy Electron Beam Weldments  
*Vamsi Krishna K, Gopi Krishna C, Nagendra Polamarasetty, Mahesh Kumar Talari, Vijay N. Nadakuduru, Kishore Babu Nagumothu*

—continued—

## Contents continued

VOLUME 80 · NUMBER 1 · JANUARY 2024

- 98** Front-Face RH Compatible Structure Design and Thermal Analysis for CFETR Divertor Dome

*Xiyang Zhang, Tiejun Xu, Lei Yin, Nanyu Mou, Yan Wang, Damao Yao*

- 108** Performance Comparison of Helium and sCO<sub>2</sub> as Coolants for Modular Finger-Type Divertors

*Michael L. Lanahan, Said I. Abdel-Khalik, Minami Yoda*

- 117** Control and Protection Strategy of Toroidal Field Magnet Power Supply System in HL-2M

*Weibin Li, Yali Wang, Xue Zheng, Yuhong Chen, Yi Wu, Yinqiao Wang, Huajun Li*

### NOTE

- 126** The Research of Manufacturing for HL-2M Vacuum Vessel

*Hong Ran, Jilai Hou, Binbin Song, Yuncong Huang, Dangshen Zhang, Qinwei Yang, Le Tang, Xiaoqiang Wu, Zen Cao, Lijun Cai*