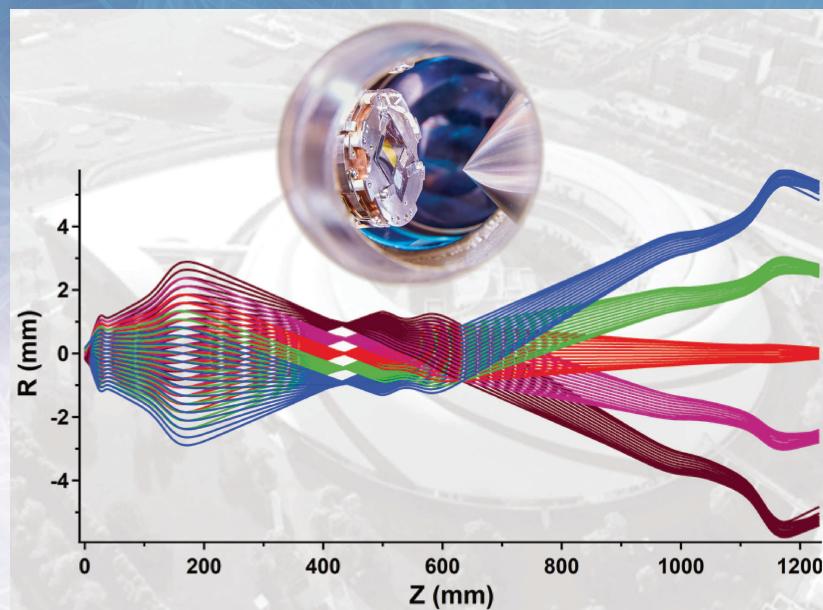


Nuclear Science and Techniques



Nuclear Science and Techniques

Volume 30 • Issue 5 • May 2019

ISSN: 1001-8042 (Paper)

SYNCHROTRON RADIATION TECHNOLOGY AND APPLICATIONS

- 72 **Dual-cavity beam arrival time monitor design for the Shanghai soft X-ray FEL facility**
S.-S. Cao · R.-X. Yuan · J. Chen · Y.-B. Leng
- 81 **An APXPS endstation for gas–solid and liquid–solid interface studies at SSRF**
J. Cai · Q. Dong · Y. Han · B.-H. Mao · H. Zhang · P.G. Karlsson · J. Åhlund · R.-Z. Tai · Y. Yu · Z. Liu
- 82 **Development of readout electronics for bunch arrival-time monitor system at SXFEL**
J.-G. Wang · B. Liu

ACCELERATOR, RAY AND APPLICATIONS

- 86 **Study on secondary electron suppression in compact D–D neutron generator**
Z.-W. Huang · X.-H. Bai · C.-Q. Liu · J.-R. Wang · Z.-W. Ma · X.-L. Lu · Z. Wei · Z.-M. Zhang · Y. Zhang · Z.-E. Yao

NUCLEAR CHEMISTRY, RADIOCHEMISTRY, NUCLEAR MEDICINE

- 70 **Theoretical analyses of chemical bonding in terminal EThF₂ (E = O, S, Se, Te)**
Y.-L. Li · X.-G. Xiong · H.-T. Liu
- 71 **Quantum dots enhanced Cerenkov luminescence imaging**
C.-R. Geng · Y. Ai · X.-B. Tang · D.-Y. Shu · C.-H. Gong · M.-H. Du · F.-Q. Ji
- 74 **Characterization of molten 2LiF–BeF₂ salt impregnated into graphite matrix of fuel elements for thorium molten salt reactor**
H.-X. Xu · J. Lin · Y.-J. Zhong · Z.-Y. Zhu · Y. Chen · J.-D. Liu · B.-J. Ye
- 83 **¹⁸F-PBR06 PET/CT imaging of inflammation and differentiation of lung cancer in mice**
H. Zhang · H. Tan · W.-J. Mao · J. Zhou · Z.-Q. Fu · Y. Hu · J. Xiao · Q.-Y. Lin · H.-C. Shi · D.-F. Cheng

NUCLEAR ELECTRONICS AND INSTRUMENTATION

- 76 **Development of a scintillation detector for real-time measurement of space proton effective dose**
S.-J. Zhang · X.-B. Jiang · D. Li · X.-R. Yu · L.-L. Miao · X.-J. Song · Y. Ma

(Table of contents continued on inside back cover)

ISSN 1001-8042



- 80 Heavy-ion and pulsed-laser single event effects in 130-nm CMOS-based thin/thick gate oxide anti-fuse PROMs**
C. Cai · T.-Q. Liu · X.-Y. Li · J. Liu · Z.-G. Zhang · C. Geng · P.-X. Zhao · D.-Q. Li · B. Ye · Q.-G. Ji · L.-H. Mo

- 84 Fast pulse sampling module for real-time neutron-gamma discrimination**
J.-L. Cai · D.-W. Li · P.-L. Wang · Z.-M. Zhang · X.-H. Li · B.-T. Feng · T.-T. Hu · T. Tong · W. Zhou · L. Wei

NUCLEAR PHYSICS AND INTERDISCIPLINARY RESEARCH

- 75 Production threshold impact on a GEANT4 calculation of the power deposition in a fast domain: MEGAPIE spallation target**
A. Lamrabet · A. Maghnouj · J. Tajmouati · M. Bencheikh

NUCLEAR ENERGY SCIENCE AND ENGINEERING

- 73 Simple and sensitive method for the determination of trace amounts of thorium using a benzoquinone derivative**
M.M. Hamed · R.F. Aglan

- 77 Risks of non-conservative design according to ASME B31.1 for high-temperature piping subjected to long-term operation in the creep range**
H.-Y. Lee · S.-K. Son · M.-G. Won · J.-Y. Jeong

- 78 Radiological environmental impact analysis of a 2-MW thorium molten salt reactor during an accident**
C.-Q. Chen · X.-B. Xia · Z.-H. Zhang · J. Cai · C.-Y. Li

- 79 Development of a displacement-reactivity feedback model for dynamic behavior simulation in fast burst reactor**
J.-M. Wang · H. Gao · Q.-L. Xie · X.-Q. Fan · D.-Z. Qian

- 85 Correction to: GPU-accelerated scanning path optimization in particle cancer therapy**
C. Wu · Y.-H. Pu · X. Zhang