

YUANZINENG KEXUE JISHU

ISSN 1000-6931

CN 11-2044/TL

原子能科学技术

中国原子能科学研究院

2013

2

(第47卷)

ATOMIC ENERGY SCIENCE

AND TECHNOLOGY

ATOMIC ENERGY SCIENCE

AND TECHNOLOGY

ISSN 1000-6931



9 771000 693134

万方数据

目次

中国原子能科学研究院第26届“五四”青年学术报告会议论文选

- 快堆三维六角形节块法输运计算研究 徐 李,马大园,施 工,李泽华(161)
- $H_3^{10}BO_3/ZnS(Ag)$ 热中子闪烁体转换屏的涂布法制备及性能研究
..... 王 雨,韩松柏,王洪立,郝丽杰,贺林峰,魏国海,余周香,刘蕴韬,陈东风(166)
- ^{182}Hf 的AMS测量技术研究 李振宇,
姜 山,何 明,董克君,胡 豪,郑国文,李 恒,王晓波,谢林波,林德雨,窦 亮,武绍勇,游曲波,包轶文(172)
- 紫外超短激光驱动铜薄膜靶产生质子的实验研究
..... 路建新,兰小飞,戴 辉,黄永盛,席晓峰,王雷剑,杨大为,汤秀章(178)
- 等梯度行波加速管耦合器的调配方法 郭兴坤,马雁云,王修龙(181)
- CYCIAE-100回旋加速器测磁仪自动控制系统的研制 曹 磊,殷治国,吕银龙,钟俊晴(185)
- 物理**
- 北京地区大气中 7Be 、 ^{137}Cs 和 ^{131}I 活度浓度分布规律初步研究
..... 樊元庆,王世联,李慧娟,张新军,李 奇,贾怀茂,赵允刚,陈占营,常印忠,刘蜀疆(189)
- β - γ 符合效率外推法绝对测量 ^{133}Xe 活度 贾怀茂,张新军,李 奇,王世联,樊元庆,赵允刚(193)
- 化学**
- P11钢在湿蒸汽中流动加速腐蚀性能的模拟与实验研究 伊成龙,张乐福,徐雪莲(197)
- $Gd_2Zr_{2-x}Ce_xO_7$ ($0.0 \leq x \leq 2.0$)的制备与表征 宁明杰,董发勤,张宝述,卢喜瑞,唐敬友(202)
- 反应堆工程**
- 密度锁自平衡启动特性的实验研究 谷海峰,阎昌琪,陈 薇(207)
- 竖壁降液膜流动纵向及水平发展规律研究 韦胜杰,殷煜皓,胡 珀,杨燕华(213)
- 矩形通道内层流脉动流动相位差分析 王 畅,高璞珍,许 超,谭思超(218)
- 矩形通道内脉动层流阻力特性实验研究 刘宇生,谭思超,高璞珍,张 虹(223)
- 较大管径中两相流动漂移流模型研究 田道贵,孙立成,刘靖宇,孙 波(229)
- 竖直圆管内泡状流空泡份额径向分布实验研究 幸莫川,孙立成,阎昌琪,田道贵(233)
- 混合能谱超临界水冷堆快谱区流动稳定性研究 朱郁波,刘鹏飞,侯 东,杨燕华(238)
- 一体化反应堆强迫循环转自然循环过程瞬态特性分析 郝承明,付 文,彭敏俊,夏庚磊(243)
- 跨间交混格架对EPR堆芯DNBR裕量的影响 陈 军,周有新,李石磊,毛玉龙,文青龙(249)
- IVR熔池分层模型对压力容器安全裕量分析的影响 杨 晓,杨燕华(254)

PDS-XADS 散裂靶热工水力分析 艾尼塞,俞冀阳,杨永伟(260)

基于格林函数节块法的物理与热工-水力耦合方法研究 赵文博,姚 栋,王 侃(266)

压水堆堆芯非线性系统的全局稳定性分析 李 罡,赵福宇,刘 洋(271)

技术及应用

谐波垫补原理及其在加速器常规磁铁设计与磁场垫补中的应用 尹兆升,孙献静,杨 梅,陈 宛(277)

大流量大气颗粒物采样器质量控制技术 常印忠,王世联,刘蜀疆,樊元庆,赵允刚,陈占营,李 奇(287)

散射大厅内中子导管屏蔽计算 孙 勇,霍合勇,曹 超(290)

粉末冶金法制备多孔 U-10%Mo 合金及其微观组织结构分析

..... 贾建平,王志刚,陈 森,王锡胜,张鹏程,武 胜(295)

超短超强激光与不同厚度的铝膜作用加速质子的实验研究

..... 兰小飞,路建新,黄永盛,王雷剑,席晓峰,汤秀章,应纯同(299)

基于 CUDA 的大型 γ 辐照装置通用并行排源算法 杨 磊,王 玲,龚学余(303)

低射气介质地区浅部土壤氡气迁移规律研究 李 伟,刘鸿福,张新军,陈 峰,梁桂玲(312)

阳光晒退对泥石流表层物质热释光信号的影响 宋 波,魏明建,何友兵,周 锐,赵秋月,张 彬(317)

期刊基本参数: CN 11-2044/TL * 1959 * m * A4 * 160 * zh * P * ¥40.00 * 1200 * 31 * 2013-02

本期责任编辑 侯翠梅 汤晓浩 马英霞 王宝金 张秀平 韩翠娥 王调霞

CONTENTS

SELECTED PAPERS OF THE 26th MAY FOUR YOUNG SCIENTISTS SYMPOSIUM HELD IN CHINA INSTITUTE OF ATOMIC ENERGY

Research of 3-D Hexagonal Nodal Transport Method for Fast Reactor
 XU Li, MA Da-yuan, SHI Gong, LI Ze-hua(161)

Study on Preparation and Properties of $H_3^{10}BO_3/ZnS(Ag)$ Scintillators for Thermal Neutron Radiography
 WANG Yu, HAN Song-bai,
 WANG Hong-li, HAO Li-jie, HE Lin-feng, WEI Guo-hai, YU Zhou-xiang, LIU Yun-tao, CHEN Dong-feng(166)

AMS Measurement Technology for ^{182}Hf
 LI Zhen-yu, JIANG Shan, HE Ming, DONG Ke-jun, HU Hao, ZHENG Guo-wen,
 LI Heng, WANG Xiao-bo, XIE Lin-bo, LIN De-yu, DOU Liang, WU Shao-yong, YOU Qu-bo, BAO Yi-wen(172)

Experiment on Proton Acceleration Using Ultraviolet Ultra-short Laser Interaction With Copper Thin Foil Target
 LU Jian-xin,
 LAN Xiao-fei, DAI Hui, HUANG Yong-sheng, XI Xiao-feng, WANG Lei-jian, YANG Da-wei, TANG Xiu-zhang(178)

Coupler Tuning for Constant Gradient Travelling Wave Accelerating Structures
 GUO Xing-kun, MA Yan-yun, WANG Xiu-long(181)

Implement of MFM Automatic Control System for CYCIAE-100 Cyclotron
 CAO Lei, YIN Zhi-guo, LV Yin-long, ZHONG Jun-qing(185)

PHYSICS

Preliminary Study of 7Be , ^{137}Cs and ^{131}I Activity Concentration Distribution Rule in Beijing Aerosol
 FAN Yuan-qing, WANG Shi-lian, LI Hui-juan,
 ZHANG Xin-jun, LI Qi, JIA Huai-mao, ZHAO Yun-gang, CHEN Zhan-ying, CHANG Yin-zhong, LIU Shu-jiang(189)

Radioactivity Absolute Measurement of ^{133}Xe With β - γ Coincidence Efficiency Extrapolation Method
 JIA Huai-mao, ZHANG Xin-jun, LI Qi, WANG Shi-lian, FAN Yuan-qing, ZHAO Yun-gang(193)

CHEMISTRY

Research of Flow Accelerated Corrosion of P11 in Wet Steam
 YI Cheng-long, ZHANG Le-fu, XU Xue-lian(197)

Syntheses and Characterization of $Gd_2Zr_{2-x}Ce_xO_7$ ($0.0 \leq x \leq 2.0$)
 NING Ming-jie, DONG Fa-qin, ZHANG Bao-shu, LU Xi-rui, TANG Jing-you(202)

REACTOR ENGINEERING

Experimental Study of Self-balanced Startup Characteristics of Density Lock
 GU Hai-feng, YAN Chang-qi, CHEN Wei(207)

Horizontal and Longitudinal Characteristics of Water Film Falling on Vertical Plate
 WEI Sheng-jie, YIN Yu-hao, HU Po, YANG Yan-hua(213)

Analysis of Phase Lag in Pulsating Laminar Flow of Rectangular Channels
 WANG Chang, GAO Pu-zhen, XU Chao, TAN Si-chao(218)

Experimental Study on Resistance Characteristics of Pulsating Laminar Flow in Rectangular Channel	LIU Yu-sheng, TAN Si-chao, GAO Pu-zhen, ZHANG Hong(223)
Study on Drift-Flux Model for Two-Phase Flow in Relative Large Diameter Channel	TIAN Dao-gui, SUN Li-cheng, LIU Jing-yu, SUN Bo(229)
Experimental Investigation on Void Fraction Radial Distribution for Bubbly Flow in Vertical Circular Tube	XING Dian-chuan, SUN Li-cheng, YAN Chang-qi, TIAN Dao-gui(233)
Flow Stability Analysis of Fast Spectrum Zone of SCWR-M	ZHU Yu-bo, LIU Peng-fei, HOU Dong, YANG Yan-hua(238)
Transient Characteristic Analysis of Integral Pressurized Water Reactor From Forced Circulation to Natural Circulation	HAO Cheng-ming, FU Wen, PENG Min-jun, XIA Geng-lei(243)
Effect of Mid Span Mixing Grid on EPR Core DNBR Margin	CHEN Jun, ZHOU You-xin, LI Shi-lei, MAO Yu-long, WEN Qing-long(249)
Impact of Melt Pool Configuration to RPV Safety Margin Analysis in IVR Assessment	YANG Xiao, YANG Yan-hua(254)
Thermal-Hydraulic Analysis of PDS-XADS Spallation Target	ABDALLA Aniseh, YU Ji-yang, YANG Yong-wei(260)
Study of Neutronics and Thermal-Hydraulics Coupling Methodology Based on Nodal Green's Function Method	ZHAO Wen-bo, YAO Dong, WANG Kan(266)
Global Stability Analysis of Pressurized Water Reactor Core Nonlinear System	LI Gang, ZHAO Fu-yu, LIU Yang(271)

TECHNIQUES AND APPLICATIONS

Principle of Harmonic Shim and Application for Conventional Accelerator Magnets	YIN Zhao-sheng, SUN Xian-jing, YANG Mei, CHEN Wan(277)
Quality Control Technique for High-Volume Atmospheric Particulate Sampler	CHANG Yin-zhong, WANG Shi-lian, LIU Shu-jiang, FAN Yuan-qing, ZHAO Yun-gang, CHEN Zhan-ying, LI Qi(287)
Shielding Calculation of Neutron Guide Tube in Scatter Hall	SUN Yong, HUO He-yong, CAO Chao(290)
Preparation of Porous U-10%Mo Alloy by Powder Metallurgy and Its Microstructure Characterization	JIA Jian-ping, WANG Zhi-gang, CHEN Miao, WANG Xi-sheng, ZHANG Peng-cheng, WU Sheng(295)
Experimental Research of Fast Proton Generated From Ultrashort Intense Laser Pulses Interaction With Different Thickness Al Foils	LAN Xiao-fei, LU Jian-xin, HUANG Yong-sheng, WANG Lei-jian, XI Xiao-feng, TANG Xiu-zhang, YING Chun-tong(299)
General-Purpose Parallel Algorithm Based on CUDA for Source Pencils' Deployment of Large γ Irradiator	YANG Lei, WANG Ling, GONG Xue-yu(303)
Research on Radon Migration Rules in Shallow Soil of Low Radioactive Containing Material	LI Wei, LIU Hong-fu, ZHANG Xin-jun, CHEN Feng, LIANG Gui-ling(312)
Influence of Thermoluminescence Signal for Debris Flow Surface Materials by Sunlight Bleaching	SONG Bo, WEI Ming-jian, HE You-bing, ZHOU Rui, ZHAO Qiu-yue, ZHANG Bin(317)
Editors HOU Cui-mei, TANG Xiao-hao, MA Ying-xia, et al	