

目次

物理

核形状量子相变与微观 sdIBM- F_{\max} 的势能曲面 汪红, 童红, 石筑一, 等 (1)

化学

水泥固化 Cs、U(VI) 的浸出模型研究 全明, 李玉香, 易发成, 等 (7)

锆英石对三价铀系核素固化能力及抗 γ 射线辐照稳定性 陈梦君, 崔春龙, 卢喜瑞, 等 (14)

反应堆工程

湍流模型在堆芯热工水力性能分析中的应用 曾和义, 郭赟 (20)

中国实验快堆虹吸破坏装置取钠口结构流体动力学分析 彭燕, 张东辉, 丁振鑫 (25)

密度锁启动特性实验研究及计算验证 陈薇, 阎昌琪, 谷海峰 (29)

一体化压水堆非能动余热排出系统运行特性影响因素分析 代守宝, 彭敏俊 (34)

核电厂严重事故下卸压对氢气产生的影响分析 陶俊, 李京喜, 佟立丽, 等 (40)

基于邻域粗糙集和决策树算法的核电厂故障诊断方法 慕昱, 夏虹, 刘永阔 (44)

TOPAZ-II 反应堆慢化剂温度效应分析 解家春, 赵守智, 贾宝山, 等 (48)

核电站主泵机组地震响应谱分析及应力评定 周文霞, 张继革, 王德忠 (54)

核动力装置冷凝器体积的优化设计 郑静, 阎昌琪, 王建军 (60)

立式自然循环蒸汽发生器的重量优化设计 秦慧敏, 阎昌琪, 王建军, 等 (66)

氚增殖剂 Li_4SiO_4 陶瓷小球的制备工艺 尹邦跃, 牛恺 (73)

研究堆低压电气贯穿件的密封性能 刘晓, 钱达志, 王明珊, 等 (80)

技术及应用

54HC 系列 CMOS 器件脉冲与稳态 γ 总剂量效应异同性研究 罗尹虹, 郭红霞, 张凤祁, 等 (84)

CSNS 四极陶瓷真空盒磁控溅射镀 TiN 膜研究 王梨兵, 董海义, 裴国玺, 等 (90)

基于 EPICS 的注入凸轨脉冲电源控制样机研制 刘佳, 王春红, 裴国玺, 等 (94)

用于 In-Beam TOF-PET 的时间校正系统 陈金达, 徐珊珊, 陈若富, 等 (97)

大气颗粒物中黑碳浓度的反射法测定 秦亚丽, 张海青, 张贵英, 等 (102)

用 D-D 中子发生器测量水泥生料中的元素含量 曹雪朋, 陈晓辉, 张宏宇, 等 (108)

抽气碰撞法回收擦拭样品上铀微粒方法 王同兴, 李井怀, 张燕, 等 (112)

聚丙烯酸钡/环氧树脂辐射防护材料的制备工艺及性能 李江苏, 戴耀东, 张瑜, 等 (117)

咖啡因联合辐射处理对人乳腺癌易感基因 BRCA1 表达的影响 李宁, 张红, 王燕玲, 等 (124)

期刊基本参数: CN 11-2044/TL * 1959 * m * A4 * 128 * zh * P * ¥40.00 * 1200 * 24 * 2011-01

本期责任编辑 张秀平 王调霞 侯翠梅 汤晓浩 马英霞 王宝金

ATOMIC ENERGY SCIENCE AND TECHNOLOGY

Vol. 45, No. 1

Jan. 2011

CONTENTS

PHYSICS

Quantum phase transition of nuclear shape and potential energy surface in microscopic sdIBM- \bar{F}_{\max} approach WANG Hong, TONG Hong, SHI Zhu-yi, et al(1)

CHEMISTRY

Leaching model of Cs, U(VI) immobilized in cement QUAN Ming, LI Yu-xiang, YI Fa-cheng, et al(7)
Capability of resisting γ -ray irradiation and immobilization for simulated trivalent actinides on synthesized zircon CHEN Meng-jun, CUI Chun-long, LU Xi-rui, et al(14)

REACTOR ENGINEERING

Application of turbulence models in thermal-hydraulic analysis of reactor core ZENG He-yi, GUO Yun(20)
Hydrodynamics analysis of inlet in anti-siphon equipment of china experimental fast reactor PENG Yan, ZHANG Dong-hui, DING Zhen-xin(25)
Experimental study and numerical calculation on density lock for self-equivalence startup CHEN Wei, YAN Chang-qi, GU Hai-feng(29)
Thermal-hydraulic characteristics effect factors analysis for passive residual heat removal system of integral pressurized water reactor DAI Shou-bao, PENG Min-jun(34)
Effect of depressurization on hydrogen generation during severe accident in PWR nuclear power plant TAO Jun, LI Jing-xi, TONG Li-li, et al(40)
Fault diagnosis method for nuclear power plant based on decision tree and neighborhood rough sets MU Yu, XIA Hong, LIU Yong-kuo(44)
Analysis of moderator temperature effect for TOPAZ-II reactor XIE Jia-chun, ZHAO Shou-zhi, JIA Bao-shan, et al(48)
Analysis and assessment on seismic response of reactor coolant pump in nuclear power plant ZHOU Wen-xia, ZHANG Ji-ge, WANG De-zhong(54)
Optimal design of condenser volume in nuclear power plant ZHENG Jing, YAN Chang-qi, WANG Jian-jun(60)
Optimal design of vertical natural circulation steam generator weight QIN Hui-min, YAN Chang-qi, WANG Jian-jun, et al(66)
Preparation process of Li_4SiO_4 pebbles as tritium breeding materials YIN Bang-yue, NIU Kai(73)
Leak tightness of low voltage electrical penetration assembly on research reactor LIU Xiao, QIAN Da-zhi, WANG Ming-shan, et al(80)

TECHNIQUES AND APPLICATIONS

Similarities and differences between pulsed and steady γ total dose effect in 54HC CMOS devices LUO Yin-hong, GUO Hong-xia, ZHANG Feng-qi, et al(84)
TiN coating of CSNS alumina ceramics vacuum chambers for quadrupole magnets by magnetron sputtering WANG Li-bing, DONG Hai-yi, PEI Guo-xi, et al(90)
Control prototype of BUMP power supply based on EPICS LIU Jia, WANG Chun-hong, PEI Guo-xi, et al(94)
Time rectification system for in-beam TOF-PET CHEN Jin-da, XU Hu-shan, CHEN Ruo-fu, et al(97)
Black carbon in airborne particulate matter by means of reflection method QIN Ya-li, ZHANG Hai-qing, ZHANG Gui-ying, et al(102)
Elemental contents in cement raw meal using D-D neutron generator CAO Xue-peng, CHEN Xiao-hui, ZHANG Hong-yu, et al(108)
Vacuum suction-impact collection for recovering uranium particles from swipe sample WANG Tong-xing, LI Jing-huai, ZHANG Yan, et al(112)
Preparation and property of polyacrylic acid samarium/epoxy resin composite material for radiation-protection LI Jiang-su, DAI Yao-dong, ZHANG Yu, et al(117)
Effects of caffeine cotreatment with radiation on breast cancer susceptibility gene BRCA1 LI Ning, ZHANG Hong, WANG Yan-ling, et al(124)
Editors ZHANG Xiu-ping, WANG Tiao-xia, HOU Cui-mei, et al