

目 次

核燃料及反应堆材料

- Sol-Gel 法制备大直径陶瓷 UO_2 球的工艺研究.....孟庆阳 唐向阳 刘锦洪 等 (001)
掺铪 UO_2 微球烧结行为研究.....王 辉 刘锦洪 尹荣才 等 (006)
球床堆燃料元件循环系统任务剖面的建立.....曾 凯 沈 鹏 都 东 等 (010)
65Mn 金属材料氢脆性能实验研究.....王兆希 屈宝平 薛 飞 等 (014)
U-Mo 合金与 Al 扩散反应特征研究.....刘云明 尹昌耕 孙长龙 等 (019)
TA16 钛合金微动磨损特性.....张亚非 任平弟 张晓宇 等 (024)

热工与水力

- 自然循环条件下窄通道 ONB 点影响因素灰色关联度研究.....刘 平 周 涛 张 明 等 (029)
重水堆燃料通道内浮升力引发的间歇式流动现象数值分析.....苑景田 李京喜 曹学武 等 (033)
附加惯性力对气泡破裂的影响.....潘良明 张文志 陈德奇 等 (037)
横掠水平管束间气-液两相流流型对流致振动激励的影响.....姜乃斌 臧峰刚 张毅雄 (042)
矩形窄缝通道临界热流密度数值预测.....周 磊 刘祥锋 闫 晓 等 (046)
矩形通道干涸后过渡沸腾传热试验研究.....李虹波 陈炳德 熊万玉 (052)

安全与控制

- 核电站关键部件在役检查可靠性分析.....张 俊 丁 辉 李 明 等 (058)
AP1000 反应堆控制系统特点分析.....张小冬 刘 琳 (062)
核电厂 DCS 闭环测试平台的开发及应用.....侯 东 林 萌 杨宗伟 等 (066)
基于多层流模型的核电厂可靠性分析方法研究.....杨 明 张志俭 (072)
DFM 在人员可靠性分析中的应用.....余少杰 赵 军 童节娟 (077)

设备的设计与制造

- 反应堆压力容器接管堆焊层缺陷分析及处理.....王永姣 杨志鹏 (083)
反应堆一回路装置的容积优化设计.....秦慧敏 阎昌琪 王建军 (086)
面向核电应用的 1E 级隔离放大器的研制与验证.....李德文 黄文君 李晶晶 等 (091)

运行与维修

- 压水堆冷却剂中硼酸浓度对核主泵性能影响研究.....张 野 王晓放 介红恩 (095)
核电厂可修设备失效数据的处理方法.....王大林 刘井泉 黄祥瑞 (099)
基于信息融合技术的核动力装置智能故障诊断系统研究.....蔡 猛 张大发 张宇声 等 (105)
基于多层流模型的二回路系统故障诊断研究.....马 杰 郭立峰 张宇声 等 (109)

辐射与屏蔽

- 反应堆退役压力容器放射性活度估算方法.....郭武仁 林晓玲 郑宁宁 (114)
核动力装置活化构件放射性存量计算及影响因素分析.....刘 扬 林晓玲 蔡 琦 (118)
某核电厂员工因氩及 $^{222}Rn/^{220}Rn$ 子体所致剂量评价.....吴和喜 刘玉娟 杨 波 等 (122)

其 他

- 溶液堆物理计算程序 FMCAHR 燃耗功能及其验证.....汪量子 姚 栋 王 侃 (127)
基于势流体的核反应堆贮液容器动力特性分析.....艾红雷 张毅雄 (131)
核设施退役项目档案管理研究.....黄 凌 廖 冰 周 浩 等 (134)
压力容器卸压过程中容器温度研究.....刘庆江 叶 涛 (138)

编委会主任： 周永茂
编委会副主任： 彭士禄 黄国俊 管云龙 李玉嵩 王大中
王乃彦 潘自强 赵 华 杨 岐
主 编： 罗 琦
副 主 编： 孙玉发 黄士鉴 卜永熙 崔广余 汪胜国

编辑部主任： 左成元
编辑部副主任： 尚作燕
编 辑： 查刚菊 张明军 马 蓉 刘 君
黄可东 刘胜吾 孙 凯 杨洁蕾
英文审校： 张 琼

Research of Preparation of Large Diameter Ceramic UO ₂ Spherite by Sol-Gel	MENG Qing-yang, TANG Xiang-yang, LIU Jin-hong, et al (001)
Study on Sintering Behavior of UO ₂ Microsphere Doped with Titanium.....	WANG Hui, LIU Jin-Hong, YIN Rong-Cai, et al (006)
Establishment of Mission Profile of Fuel Cycling System in Pebble Bed Reactor	ZENG Kai, SHENG Peng, DU Dong, et al (010)
Experimental Investigation of Hydrogen Embrittlement of 65Mn Steel with Small Punch Testing Method	WANG Zhao-xi, QU Bao-ping, XUE Fei, et al (014)
Characterization of Interaction between U-Mo Alloy and Al Diffusion-Couple	LIU Yun-ming, YIN Chang-geng, SUN Chang-long, et al (019)
Fretting Wear Behavior of TA16 Alloy Materials.....	ZHANG Ya-fei, REN Ping-di, ZHANG Xiao-yu, et al (024)
Study on Grey Correlation Degree of Influence Factors on ONB in Narrow Channel under Natural Circulation	LIU Ping, ZHOU Tao, ZHANG Ming, et al (029)
Simulation of IBIF in HWR Horizontal Fuel Channel.....	YUAN Jing-tian, LI Jing-xi, CAO Xue-wu, et al (033)
Effects of Additional Inertia Force on Bubble Breakup.....	PAN Liang-ming, ZHANG Wen-zhi, CHEN De-qi, et al (037)
Flow Patterns of Air-Water Two-Phase cross a Tube Bundle and Their Effect on Excitation of Flow-Induced Vibration	JIANG Nai-bin, ZANG Feng-gang, ZHANG Yi-xiong (042)
Numerical Prediction of Critical Heat Flux in Narrow Rectangular Channels	ZHOU Lei, LIU Xiang-feng, YAN Xiao, et al (046)
Experimental Study on Post-Dryout Transition Boiling Heat Transfer in Rectangular Channel	LI Hong-bo, CHEN Bing-de, XIONG Wan-yu (052)
Reliability Analysis of in-Service Inspection for Key Components in Nuclear Power Plants	ZHANG Jun, DING Hui, LI Ming, et al (058)
Analysis of AP1000 Reactor Power Control System.....	ZHANG Xiao-dong, LIU Lin (062)
Development and Application of Nuclear Power Plant DCS Closed-Loop Test Platform	HOU Dong, LIN Meng, YANG Zong-wei, et al (066)
Study on Quantitative Reliability Analysis by Multilevel Flow Models for Nuclear Power Plants	YANG Ming, ZHANG Zhi-jian (072)
Application of DFM in Human Reliability Analysis.....	YU Shao-jie, ZHAO Jun, TONG Jie-juan (077)
Analysis and Treatment of Cladding Layer Defects on Outlet Nozzle of Reactor Pressure Vessel	WANG Yong-jiao, YANG Zhi-peng (083)
Optimal Design of Nuclear Reactor Primary Circuit Volume.....	QIN Hui-min, YAN Chang-qi, WANG Jian-jun (086)
Development and Validation of Isolation Amplifiers for Nuclear IE Application	LI De-wen, HUANG Wen-jun, LI Jing-jing, et al (091)
Effect of Boric Acid Concentration on Reactor Coolant Pump Performance in PWRs	ZHANG Ye, WANG Xiao-fang, JIE Hong-en (095)
Failure Data Process Considering Trend of Failure Rate for Repairable Equipments in Nuclear Power Plants	WANG Da-lin, LIU Jing-Quan, HUANG Xiang-Rui (099)
Study on Intelligent Fault Diagnosis System of Nuclear Power Plants Based on Information Fusion Technique	CAI Meng, ZHANG Da-fa, ZHANG Yu-sheng, et al (105)
Fault Diagnosis Study on Secondary System of Nuclear Power Plants Based on MFM Model	MA Jie, GUO Li-feng, ZHANG Yu-sheng, et al (109)
Method for Estimation of Activity in Decommissioned Nuclear Reactor Pressure Vessel	GUO Wu-ren, LIN Xiao-ling, ZHENG Ning-ning (114)
Calculation of Radioactive Inventory of Activated Parts for Nuclear Power Unit and Analysis of Influence Factors	LIU Yang, LIN Xiao-ling, CAI Qi (118)
Evaluation of Dose Arising from ²²² Rn, Decay Products of ²²² Rn and ²²⁰ Rn to Staff from a Certain Nuclear Power Plant	WU He-xi, LIU Yu-juan, YANG Bo, et al (122)
Burn-up Function of Fuel Management Code for Aqueous Homogeneous Reactors and Its Validation	WANG Liang-zi, YAO Dong, WANG Kan (127)
Dynamic Characteristic Analysis for Liquid Storage Container in Nuclear Reactors with a Potential-Based Fluid Formulation.....	AI Hong-lei, ZHANG Yi-xiong (131)
Study on Archive Management for Nuclear Facility Decommissioning Projects	HUANG Ling, LIAO Bing, ZHOU Hao, et al (134)
Study on Temperature Dropping during Pressure Vessel Discharge Process.....	LIU Qing-jiang, YE Tao (138)