

ISSN 0253-3219  
CN 31 - 1342 / TL  
CODEN:NUTEDL

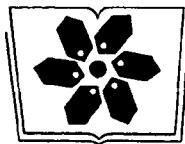
# 核技术

Nuclear Techniques

---

Vol.35 No.11  
2012.11

中国科学院上海应用物理研究所  
科学出版社



## 目 次

**同步辐射技术及应用**

- 同步辐射X射线衍射研究利蛇纹石的压缩性 ..... 黄璐 赖潇静 秦善 巫翔 李延春 刘景 杨科 (801)  
庞磁电阻  $\text{Pr}_{0.7}\text{Sr}_{0.3}\text{MnO}_3/\text{La}_{0.5}\text{Ca}_{0.5}\text{MnO}_3/\text{Pr}_{0.7}\text{Sr}_{0.3}\text{MnO}_3$  三层膜的应变分析 ..... 王海欧 刘昊 戴萍 谭伟石 吴小山 贾全杰 李晓龙 (806)

**低能加速器技术、射线技术及应用**

- CSNS/RCS 高频低电平远程控制系统样机 ..... 王林 雷革 马力 (811)  
电四极透镜中强流脉冲束的传输模拟 ..... 李超龙 石海泉 吕建钦 (816)  
中子照相技术在核燃料元件无损检测中的应用 .....  
魏国海 韩松柏 陈东风 王洪立 郝丽杰 武梅梅 贺林峰 王雨 刘蕴韬 孙凯 赵志祥 (821)  
栅控横向 PNP 双极晶体管电离辐射效应 ..... 席善斌 陆妩 任迪远 王志宽 周东 文林 孙静 (827)  
高频电压调制与束流冷却对同步运动的影响 ..... 吴木营 陈少文 刘敏霞 陈桂华 罗诗裕 邵明珠 (833)  
X射线荧光光谱法测定水系沉积物 ESR 测年样品 U、Th、K 含量 ..... 刘春茹 黄静 李建平 宋为娟 方芳 (837)  
 $^{90}\text{Sr}$ - $^{90}\text{Y}$  源辐照样品片中  $\beta$  剂量的蒙特卡罗研究 ..... 陈少文 黄龙 朱德海 唐强 刘小伟 (841)  
基本参数法 X射线荧光无损分析铅黄铜中铜和锌 ..... 刘敏 度先国 李哲 徐立鹏 石睿 王俊 陈磊 (845)

**核电子学与仪器**

- 重晶石泥浆对随钻密度测井中探测器能窗划分的影响 ..... 张丽 孙建孟 于华伟 姜东 张静 (849)  
ORTEC GEM70P4-95 P型高纯锗  $\gamma$  谱仪的标定 ..... 杨会丽 陈杰 (854)  
马尔科夫法气球测氡仪的研制 ..... 杨强 葛良全 花永涛 朱国祯 王尔奇 (859)  
CR-39 固体核径迹探测器蚀刻技术新进展 ..... 王丽琴 屈喜梅 焦玲 丁艳秋 武权 张文艺 (863)

**核能技术**

- AP1000 核电厂典型的运行瞬态分析 ..... 刘立欣 郑利民 周全福 (869)

**核科学与交叉学科研究**

- 针灸对帕金森小鼠模型运动机能调节的分子机制研究 .....  
黄庆 孙艳红 王璐 张一 诸颖 李晓明 孔华庭 王少朋 胡钧 樊春海 (877)

# Nuclear Techniques

Vol.35 No.11

November 2012

## Contents

### SYNCHROTRON SCIENCE AND TECHNOLOGY

- Synchrotron radiation X-ray diffraction investigation on the compressibility of lizardite .....  
..... HUANG Rong LAI Xiaojing QIN Shan WU Xiang LI Yanchun LIU Jing YANG Ke (801)  
The analysis of strain states of giant magnetoresistive  $\text{Pr}_{0.7}\text{Sr}_{0.3}\text{MnO}_3/\text{La}_{0.5}\text{Ca}_{0.5}\text{MnO}_3/\text{Pr}_{0.7}\text{Sr}_{0.3}\text{MnO}_3$  trilayers .....  
..... WANG Haiou LIU Hao Dai Ping TAN Weishi WU Xiaoshan JIA Quanjie LI Xiaolong (806)

### LOW ENERGY ACCELERATOR AND RADIATION APPLICATIONS

- CSNS/RCS LLRF Remote Control System Prototype ..... WANG Lin LEI Ge MA Li (811)  
Transport simulation of intense pulsed beam in electrostatic quadrupole ..... LI Chaolong SHI Haiquan LU Jianqin (816)  
Application of neutron radiography for non-destructive testing nuclear fuel elements .....  
WEI Guohai HAN Songbai CHEN Dongfeng WANG Hongli HAO Lijie WU Meimei HE Linfeng WANG Yu  
LIU Yuntao SUN Kai ZHAO Zhixiang (821)  
Radiation Effect of Gate Controlled Lateral PNP BJTs Radiation Effect of Gate Controlled Lateral PNP BJTs .....  
..... XI Shanbin LU Wu REN Diyuan WANG Zhikuan ZHOU Dong WEN Lin SUN Jing (827)  
Effect of high-frequency voltage modulation and beam cooling on stability of synchronized particle beam motion .....  
..... WU Muying CHEN Shaowen LIU Minxia CHEN Guihua LUO Shiyu SHAO Mingzhu (833)  
Sediment U, Th, K content analyzed using X-ray fluorescence spectrometry for ESR dating samples .....  
..... LIU Chunru HUANG Jing LI Jianping SONG Weijuan (837)  
Monte Carlo simulation of beta absorbed dose to slice samples irradiated by a  $^{90}\text{Sr}$ - $^{90}\text{Y}$  source .....  
..... CHEN Shaowen HUANG Long ZHU Dehai TANG Qiang LIU Xiaowei (841)  
Determination of Cu and Zn elements in lead brass using fundamental parameter method by X-ray fluorescence non-destructive  
analysis ..... LIU Min TUO Xianguo LI Zhe SHI Rui WANG Jun CHEN Lei (845)

### NUCLEAR ELECTRONICS AND INSTRUMENTATION

- The effect of barite mud on the division of the detector energy window in density logging while drilling .....  
..... ZHANG Li SUN Jianmeng YU Huawei JIANG Dong ZHANG Jing (849)  
ORTEC P type Ge  $\gamma$ -ray spectrometer system calibration ..... YANG Huili CHEN Jie (854)  
The development of balloon radon measure instrument by Markov method .....  
..... YANG Qiang GE Liangquan HUA Yongtao ZHU Guozhen WANG Erqi (859)  
New progress of etching technology for CR-39 solid state nuclear track detector .....  
..... WANG Liqin QU Ximei JIAO Ling DING Yanqiu WU Quan ZHANG Wenyi (863)

### NUCLEAR ENGINEERING

- Preliminary study on operational transient analysis for AP1000 ..... LIU Lixin ZHENG Limin ZHOU Quanfu (869)

### INTERDISCIPLINARY STUDIES OF NUCLEAR PHYSICS

- Acupuncture improve motor function in a mouse model of Parkinson's disease .....  
..... HUANG Qing SUN Yanhong WANG Lu ZHANG Yi ZHU Ying LI Xiaoming KONG Huating WANG Shaopeng  
HU Jun FAN Chunhai (877)