

大学物理实验

第 23 卷

2010 年第 6 期

(总第八十五期)

双月刊

ISSN1007-2934
CN22-1228/O₄

主办单位: 吉林化工学院

出版单位:《大学物理实验》编辑部

地 址: 吉林市承德街 45 号

邮 编: 132022

电 话: 0432-63083137

网 址:

<http://dwsl.chinajournal.net.cn>

电子信箱: dwsl@chinajournal.net.cn

印 刷: 吉林市地矿印刷厂

出版日期: 2010 年 12 月 26 日

编辑部

主 编: 丁 力

副 主 编: 王显德

本期责任编辑: 盖啸尘 刘文彦

齐丽晶 刘 艳

中文编辑: 张国范

英文编辑: 杨 雪

目 录

PHYSICAL EXPERIMENT OF COLLEGE

教育部高等学校物理学与天文学教学指导委员会委托吉林化工学院主办

实验研究

- 霍尔元件线度对磁场测量影响的研究 石将建, 陆梓幸, 付 马 (1)
- 机械球磨制备 Sm-Fe 固溶体合金材料 孟 磊, 刘 力, 孙 颖, 等 (6)
- 基于胶片输出仪的干涉衍射屏制作研究 李 浩, 许富洋, 何正杨, 等 (9)
- 固体比热容测定实验的研究 韩修林, 孙梅娟, 丁智勇 (12)
- 用统计的方法研究光拍法测光速实验中的电流表达式 张桂花 (16)
- 多用途半导体激光器光源的制作 田云霞, 郭山河, 何 越, 等 (18)
- 应用干涉原理检测激光晶体夹具的应力 耿爱丛, 徐登辉, 李宝河 (20)
- 全反射法对棱镜折射率的测定 纪延俊, 杜玉杰, 郭红岩 (23)
- 全息实验的新研究 杨吉望, 赵 爽, 张云飞, 等 (25)
- 微重力环境下磁力实验观察与研究 赵浩宇, 毕思思, 郭金华, 等 (28)
- 转动定律实验拓展问题研究 张锐波 (31)
- 焦利氏称测液体表面张力系数的探讨 段坤杰, 衡丽君 (33)
- 非线性实验的哲学意义 尤秉信, 孙 萍, 翁俊荣 (38)
- 分光计实验教学中的体会 钟克华, 钟志荣 (44)
- 影响惠斯通电桥灵敏度因素的实验验证 张学华 (50)
- 重力对惯性秤振动周期影响的分析与实验演示 张淑萍 (53)
- 液体表面张力系数、声波在液体中传播速度与液体浓度关系的研究
..... 李志坤, 高本领, 张 俊 (56)
- 设计数字温度计实验的改进 湛正良, 汪 洪 (60)
- 蔡氏电路的研究与制作 欧国成, 吴 敏 (63)
- 对阿基米德定律演示仪器的改进 呼格吉乐 (67)

计算机应用

- 单缝夫琅禾费衍射实验的计算机辅助教学 何 杰, 宋立涛 (69)
- 基于 Matlab Simulink 的物理实验—简谐振动仿真研究
..... 吴 迪, 孙洪毅, 刘 军, 等 (72)
- 基于 MATLAB 下对单摆实验中大摆角问题的讨论 万明理, 何金娜 (75)
- 驻波法测定声速实验的 matlab 模拟 张春梅 (78)
- 应用 Origin8.0 软件计算惠斯登电桥中的待测电阻 徐 瑛, 孙秀平 (81)

误差与数据处理

- 材料力学基本实验中应变片粘贴误差分析 李 霞, 周克民 (83)
- 实验数据处理的 excel 函数解法研究 熊泽本 (86)

教学改革

- 大学物理实验教学创新实践平台的构建 刘传东 (90)
- 普通物理实验教学改革的几点建议 赵秀英, 许 景, 周邸冰, 等 (93)
- 大学物理实验教学改革探索
——谈“少台套大循环”教学模式与管理 郭子兰 (96)
- 开放性实验实践教学研究与实践 谢建明 (100)
- 从单元法教学到专题法教学
——浅谈军校《近代物理实验》课程的教学改革
..... 康冬丽, 贾红辉, 张学骞 (104)
- 更大范围开设等离子体诊断实验的必要性探讨
..... 牛晓娟, 吴铁山, 赵光欣, 等 (106)
- 适应创新教育的“3+1”大学物理实验教学模式的探索与实践
..... 张 萍, 曲艳玲, 陈宝祥, 等 (108)
- 设计性实验教学的实施与设想 杜晓燕, 门高夫 (111)

期刊基本参数: CN22-1228/O₄ * 1987 * b * A4 * 113 * zh * P * ¥15.00 * 1200 * 35 * 2010-12

CONTENTS

The Theoretic Study of the Influence on the Magnetic Field Measuring Caused by the Size of Hall-Effect-Sensors	SHI Jiang-jian, LU Zi-xing, FU Ma (1)
Production of Sm-Fe Solid Solution by Mechanical Milling	MENG Lei, LIU Li, SUN Jie, et al (6)
Study on Fabrication of Interference and Diffraction Screen with the Film Recorder	LI Hao, XU Fu-yang, HE Zheng-yang, et al (9)
The Experimental Research on Measuring Solid Specific Heat Ratio	HAN Xiu-lin, SUN Mei-juan, DING Zhi-yong (12)
Photocurrent Expression in the Experiment of Measuring the Light Velocity with Light Beating	ZHANG Gui-hua (16)
Making of the Multi-using Semiconductor Laser Light Source	TIAN Yun-xia, GUO Shan-he, HE Yue, et al (18)
Interferometry Application for Measuring the Stress of Laser Crystal Clamps	GENG Ai-cong, XU Deng-hui, LI Bao-he (20)
Index of Refraction of Prism using the Holoreflecting Method	JI Yan-jun, DU Yu-jie, GUO Hong-yan (23)
New Study of the Hologram Experiment	YANG Gi-wang, ZHAO Shuang, ZHANG Yun-fei, et al (25)
The Magnetic Force Observation and Demonstration under the Condition of Microgravity	ZHAO Hao-yu, BI Si-si, GUO Jin-hua, et al (28)
The Study of Rotation Law Experimental Development Problem	ZHANG Rui-bo (31)
Discussion on the Experiment of Measuring Surface Tension Coefficient of Liquid by using Jolly Balance	DUAN Kun-jie, HENG Li-jun (33)
Philosophical Significance of Nonlinear Experiment	YOU Bing-xin, SUN Ping, WENG Jun-rong (38)
The Perspectives of Spectrometer Experiment Teaching	ZHONG Ke-hua, ZHONG Zhi-rong (44)
Experimental Verification of Influence Factors of Wheatstone Bridge's Sensitivity	ZHANG Xue-hua (50)
Experimental Demonstration and Analysis of Influence of Gravity on Inertial Balance's Vibration Period	ZHANG Shu-ping (53)
Studies on the Relationship between the Liquid Surface Tension and the Spread Velocity of Sound Wave in Liquid and the Liquid Concentration	LI Zhi-kun, GAO Ben-ling, ZHANG Jun (56)
Improving the experiment of designed digital thermometer	CHEN Zheng-gen, WANG Hong (60)
Study and Production of Chua's Circuit	OU Guo-cheng, WU Min (63)
On Improvement of Archimedes Law Demonstration Instrument	HU Ge-jile (67)
Computer-Aided Instruction of Single Slit Diffraction	HE Jie, SONG Li-tao (69)
Study on Simulation of Physical Experiment ——Simple Harmonic Vibration based on Matlab Simulink	WU Di, SUN Hong-yi, LIU Jun, XU Peng, et al (72)
MATLAB Applied in Wide-Angled Simple Pendulum Movement	WAN Ming-li, HE Jin-na (75)
Computer Simulation of the Experiment of Measuring the Sound Velocity by Standing Wave Method based on Matlab	ZHANG Chun-mei (78)
Calculated the Unknown Resistance in Wheatstone Bridge with Origin 8.0 Software	XU Ying, SUN Xiu-ping (81)
Error Analysis of Pasting Strain Gauge in Basic Experiment of Material Mechanics	LI Xia, ZHOU Ke-min (83)
The Applied Research of Excel Functions in Experimental Data Processing	XIONG Ze-ben (86)
University Physics Experiment Teaching Innovation Practice Platform Building	LIU Chuan-dong (90)
Some Suggestions on Teaching Reform of Physical Experiment	ZHAO Xiu-ying, XU Jing-zhou, DI Bing, et al (93)
Experiment Teaching Mode and Management on a Small Quantity of Equipment with Big Cycle of Experimenters	GUO Zi-lan (96)
Research and Practice of the Open Experiment Teaching	XIE Jian-ming (100)
From Unit Teaching Approach to Topic Teaching Approach ——Briefly Discussion of Teaching Reformation in Model Physics Experiment Course of Military Academy	KANG Dong-li, JIA Hong-hui, ZHANG Xue-ao (104)
Discuss the Necessity of the Wider Opening Plasma Diagnosis Experiment	NIU Xiao-juan, WU Tie-shan, ZHAO Guang-xin, et al (106)
Study and Practice on the "3+1 Teaching Mode in University Physical Experiment Suitable for the Innovation Training	ZHANG Ping, QU Yan-ling, CHEN Bao-xiang, et al (108)
The Practice and Thought of Design Physics Experiments Teaching	DU Xiao-yan (111)