

强激光与粒子束

HIGH POWER LASER AND PARTICLE BEAMS

ISSN 1001-4322
CN 51-1311/O4
CODEN QYLIEL

第 34 卷
第 6 期
2022.6

超热相干汤姆逊散射实验研究取得进展

龚 韬, 陈朝鑫, 李志超, 郝 亮, 赵 航, 蒋小华, 潘凯强
李 琦, 李三伟, 杨 冬, 王 峰, 杨家敏, 赵宗清, 张保汉



中国工程物理研究院
中国核学会 主办
四川核学会



目 次

强激光物理与技术

- 1.8 mJ 高倍率 Nd:YAG 板条皮秒激光放大器 王金川, 李密, 杜佳林, 等 061001 (7)
260 W 波长锁定光纤耦合输出泵浦模块实验研究 吴华玲, 雷军, 郭林辉, 等 061002 (5)
355 nm 和 1064 nm 双波长预处理对 DKDP 晶体损伤性质的影响 李云飞, 史晋芳, 邱荣, 等 061003 (6)

惯性约束聚变物理与技术

- 超热相干汤姆逊散射实验研究取得进展 龚韬, 陈朝鑫, 李志超, 等 062001 (3)

高功率微波技术

- 大功率速调管收集极高效强迫风冷散热系统的设计 雷磊, 周宇, 高冬平, 等 063001 (7)
大功率铁磁性微波部件微放电演变机理与抑制 李韵, 封国宝, 谢贵柏, 等 063002 (6)
GJB151B CS115 的电路仿真分析(二)——标准应用分析 崔志同, 陈伟, 董亚运, 等 063003 (6)
SiC 光导开关衬底与电极界面场强仿真与优化设计 罗燕, 丁蕾, 赵毅, 等 063004 (6)
一种新型低电感磁绝缘传输线的冷腔特性 刘燕, 刘腊群, 周良骥, 等 063005 (5)

粒子束及加速器技术

- 数字束流位置探测器系统的信噪比需求分析 高国栋, 唐旭辉, 曹建社, 等 064001 (8)
基于神经网络的大孔径厚针孔成像复原算法研究 李冬, 盛亮, 李阳, 等 064002 (6)
兰州重离子回旋加速器主场电源改造 欧恒恒, 燕宏斌, 张帅, 等 064003 (6)
氢原子束在大气长程传输中自剥离效应研究 沈硕, 郝建红, 张芳, 等 064004 (6)
Ti-Zr-V 吸气剂薄膜在管道的制备与真空性能研究 朱邦乐, 范乐, 洪远志, 等 064005 (6)
基于 Marx 自激监测控制的闪光照相试验可靠性提高技术研究 江孝国, 杨兴林, 蒋薇, 等 064006 (6)
SXFEL 阻抗壁尾场对束流相空间畸变的影响(英) 龚有为, 程文才, 赵明华, 等 064007 (6)
95 MeV 射频电子直线加速器辐射防护分析 李迪开, 曹磊峰, 池云龙, 等 064008 (8)
基于单个四条带 BPM 的非拦截式能散度测量方法 钟黎明, 涂修德, 陈曲珊, 等 064009 (6)
双自由度诊断高能电子透镜成像技术(英) 肖家浩, 杜应超, 李豪卿, 等 064010 (8)

脉冲功率技术

- 高触发信号和功率合成的高峰值功率皮秒脉冲源 张雅茹, 陈袭, 李杨, 等 065001 (8)
300 MV·A 脉冲发电机组向 HL-2M 装置环向场供电仿真研究 徐玉麟, 彭建飞, 卜明南, 等 065002 (8)
电弧射流激励器工作特性仿真研究 袁野, 张岩, 赵青, 等 065003 (9)

核科学与工程

- 基于 Si-PM 阵列的辐射作用位置定位方法研究 刘鑫, 袁永刚, 吴健, 等 066001 (7)
小波包分形在远区核爆电磁脉冲识别中的应用 张震川, 曹保锋, 李鹏, 等 066002 (5)

前沿技术与交叉科学

- 液相等离子体及其在纳米材料制备中的应用 芮立晨, 庞子宁, 李煊赫, 等 069001 (14)

研究快讯

- 4.5 kW, 0.33 nm 近单模窄线宽保偏光纤激光器 任帅, 陈益沙, 马鹏飞, 等 065002-8

CONTENTS

• High Power Laser Physics and Technology •

- 1.8 mJ high magnification Nd:YAG slab picosecond laser amplifier Wang Jinchuan, Li Mi, Du Jialin, et al. 061001(7)
Experimentation of 260 W wavelength stabilized fiber-coupled diode laser pumping model Wu Hualing, Lei Jun, Guo Linhui, et al. 061002(5)
Effect of 355 nm and 1064 nm dual-wavelength conditioning on the bulk damage properties of DKDP crystal Li Yunfei, Shi Jinsong, Qiu Rong, et al. 061003(6)

• Inertial Confinement Fusion Physics and Technology •

- Experimental study on super-thermal collective Thomson scattering Gong Tao, Chen Chaoxin, Li Zhichao, et al. 062001(3)

• High Power Microwave Technology •

- Design of high efficiency forced air cooling heat dissipation system for collector of high-power klystron Lei Lei, Zhou Yu, Gao Dongping, et al. 063001(7)
Multipactor evolution and suppression in high-power ferromagnetic components Li Yun, Feng Guobao, Xie Guibai, et al. 063002(6)
Circuit simulation of GJB151B CS115 part II: The analysis of application Cui Zhitong, Chen Wei, Dong Yayun, et al. 063003(6)
Optimization design and simulation of electric field at interface between substrate and electrode of photoconductive switch Luo Yan, Ding Lei, Zhao Yi, et al. 063004(6)
Cold cavity characteristics of a new type of low-inductance magnetically insulated transmission line Liu Yan, Liu Laqun, Zhou Liangji, et al. 063005(5)

• Particle Beams and Accelerator Technology •

- Signal-to-noise ratio requirement analysis for digital beam position monitor system Gao Guodong, Tang Xuhui, Cao Jianshe, et al. 064001(8)
Research on algorithm for restoration of large aperture and thick pinhole imaging based on neural network Li Dong, Sheng Liang, Li Yang, et al. 064002(6)
Reform of main power supply of the Lanzhou heavy ion cyclotron Ou Hengheng, Yan Hongbin, Zhang Shuai, et al. 064003(6)
Study on beam-induced-stripping effect of hydrogen atom beam in long distance propagation in atmosphere Shen Shuo, Hao Jianhong, Zhang Fang, et al. 064004(6)
Vacuum performance of Ti-Zr-V getter films deposited on narrow tubes Zhu Bangle, Fan Le, Hong Yuanzhi, et al. 064005(6)
Technique study to improve radiographic-testing reliability basing on self-excitation of pulsed power system Jiang Xiaoguo, Yang Xinglin, Jiang Wei, et al. 064006(6)
Influence of SXFEL resistive wall wakefield on beam phase space distortion Gong Youwei, Cheng Wencai, Zhao Minghua, et al. 064007(6)
Radiation protection analysis of 95 MeV RF electron linac Li Dikai, Cao Leifeng, Chi Yunlong, et al. 064008(8)
Non-interceptive beam energy spread measurement with a 4-stripline BPM Zhong Liming, Tu Xiude, Chen Qushan, et al. 064009(6)
Dual degrees of freedom diagnosis with high energy electron lens radiography Xiao Jiahao, Du Yingchao, Li Haoqing, et al. 064010(8)

• Pulsed Power Technology •

- High-power picosecond pulse source based on high trigger signal and power synthesis Zhang Yaru, Chen Xi, Li Yang, et al. 065001(8)
Simulation of 300 MV·A motor generator feeding the toroidal field power supply Xu Yulin, Peng Jianfei, Bu Mingnan, et al. 065002(8)
Numerical study on the characteristics of an arc jet plasma actuator Yuan Ye, Zhang Yan, Zhao Qing, et al. 065003(9)

• Nuclear Science and Engineering •

- Research on location method of radiation action based on Si-PM array Liu Xin, Yuan Yonggang, Wu Jian, et al. 066001(7)
Recognition of far-region nuclear electromagnetic pulse based on wavelet fractal technique Zhang Zhenchuan, Cao Baofeng, Li Peng, et al. 066002(5)

• Advanced Interdisciplinary Science •

- Liquid plasmas and their applications in nanomaterial synthesis Rui Lichen, Pang Zining, Li Xuanhe, et al. 069001(14)