

目 次

研究快报

- 全光纤激光器实现 kW 级功率输出 马国星, 肖虎, 周朴, 等 (1137)

高功率激光与光学

- 高功率激光装置中鬼光束的计算机分析 张清泉, 刘劲松, 朱启华, 等 (1139)
实用型放电泵浦 XeF(B-X)准分子激光器 王庆胜, 余吟山, 王效顺, 等 (1143)
高马赫数高压力的氟碘化学激光器阵列喷管的数值模拟 刘卫红, 刘万发, 黄为民, 等 (1147)
基于低通滤波的相位掩模干涉图相位解调方法 徐建程, 杜雅薇, 刘志超, 等 (1153)
高重复频率激光能量沉积减小超声速波阻的数值研究 方娟, 洪延姬, 李倩, 等 (1158)
高斯涡旋光束的偏轴度 崔学才, 连校许, 吕百达 (1163)
钕玻璃的热致断裂及泵浦极限 王明哲, 马文, 张永亮, 等 (1167)
飞秒脉冲激光作用下电子振荡导致的辐射空间分布特性 徐涵, 田友伟, 卓红斌 (1173)
高功率半导体激光对光学元件损伤特性 郭汝海, 时魁, 王恒坤, 等 (1177)
人工光源对地面目标红外特性的调制 杜石明, 吴小波, 吕相银, 等 (1182)
长时热变形下硅反射镜的参数选择 杜燕贻, 安建祝, 杜小建 (1187)
非高斯畸变对星间光通信瞄准偏差的影响 谭立英, 谢宛青, 马晶, 等 (1193)
基于阈值式小波变换的波前重构算法 韩诚山, 李祥之, 赵庆磊, 等 (1197)
超洛伦兹-高斯光束 SLG₁₁模的分数傅里叶变换特性 周益民, 周国泉 (1201)
化学激光器喷注器的流量标定 闫宝珠, 袁圣付, 毛海峰 (1207)
氟碘化学激光器直线分段扩开型扩压器实验研究 黄知龙, 张国彪, 孙海海, 等 (1211)
固态热容激光器 3 维瞬态热畸变模拟分析 杨火木, 张飚, 唐淳, 等 (1215)
啁啾脉冲堆积宽带激光非线性传输空间调制特性 王友文, 唐益群, 陈列尊, 等 (1220)
化学激光器用文氏咀流场特性的数值模拟 施冬欢, 刘文广, 陈星, 等 (1225)
Yb:YAG 薄片激光器多通泵浦耦合系统设计与实验 王春华, 王卫民, 马毅, 等 (1229)
全光汤姆逊散射 X 光源数值模拟 谭放, 朱斌, 赵宗清, 等 (1233)
双环掺铒光纤激光器混沌双环反馈相移控制方法 吴飞, 贾莉, 吴朝霞, 等 (1239)
车载光学平台双层隔振系统设计与试验研究 郭建增, 刘铁根, 池伟, 等 (1245)

ICF 与激光等离子体

- Mn-Cu 合金成分对去合金化法制备纳米多孔铜的影响 尹硕, 谭秀兰, 李恺, 等 (1250)
压电薄膜变形镜响应函数计算及参数优化 王德恩, 胡东霞, 代万俊, 等 (1255)
多层膜聚光镜对 Schwarzschild 显微镜成像均匀性的影响 王新, 移宝忠, 黄怡, 等 (1259)
纳米多孔金薄膜显微结构分析 陈静, 胡文成, 杜飚, 等 (1264)
杂质对溶胶-凝胶 SiO₂ 薄膜激光损伤的影响 章春来, 李熙斌, 吕海兵, 等 (1267)
辐射驱动条件下冲击波速度直接测量技术 王峰, 彭晓世, 刘慎业, 等 (1272)
BeH₂ 薄膜的制备及红外特性 张吉强, 罗江山, 罗炳池, 等 (1277)
RB-SiC 表面改性 Si 涂层的制备与性能 范永涛, 刘虹, 邵传兵, 等 (1281)
乳化剂组成与压力对中空聚合物微球的影响 施冬梅, 段萍, 唐永建, 等 (1285)
超短超强激光与薄膜靶作用的光学光谱 李勇, 洪伟, 朱斌, 等 (1290)
等离子体用于腔体的雷达散射截面减缩的实验研究 何湘, 陈建平, 楚然, 等 (1295)
在 19.5 nm 处高反在 30.4 nm 处抑制的双功能薄膜 蒋勋, 王晓强, 谭默言, 等 (1299)
双荧光层靶 K_a 线强度比诊断内超热电子温度 蔡涓涓, 黄文忠, 谷渝秋, 等 (1303)

高功率微波

- 石墨阴极用于重频长脉冲高功率微波产生的初步实验 新振兴, 张军, 雷应, 等 (1307)
超宽带天线辐射中心的时域测量方法 易超龙, 朱四桃, 樊亚军, 等 (1312)
回旋管同轴谐振腔模式的选择 刘睿, 李宏福 (1315)

负载不匹配对大功率速调管输出特性的影响	丁耀根, 沈斌, 丁海兵	(1319)
偏最小二乘回归在微波效应预测中的应用	钟龙权, 马弘舸	(1324)
馈电损耗及高辐射效率微带天线阵研究	赵菲, 叶良丰, 陈泽萍, 等	(1329)
单频多模磁绝缘线振荡器的3维数值模拟	文杰, 范植开, 陈代兵, 等	(1335)
矩形螺旋线行波管注-波互作用3维模拟	付成芳, 魏彦玉, 蒋艺	(1341)

加速器技术

PET回旋加速器内部束流测量探头热分析	王幡, 张开志, 李勤, 等	(1346)
基于全变分正则化的高能闪光照相消模糊图像重建算法	钱伟新, 刘瑞根, 王婉丽, 等	(1351)
上海质子医疗装置的涡流效应	张满洲, 李浩虎, 李德明	(1357)

粒子束技术

含氢电极脉冲放电等离子体特性诊断	陈磊, 金大志, 程亮, 等	(1361)
超高速碰撞产生等离子体的频谱响应特征	唐恩凌, 杨明海, 相升海, 等	(1365)
第一性原理研究KDP晶体中Ba取代K点缺陷	高慧, 孙淘, 刘宝安, 等	(1370)
团簇在超强超短脉冲激光场中的演化	刘红杰, 谷渝秋, 周维民, 等	(1373)
伽玛成像探测器空间分辨与相对发光效率	苏明, 赵宗清, 谷渝秋, 等	(1378)
带有KTP缺陷的2维光子晶体设计与能带特性	李志全, 刘正君	(1383)
4H-SiC NMOS电子、质子辐照数值模拟	胡志良, 贺朝会	(1387)

脉冲功率技术

μ s振荡脉冲电源激励下同轴电极介质阻挡放电特性	雷泉, 方志	(1391)
触发时序对直线型脉冲变压器输出参数的影响	刘鹏, 孙风华, 尹佳辉, 等	(1397)
辉光放电触发瞬火花开关的时延及抖动特性	秦风, 常安碧, 丁恩燕, 等	(1402)
对不同结构螺线管型爆磁压缩发生器跳匝问题的分析及跳匝比的计算(英)	周治伟, 羊祥	(1412)
快前沿mini-Marx发生器研制	梁川, 曹科峰, 章林文, 等	(1413)
高压氢气纳秒开关击穿特性	刘胜, 羊亚军, 石磊, 等	(1417)

期刊基本参数: CN 51-1311/O4 * 1989 * m * A4 * 284 * zh+en * P * ¥40.00 * 1000 * 61 * 2011-05

CONTENTS

• Research Letter •	
kW level fiber laser in all-fiber format	Ma Yanxing, Xiao Hu, Zhou Pu, et al. (1138)
• High Power Laser and Optics •	
Analysis of ghost image in high power laser system using computer	Zhang Qingquan, Liu Jinsong, Zhu Qihua, et al. (1142)
Discharge-pumped XeF(B-X) excimer laser	Wang Qingsheng, Yu Yinshan, Wang Xiaoshun, et al. (1146)
Numerical simulation of high Mach number high pressure COIL nozzle array	Liu Weihong, Liu Wanfa, Huang Weimin, et al. (1152)
Demodulation of phase-masked interferogram based on low-pass filtering	Xu Jiancheng, Du Yawei, Liu Zhichao, et al. (1157)
Numerical analysis of supersonic drag reduction with repetitive laser energy deposition	Fang Juan, Hong Yanji, Li Qian, et al. (1162)
Degree of paraxiality for Gaussian vortex beams	Cui Xuecai, Lian Xiaozu, Lü Baida (1166)
Thermal fracture and pump limit of Nd:glass	Wang Mingzhe, Ma Wen, Zhang Yongliang, et al. (1172)
Spatial characteristics of emission from electron oscillation driven by femtosecond laser pulses	Xu Han, Tian Youwei, Zhuo Hongbin (1176)
Damage in optical components induced by high power semiconductor laser	Guo Ruhai, Shi Kui, Wang Hengkun, et al. (1181)
Modulation of ground targets infrared characteristic with artificial illuminator	Du Shiming, Wu Xiaobo, Lü Xiangyin, et al. (1186)
Parameters design of silicon reflectors in long-time thermal distortion	Du Yanyi, An Jianzhu, Shu Xiaoqian (1192)
Effect of non-Gaussian deformation on pointing error in inter-satellite laser communication systems	Tan Liying, Xie Wanqing, Ma Jing, et al. (1196)
Wavefront reconstruction algorithm based on thresholding wavelet transform	Han Chengshan, Li Xiangzhi, Zhao Qinglei, et al. (1200)
Fractional Fourier transform of super Lorentz-Gauss SLG ₁₁ mode	Zhou Yimin, Zhou Guoquan (1206)
Flow rate calibration on injectors of chemical laser	Yan Baozhu, Yuan Shengfu, Mao Haifeng (1210)
Performance of line-divergence subsection supersonic diffuser for COIL	Huang Zhilong, Zhang Guobiao, Geng Zihai, et al. (1214)
Simulation analysis of 3D dynamic thermo-optic effect of solid state heat capacity laser	Yang Huomu, Zhang Kai, Tang Chun, et al. (1219)
Characteristics of spatial modulation in nonlinear propagation of broad-band lasers stacked by chirped pulses	Wang Youwen, Tang Yiqun, Chen Liezun, et al. (1224)
Numerical study of flow field characteristics of Venturi nozzle for chemical laser	Jin Donghuan, Liu Wenguang, Chen Xing, et al. (1228)
Design and experiment of multi-pass pump system for Yb:YAG thin-disk laser	Wang Chunhua, Wang Weimin, Ma Yi, et al. (1232)
Numerical simulation of full-optical Thomson scattering X-ray source	Tan Fang, Zhu Bin, Zhao Zongqing, et al. (1238)
Method of double-ring feedback phase-shift controlling chaos for dual-ring erbium-doped fiber laser	Wu Fei, Jia Li, Wu Zhaoxia, et al. (1244)
Design and experiment of double-layer vibration isolation system for mobile vehicle-mounted optical platform	Guo Jianzeng, Liu Tiegen, Chi Wei, et al. (1249)
• ICF and Laser Plasma •	
Influence of composition on dealloying of Mn-Cu alloys	Yin Shuo, Tan Xiulan, Li Kai, et al. (1254)
Response function calculation and parameter optimization of piezoelectric film deformable mirror	Wang Deen, Hu Dongxia, Dai Wanjun, et al. (1258)
Influence of multilayer films condenser on imaging uniformity of Schwarzschild microscope	Wang Xin, Mu Baozhong, Huang Yi, et al. (1263)
Microstructures of nanoporous gold films	Chen Jing, Hu Wencheng, Du Kai, et al. (1266)
Influence of impurities on laser-induced damage of sol-gel SiO ₂ films	Zhang Chunlai, Li Xibin, Lü Haibing, et al. (1271)
Direct measurement technique for shock wave velocity with irradiation drive	Wang Feng, Peng Xiaoshi, Liu Shenye, et al. (1276)

Preparation and infrared property of BeH ₂ film	Zhang Jiqiang, Luo Jiangshan, Luo Bingchi, et al. (1280)
Preparation and performance of Si coating on RB-SiC mirror for surface modification	Yuan Yongtao, Liu Hong, Shao Chuanding, et al. (1284)
Influences of emulsive component and treatmental pressure on hollow polymer particles	Nie Dongmei, Duan Tao, Tang Yongjian, et al. (1289)
Optical spectra from interaction between ultrashort ultraintense laser and foil targets	Li Yong, Hong Wei, Zhu Bin, et al. (1294)
Experimental investigation on radar cross section reduction of plasma covered cavity	He Xiang, Chen Jianping, Chu Ran, et al. (1298)
Dual-functional multilayer for high-reflectivity at 19.5 nm and low-reflectivity at 30.4 nm	Jiang Li, Wang Xiaoqiang, Tan Moyan, et al. (1302)
Diagnosis of hot electron temperature by ratio of K _a lines from two-layer fluorescent target	Cai Juanjuan, Huang Wenzhong, Gu Yuqiu, et al. (1306)
• High Power Microwave •	
Preliminary experimental investigation on repetitively long-pulse HPM generation using graphite cathode	Jin Zhenxing, Zhang Jun, Lei Ying, et al. (1311)
Time-domain method of determining radiation centers of ultra wideband antennas	Yi Chaolong, Zhu Sital, Fan Yajun, et al. (1314)
Mode selective properties of gyrotron coaxial cavities	Liu Rui, Li Hongfu (1318)
Influence of load mismatch on output characteristics of klystron	Ding Yaogen, Shen Bin, Ding Haibing (1323)
Application of partial least-square regression to prediction of microwave effects	Zhong Longquan, Ma Hongge (1328)
Feed loss and high radiant efficiency microstrip antenna array	Zhao Fei, Ye Liangfeng, Chen Zeping, et al. (1334)
3D simulation of MILO with multi-mode and single frequency	Wen Jie, Fan Zhikai, Chen Daibing, et al. (1340)
3D simulation of beam-wave interaction of rectangular helix traveling-wave tube	Fu Chengfang, Wei Yanyu, Jiang Yi (1345)
• Accelerator Technology •	
Thermal analysis of interior beam probes for PET cyclotron	Wang Tao, Zhang Kaizhi, Li Qin, et al. (1350)
Total variation-based regularization algorithm for image deblur-reconstruction in high energy X-ray radiography	Qian Weixin, Liu Ruigen, Wang Wanli, et al. (1356)
Estimate of eddy current effects in APTRON	Zhang Manzhou, Li Haohu, Li Deming (1360)
• Particle Beams Technology •	
Diagnosis of plasmas generated by pulsed vacuum arc discharge at hydrogen impregnated electrodes	Chen Lei, Jin Dazhi, Cheng Liang, et al. (1364)
Spectral response characteristics of plasma generated by hypervelocity impact	Tang Enling, Yang Minghai, Xiang Shenghai, et al. (1369)
First principles study on point defect of Ba substituting for K in KDP crystals	Gao Hui, Sun Xun, Liu Bao'an, et al. (1372)
Evolvement of deuterium clusters in ultrashort ultraintense laser field	Liu Hongjie, Gu Yuqiu, Zhou Weimin, et al. (1377)
Space resolution and relative scintillation efficiency of gamma imaging detector	Su Ming, Zhao Zongqing, Gu Yuqiu, et al. (1382)
Design and characteristics of two-dimensional photonic crystal with KTP defect	Li Zhiqian, Liu Zhengjun (1386)
Numerical simulation of 4H-SiC NMOS under electron and proton irradiation	Hu Zhiliang, He Chaohui (1390)
• Pulsed Power Technology •	
Discharge characteristics of coaxial dielectric barrier discharge driven by a microsecond oscillation pulse power	Lei Xiao, Fang Zhi (1396)
Effect of triggering sequences on output parameters of linear transformer driver	Liu Peng, Sun Fengju, Yin Jiahui, et al. (1401)
Delay and jitter of pseudospark switch triggered by glow discharge	Qin Feng, Chang Anbi, Ding Enyan, et al. (1406)
Investigation of turn-skipping phenomenon and calculation of turn-skipping ratio in HMFCGs of various geometries	Zhou Zhiwei, Fan Xiang (1407)
Development of fast risetime mini-Marx generator	Liang Chuan, Cao Kefeng, Zhang Linwen, et al. (1416)
Breakdown characteristic of high pressure hydrogen gas subnanosecond switch	Liu Sheng, Fan Yajun, Shi Lei, et al. (1420)