

目 录

关于自由电子激光器电子束的注入问题.....	王元殿	(671)
反应速率系数对 HF 化学激光器增益特性的影响.....	陈丽吟 周学华	(675)
采用磁压缩器的 XeCl 准分子激光器 楼祺洪 祁建平 王润文 魏运荣 丁爱臻 董景星 丁泽安 吴国庆		(683)
非稳腔注入锁定 TEA CO ₂ 激光器的实验研究.....	徐华东 伊景荣 蔡英时	(687)
薄板 CO ₂ 激光焊中的小孔机理.....	蒲万林 肖敏 陈祖涛	(690)
一种新的光纤测试激励方法.....	施震东 施庆麟	(695)
全息位相差放大技术.....	戚张芬 陈建文 张大可 傅淑芬	(699)
准分子激光引发石墨和氢的反应 马树森 善新新 姚永邦 秦玉英 蔡连新 王广昌		(704)
BeAl ₂ O ₄ :Cr ³⁺ 晶体激光性能的改进.....	张贵芬 马笑山	(707)
GGG(Ca, Mg, Zr):(Nd, Cr) 激光新晶体的生长及测试 苟大敏 朱化南 靳福慧 刘海润 张乐德		(710)
Er ³⁺ 离子及 ErP ₅ O ₁₄ 晶体的光谱性质.....	苏 铮 王庆元 于亚勤 董向明	(714)
利用果蝇(D. melanogaster)研究激光辐照生物的遗传效应 度镇城 张 丹 顾少华 朱定良 蒋惠芳 郑企克 王志麟 潘循哲		(720)

科学札记

激光工作物质的高精度检验.....	乔景文 邓佩珍	(725)
激光染料 Carbostyil 124 的光谱和激光性能.....	严福君 黄德昭 程铸生 腾月莉	(727)
用等离子体电极产生紫外激光发射.....	姚永邦 李承奇 马树森	(729)
Cs 原子高激发态的光电流光谱.....	王 薇 杨玉琨 蒋占魁 骆兴业	(729)
氦-氩激光对人心脏功能的影响.....	朱家沂 马镜华 李永培 蔡宝芬	(732)

简 讯

金蒸气激光器的新进展.....	梁宝根	(724)
我国研制出达到国际先进水平的准分子激光器.....	纪 钟	(734)

CONTENTS

- Effects of injection in free-electron lasers on axial velocity spread of beams *Wang Yuandian* (671)
- Influence of reaction and relaxation rate coefficients on gain characteristics in HF chemical lasers
..... *Chen Liyin, Zhou Xuehua* (675)
- An XeCl excimer laser with magnetic compressor *Lou Qihong,*
Qi Jianping, Wang Runwen, Wei Yunrong, Ding Aizhen, Dong Jinxing, Ding Zian, Wu Goging (683)
- Experimental study of unstable cavity injection mode-locked TEA-CO₂ laser
..... *Xu Huale, Yi Jingrong, Cai Yinshi* (687)
- "keyhole" mechanism in welding thin plates with a low power CO₂ laser
..... *Pu Wanlin, Xiao Min, Cheng Zhutao* (690)
- A new exciting method for optical fiber measurement..... *Shi Zhengdong, Shi Qinling* (695)
- Holographic technique used in phase difference amplification
..... *Qi Zhangfen, Chen Jianwen, Zhang Dake, Fu Shufen* (699)
- Excimer laser induced reaction of graphite with hydrogen
..... *Ma Shusen, Shan Xinxin, Yao Yongbang, Qin Yuying, Cai Lianxin, Wang Guangchang* (704)
- Improvement of laser performances of alexandrite crystals..... *Zhang Guifen, Ma Xiaoshan* (707)
- Growth and measurement of GGG(Ca, Mg,Zr):(Nd, Cr) laser crystal
..... *Xun Damin, Zhu Huanan, Jin Fuhui, Liu Hairun, Zhang Lehui* (710)
- Spectroscopic properties of Er³⁺ ions and ErP₅O₁₄ crystals
..... *Su Qiang, Wang Qingyuan, Yu Yaqin, Dong Xiangming* (714)
- Study on genetic effects of Drosophila melanogaster by using laser irradiation... *Geng Zhengheng,*
Zhang Dan, Gu Shaohua, Zhu Dingliang, Jiang Huifang, Zheng Qike, Wang Zhilin, Pan Xunxi (720)

SCIENCE NOTES

- High precision inspection of laser materials..... *Qiao Jingwen, Deng Peizhen* (725)
- Spectral and laser properties of laser dye carbostyl 124
..... *Yan Fujun, Huang Dezhao, Cheng Zhusheng, Teng Yueli* (727)
- UV laser emission from plasma electrodes..... *Yao Yongbang, Li Chengqi, Ma Shusen* (729)
- Optogalvanic spectroscopy of higher excited states in Cs atoms
..... *Wang Wei, Yang Yukun, Jiang Zhangkui, Luo Xingyie* (729)
- Influence of He-Ne laser light on human heart function
..... *Zhu Jiayi, Ma Jinghua, Li Yongpei, Cai Baofen* (732)

LETTERS

- Recent progress of gold vapor laser..... *Liang Baogen* (724)
- Excimer laser of international advanced level developed in China..... *Ji Zhong* (734)