

## 目次

### 综述与评论

金属结构疲劳裂纹超声红外无损检测研究现状 ..... 向明 董丽虹 王海斗等(667)

### 激光应用技术

管道焊接激光视觉跟踪的定位方法研究 ..... 甘文龙 罗会信 王中任(675)

非致命激光武器雨中传输衰减系统设计研究 ..... 刘霞 单宁 王治晶(682)

Exponentiated Weibull 大气湍流下混合 RF/FSO 系统容量分析 ..... 张韵 王翔 赵尚弘等(686)

非均匀步长分步傅里叶算法的改进 ..... 韩星星 赵丽华(691)

激光致盲武器雨雾条件下传输机理研究 ..... 王浩 姚跃 吴桂勇等(697)

### 激光器技术

用于量子密钥分发的半导体激光器温控系统 ..... 秦继伟 洪占勇 刘建宏等(702)

LD 双端泵浦 Nd:YAG 方形晶体热容激光器温度场 ..... 赵萌 李隆 潘晓瑞等(707)

紧凑型高重频高功率 2.06  $\mu\text{m}$  激光器 ..... 李宝 魏磊 陈国等(714)

### 红外技术及应用

C/SiC 复合材料的红外热像无损检测研究 ..... 高晓进 周金帅 江柏红等(720)

基于 DSP6455 实时红外图像处理仿真平台设计 ..... 李聪 黄成章 安成斌(726)

### 红外材料与器件

碲镉汞 p-on-n 长波异质结探测器材料的制备研究 ..... 田震 宋淑芳 王小菊等(730)

### 光电技术与系统

星模拟器多色温模拟技术研究 ..... 张晓娟 杨俊杰 张健等(735)

多偏振方向对低照度伪装目标偏振度提取的影响 ..... 黄雁华 陈磊 吴成国等(744)

双目光轴平行性检校仪检测精度分析 ..... 应家驹 陈玉丹 武东生等(750)

基于快速反射镜的模糊自适应 PID 控制算法研究 ..... 赵继庭 金刚石 高旭辉(756)

### 光纤及光通讯技术

卫星环境温度监测的光纤光栅传感器研究 ..... 徐福胜 闫光 钟国舜等(762)

镀膜光纤抗拉强度及其影响因素 ..... 杨珂 李玉龙 李学文(769)

### 图像与信号处理

基于 NSST 变换与自适应 PCNN 的多特征遥感图像融合 ..... 张康 黄永东 王国芬(775)

基于扩散方程和相位一致的异源图像配准算法 ..... 江泽涛 王琦(782)

基于无穷单应阵的动态天基弱小目标检测 ..... 张琦 许东 刘乙君(789)

基于 CSF 和梯度相似度的红外图像质量评价 ..... 刘弋名 王晓明 赵昕(795)

## CONTENTS

### Overview & Comment

- (667) Research progress on ultrasonic infrared thermography nondestructive testing of fatigue cracks in metal ..... XIANG Ming *et al*

### Laser Application Technology

- (675) Research on positioning method of laser vision tracking for pipeline welding ..... GAN Wen-long *et al*  
(682) Design research on transmitting and attenuating system of non-lethal laser weapon in rain ..... LIU Xia *et al*  
(686) Channel capacity analysis for hybrid RF/FSO system under exponentiated Weibull atmosphere turbulence ..... ZHANG Yun *et al*  
(691) Improvement of split-step Fourier algorithm with inhomogeneous step length ..... HAN Xing-xing *et al*  
(697) Research on attenuation mechanism of non-lethal laser blinding weapon in rain and fog ..... WANG Hao *et al*

### Laser Technology

- (702) Temperature control system of semiconductor laser for quantum key distribution ..... QIN Ji-wei *et al*  
(707) Temperature field of LD double-end-pumped rectangle Nd : YAG heat capacity laser ..... ZHAO Meng *et al*  
(714) A compact high-repetition and high-power 2.06  $\mu\text{m}$  laser ..... LI Bao *et al*

### Infrared Technology & Application

- (720) Research on infrared thermography nondestructive testing of C/SiC composite ..... GAO Xiao-jin *et al*  
(726) Design of real-time infrared image processing simulation platform based on DSP6455 ..... LI Cong *et al*

### Infrared Material & Device

- (730) Study on fabrication of p-on-n LW HgCdTe heterostructure materials ..... TIAN Zhen *et al*

### O - E Technology & System

- (735) Research on multi-color temperature simulation for star simulator ..... ZHANG Xiao-juan *et al*  
(744) Influence of multi-polarization direction on DOLP extraction of camouflage target under low illumination ..... HUANG Yan-hua *et al*  
(750) Precision analysis of the binocular optical axis parallelism calibration instrument ..... YING Jia-ju *et al*  
(756) Fuzzy adaptive PID control algorithm based on fast steering mirror ..... ZHAO Ji-ting *et al*

### Optical Fiber & Optical Communication

- (762) Study on FBG sensor for satellite ambient temperature monitoring ..... XU Fu-sheng *et al*  
(769) Tensile strength and its influencing factors of the Ni-coated optic fiber ..... YANG Ke *et al*

### Image & Signal Processing

- (775) Multi-feature remote sensing image fusion based on NSST transform and adaptive PCNN ..... ZHANG Kang *et al*  
(782) Heterologous images registration based on diffusion equation and phase congruency ..... JIANG Ze-tao *et al*  
(789) Dim small target detection under dynamic sky background based on homography matrix ..... ZHANG Qi *et al*  
(795) Infrared image quality evaluation based on CSF and gradient similarity ..... LIU Yi-ming *et al*