

### 精密测量技术专题

|                           |                            |
|---------------------------|----------------------------|
| 精密测量, 智能制造的基石 .....       | 郝继贵 (1821)                 |
| 我国微纳几何量计量技术的研究进展 .....    | 高思田 李 琪 施玉书 李 伟 黄 鹭 (1822) |
| 高精度重力仪的测量原理与发展现状 .....    | 房丰洲 顾春阳 (1830)             |
| 光频梳在精密测量中的应用 .....        | 李 岩 (1841)                 |
| 飞秒激光频率梳精密测距技术综述 .....     | 周维虎 石俊凯 纪荣祎 黎 尧 刘 娅 (1859) |
| 现代精密测量技术现状及发展 .....       | 周 亮 王振环 孙东辰 穆乃锋 (1869)     |
| 关节类坐标测量机关键技术及进展 .....     | 于连栋 赵会宁 (1879)             |
| 齿轮磨削烧伤检测方法研究现状及发展方向 ..... | 何宝凤 魏翠娥 石照耀 (1889)         |
| 数控机床空间几何误差测量研究进展 .....    | 杨 婧 冯其波 (1901)             |
| 基于彩色条纹投影术的三维形貌测量 .....    | 白雪飞 张宗华 (1912)             |
| 姿态敏感器地面标定精密调整机构设计 .....   | 陈启梦 张国玉 王 哲 张 健 (1926)     |
| 高精度电磁标定力的产生及其特性分析 .....   | 王大鹏 金 星 周伟静 李南雷 (1933)     |

### 信息处理技术

|                            |                            |
|----------------------------|----------------------------|
| 电力系统信号与数据的压缩传感技术综述 .....   | 于华楠 杜 瑶 马聪聪 (1943)         |
| 回复电压微分谱线特性的变压器绝缘老化研究 ..... | 林智勇 张达敏 黄国泰 薛尚青 李 君 (1954) |
| 机器人辅助激光超声检测系统及参量匹配方法 ..... | 孙广开 曲道明 周正干 (1961)         |
| 基于扩张状态观测器的迟滞非线性系统辨识 .....  | 刘瑞娟 聂卓赞 邵 辉 晏来成 郑义民 (1970) |
| 面向掘进机的超宽带位姿检测系统精度分析 .....  | 符世琛 李一鸣 宗 凯 张敏骏 吴 森 (1978) |
| 超声波换能器测风阵列的改进设计 .....      | 行鸿彦 魏佳佳 徐 伟 于 祥 周慧萍 (1988) |

### 视觉检测与图像测量

|                                      |                            |
|--------------------------------------|----------------------------|
| 非笛卡尔并行磁共振成像重建技术研究新进展 .....           | 吴振洲 常 严 徐雅洁 王 慧 杨晓冬 (1996) |
| 基于 ASODVS 的全景相机运动估计及管网 3D 重构技术 ..... | 杨仲元 吴 挺 鲁少辉 袁公萍 汤一平 (2007) |
| 一种基于八邻域深度差的点云边缘提取算法 .....            | 张志佳 魏 信 周自强 李嘉兴 王婷婷 (2015) |
| 粗糙度关联的图像特征指标性能评价方法研究 .....           | 路恩会 刘 坚 王卫芳 易怀安 张 航 (2022) |
| 任意位姿物体机器视觉测量视差变形校正 .....             | 张亚锋 屠大维 蔡建文 干为民 (2030)     |

### 传感器技术

|                                 |                        |
|---------------------------------|------------------------|
| 基于隧道磁阻传感器的车辆探测器研究 .....         | 高 俊 王劲东 仇福伟 (2039)     |
| LPFG 和 FBG 级联结构双参数光纤传感器研究 ..... | 张 雯 刘小龙 何 巍 祝连庆 (2047) |
| 三分量磁通门梯度仪校准算法研究 .....           | 杨志成 严胜刚 李 斌 (2055)     |
| 多 MEMS 陀螺数据融合系统的设计和实现 .....     | 柯熙政 张伟志 刘娟花 (2062)     |

### 交叉与前沿

|                              |                            |
|------------------------------|----------------------------|
| 活塞式磁性液体减振器的阻尼分析和实验研究 .....   | 杨晓锐 杨庆新 郭 兵 陈丽斐 杨文荣 (2071) |
| 风电场混合储能的小波包-SOC 分区功率控制 ..... | 陈科彬 邱晓燕 刘 波 (2078)         |

### 学术活动

|                                                 |        |
|-------------------------------------------------|--------|
| IEEE 第 13 届国际电子测量与仪器学术会议征文通知 (ICEMI'2017) ..... | (2086) |
|-------------------------------------------------|--------|

# CHINESE JOURNAL OF SCIENTIFIC INSTRUMENT

VOLUME 38 NUMBER 8 AUGUST 2017

## CONTENTS

### Precision Measurement Technology

|                                                                                                           |                                                           |
|-----------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|
| Research progress of China's micro/nanometer geometric quantity metrology technology .....                | Gao Sitian, Li Qi, Shi Yushu, Li Wei, Huang Lu(1822)      |
| Measurement principle and development status of high precision gravimeters .....                          | Fang Fengzhou, Gu Chunyang(1830)                          |
| Precision measurement and spectroscopic applications of femtosecond optical frequency combs .....         | Li Yan(1841)                                              |
| High-precision distance measurement using femtosecond laser frequency comb ...                            | Zhou Weihu, Shi Junkai, Ji Rongyi, Li Yao, Liu Ya(1859)   |
| Present situation and development of modern precision measurement technology .....                        | Zhou Liang, Wang Zhenhuan, Sun Dongchen, Mu Naifeng(1869) |
| Key technologies and advances of articulated coordinate measuring machines .....                          | Yu Liandong, Zhao Huining(1879)                           |
| Researching status and developing direction of gear grinding burn detection methods .....                 | He Baofeng, Wei Cui'e, Shi Zhaoyao(1889)                  |
| Research progress on volumetric geometric error measurement of numerical control (NC) machine tools ..... | Yang Jing, Feng Qibo(1901)                                |
| 3D shape measurement based on colour fringe projection techniques .....                                   | Bai Xuefei, Zhang Zonghua(1912)                           |
| Design of accurate adjustment mechanism for the attitude sensor .....                                     | Chen Qimeng, Zhang Guoyu, Wang Zhe, Zhang Jian(1926)      |
| Generation and characteristic analysis of high accuracy electromagnetic calibration force .....           | Wang Dapeng, Jin Xing, Zhou Weijing, Li Nanlei(1933)      |

### Information Processing Technology

|                                                                                                           |                                                                     |
|-----------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|
| Survey of compressed sensing technology for signal and data of power system .....                         | Yu Huanan, Du Yao, Ma Congcong(1943)                                |
| Insulation aging of transformer based on recovery voltage differential spectrum line characteristic ..... | Lin Zhiyong, Zhang Damin, Huang Guotai, Xue Shangqing, Li Jun(1954) |
| Robot assistant laser ultrasonic test system and its parameter matching method .....                      | Sun Guangkai, Qu Daoming, Zhou Zhenggan(1961)                       |
| Identification for hysteresis nonlinear system based on extended state observer .....                     | Liu Ruijuan, Nie Zhuoyun, Shao Hui, Yan Laicheng, Zheng Yimin(1970) |
| Accuracy analysis of UWB pose detection system for roadheader .....                                       | Fu Shichen, Li Yiming, Zong Kai, Zhang Minjun, Wu Miao(1978)        |
| Improved design of ultrasonic transducer array for wind measurement .....                                 | Xing Hongyan, Wei Jiajia, Xu Wei, Yu Xiang, Zhou Huiping(1988)      |

### Vision Inspection and Image Measurement

|                                                                                                                                         |                                                                       |
|-----------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|
| New research advances in non-Cartesian parallel MRI reconstruction .....                                                                | Wu Zhenzhou, Chang Yan, Xu Yajie, Wang Hui, Yang Xiaodong(1996)       |
| Motion estimation of panoramic camera and 3D reconstruction of pipe network based on active stereo omni-directional vision sensor ..... | Yang Zhongyuan, Wu Ting, Lu Shaohui, Yuan Gongping, Tang Yiping(2007) |
| 8N-DD-based point cloud edge extraction algorithm .....                                                                                 | Zhang Zhijia, Wei Xin, Zhou Ziqiang, Li Jiaxing, Wang Tingting(2015)  |
| Study on the performance assessment method of image indices associated with roughness .....                                             | Lu Enhui, Liu Jian, Wang Weifang, Yi Huaian, Zhang Hang(2022)         |
| Parallax deformation correction of machine visual measurement to arbitrary position pose objects .....                                  | Zhang Yafeng, Tu Dawei, Cai Jianwen, Gan Weimin(2030)                 |

### Sensor Technology

|                                                                                    |                                                     |
|------------------------------------------------------------------------------------|-----------------------------------------------------|
| Magnetic sensitive automobile detector based on TMR sensor .....                   | Gao Jun, Wang Jingdong, Qiu Fuwei(2039)             |
| Study on dual-parameter fiber sensor based on LPFG cascaded with FBG structure ... | Zhang Wen, Liu Xiaolong, He Wei, Zhu Lianqing(2047) |
| Study on the calibration method for tri-axis fluxgate gradiometer .....            | Yang Zhicheng, Yan Shenggang, Li Bin(2055)          |
| Design and implementation of multi-MEMS gyroscope data fusion system .....         | Ke Xizheng, Zhang Weizhi, Liu Juanhua(2062)         |

### Cross-discipline and Frontier

|                                                                                           |                                                                      |
|-------------------------------------------------------------------------------------------|----------------------------------------------------------------------|
| Damping analysis and experiment research of piston magnetic liquid damper .....           | Yang Xiaorui, Yang Qingxin, Guo Bing, Chen Lifei, Yang Wenrong(2071) |
| Wavelet packet-SOC partitioned power control of hybrid energy storage for wind farm ..... | Chen Kebin, Qiu Xiaoyan, Liu Bo(2078)                                |