

专业技术职务任职资格评审

公示材料

单 位 北京航空航天大学
仪器科学与光电工程学院

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现任专业
技术职务 副教授
评 审
任职资格 研究员

2017 年 05 月 31 日

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专业技术职务申报简表（理工类-2017版）

所在单位：仪器科学与光电工程学院

填表时间：2017年05月22日

姓名	郑德智	性别	男	出生年月	1978.02
最后学历	研究生	学位	博士	拟申请专业技术职务	研究员
现任专业技术职务	副教授	现任专业技术职务批准时间			2009.08
申报学科（一级/二级学科名称）		仪器科学与技术 /测试计量技术及仪器		研究方向	传感技术及应用
申报类别	<input type="checkbox"/> 教师 <input checked="" type="checkbox"/> 科学研究 <input type="checkbox"/> 工程 <input type="checkbox"/> 实验 <input type="checkbox"/> 其他				



主要学习工作简历及海外经历（从高中起，应连续）

起止年月		学习与工作单位	学历、学位、专业、职务
起	止		
1993.09.01	1996.07.10	辽宁凌海市第一高级中学	高中生
1996.09.05	2000.07.01	北京航空航天大学机械工程及自动化学院	大学/本科生/机械电气工程/学生
2000.09.03	2001.08.31	北京航空航天大学自动化科学与电气工程学院	研究生/硕士生/机械电子工程/学生
2001.09.01	2006.06.05	北京航空航天大学仪器科学与光电子工程学院	研究生/博士生/精密仪器及机械/学生
2006.06.06	至今	北京航空航天大学仪器科学与光电子工程学院	研究生/博士/测试计量技术及仪器/教师
2014.10.06	2015.09.25	加拿大维多利亚大学	访问学者

研究水平和特点概述（限填200字）	本人一直从事传感器敏感机理及检测技术工作，围绕传感技术及应用方向开展了谐振式敏感机理与应用技术、超低频振动传感器及其校准技术、生物信息检测技术等研究工作，成果已在谐振式质量流量传感器、谐振式压力传感器、低频振动校准技术中得到成功应用，解决了传感器耦合振动、非线性测量、动态响应等关键技术。发表论文30余篇（SCI: 9篇，合作发表Nature Communications论文1篇（5/6），授权发明专利9项。获2013年国家技术发明二等奖1项（2/6）。
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请填写任现职以来取得的代表性学术成果情况（限填5项，其中论文不少于3篇，奖励、专著或教材等各不多于1项）

学术论文题目	发表刊物或会议	发表(出版)时间	收录、他引情况	影响因子	期刊分区及排名/总数	作者排名
A Capacitive Rotary Encoder Based on Quadrature Modulation and Demodulation	IEEE Transactions On Instrumentation and measurement	2015.01	SCI/8次	1.808	Q2, 19/56 (仪器仪表)	第1作者/第1通讯
Theoretical analysis and experimental study of Coriolis mass flow sensor sensitivity	Journal of Fluids and Structures	2016.08	SCI/0次	1.709	Q2, 37/132 (机械工程)	第1作者/第1通讯
Design and Theoretical Analysis of a Resonant Sensor for Liquid Density Measurement	Sensors	2012.06	SCIE/2次	2.033	Q1, 12/56 (仪器仪表)	第1作者
Theory and Experiment Research for Ultra-low Frequency Maglev Vibration Sensor	Review of Scientific Instruments	2015.10	SCI/0次	1.336	Q2, 27/56 (仪器仪表)	第1作者
获奖项目名称	奖励名称	获奖时间	颁奖部门	奖励级别	人数	排名
高性能谐振式传感器关键技术及其应用	国家技术发明奖	2013.12.25	国务院	二等	6	2

任现职以来发表论文及收录情况：收录类别、作者贡献（第一、通讯等）仅计算1次；论文收录以图书馆检索证明为准，未检索到的来源刊论文仅计算1篇

类别	合计	SCI	SSCI	CSSCI	EI	ISTP	中文核心期刊	其他
一、符合职称申报条件论文	24	9			11		1	3
其中：1.第一作者	14	7			6			1
2.学生第一本人第二作者	8	2			4			2
3.通讯作者	2				1		1	
二、其他	8	1			6		1	

任现职以来获得国家级教学/科研成果奖 1 项；省部级教学/科研成果一等奖前五名、二等奖前三名或三等奖第一名 1 项。请填写任现职以来获得教学、科研、管理奖励情况（限填 3 项，代表作成果除外）

获奖项目	奖励名称	颁奖部门	奖励级别	获奖时间	人数	排名
高性能谐振式传感器设计实现	科学技术进步奖	教育部	一等奖	2012.2.10	15	2

任现职以来共获得排名第一（含学生第一本人第二）授权专利 9 项，其中发明专利 9 项，

实用新型 0 项，外观设计 0 项。请填写任现职以来共获得已授权专利情况（限填 3 项）

专利名称	专利类型	授权日期	批准机构	专利号	权利单位	人数	排名
一种科氏质量流量计数字闭环控制系统	发明专利	2013.03.06	国家知识产权局	ZL201110281307.X	北京航空航天大学	4	1
一种磁悬浮式超低频振动传感器	发明专利	2014.04.16	国家知识产权局	ZL.201210380683.9	北京航空航天大学	4	1
一种电磁激励检测的谐振式音叉液体密度传感器	发明专利	2013.10.09	国家知识产权局	ZL.201110305281.8	北京航空航天大学	2	1

任现职以来共主持纵向项目 7 项（不含参与，以任务书为准）：其中国家级 1 项，经费到款 20 万；省部级 6 项，经费到款 222.07 万；千万元以上 0 项，经费到款 0 万；请填写任现职以来主持的纵向项目（限填 5 项）

项目名称	项目来源	起止时间	到款/经费总额
谐振式压力和流量传感器动态特性研究	国家自然科学基金	2010.1~2012.12	20 万/20 万
高性能实时在线密度测量系统	北京市教育委员会	2012.1~2012.12	97.07 万/97.07 万
医用连续输注微流量测量技术研究	教育部新世纪人才	2013.5~2013.12	15 万/15 万
细胞连续自动培养微流量测量技术研究	教育部	2014.3~2014.12	5 万/5 万
磁悬浮式超低频振动传感器关键技术研究	北京市青年英才计划	2013.6 -2016.3	15 万/15 万

任现职以来其他项目情况（限填 3 项）

项目名称	项目来源	起止时间	负责人	承担份额/总额	主持/参与
高精度扫描激光测振仪开发与应用(子课题)	科技部重大科学仪器专项	2015.10-2017.6	樊尚春	20 万/60 万	参与
精密齿轮传动设计和高档齿轮制造技术(子课题)	国家科技支撑计划项目	2014.6-2017.6	王延忠	26 万/120 万	参与
基于 DSP 的新型信号处理系统研制	企业横向	2013.3-2014.3	郑德智	125 万/125 万	主持

任现职以来的教育教学情况：主讲课程共计 452 学时；指导本科生毕设 23 人次；指导硕士研究生 19 人次；指导博士研究生 4 人次。请填写任现职以来主讲的 3 门课程

课程名称	起止时间	课程学时	本人授课学时	授课次数	授课对象	课程性质
航空航天测试系统	2009 年至今 (除 2014 年)	48	48	7	测控专业大四本科生	必修课
信号测量与处理系列实验	2011/2012/2013 年	36	12	3	研究生 1 年级	实验课
Motorola-DSP 技术及应用	2012、2016 至今	40	40	2	全校本科生	选修课

主要学术兼职（限填 3 项）

学术兼职名称	受聘日期	颁授机构
中国仪器仪表学会高级会员	2012.08.08	中国仪器仪表学会

任现职以来其他业绩成果 (限 100 字)	获批 2012 年教育部新世纪优秀人才。 2013 年 6 月评为博士生导师。 主持完成 2011 年度北航校重点教改 1 项。 指导研究生史继颖获国家研究生奖学金 1 项，本科生张少博获校级优秀毕业论文 1 项。
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本人确认表内所填内容属实，如与事实不符，本人愿承担一切责任。本人签字：樊尚春 日期：2017.5.23

申请人所填内容真实性核实无误。 单位审核人签字： <u>樊尚春</u> 日期： <u>2017.5.26</u>	单位负责人签字： <u>徐立平</u> (加盖单位公章) 日期： <u>2017.5.26</u>
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注：本表限 1 页，需正反面打印或用黑色钢笔、签字笔填写，本人签名，不得任意添加其他内容。如有空项，请填写“无”。



专业技术职务评审学术成果清单

单位：仪器科学与光电工程学院 姓名：郑德智 申报职称：研究员

所填内容应与《专业技术职务申报简表》等材料的相关数据一致，除非特殊说明，请勿删除或改动模板中蓝色字体的标题及相应说明文字

一、任现职以来主持或参加科研项目（课题）及人才计划项目情况（按时间倒序排序）：

格式：项目类别，批准号，名称，研究起止年月，获资助金额，项目状态（已结题或在研等），主持或参加

1. 科技部重大科学仪器专项子课题，2014YQ35046103，高精度扫描激光测振仪开发与应用，2015/10-2017/06，60万，在研，参与；
2. 北京市教委，CNG加气机核心质量流量传感器研制及产业化，2015/01-2015/12，50万，已结题，参与；
3. 国家科技支撑计划项目子课题，2014BAF08B01，精密齿轮传动设计和高档齿轮制造技术，2014/06-2017/06，26万，在研，参与；
4. 教育部中央高校基本科研业务费，细胞连续自动培养微流量测量技术研究，2014/03-2014/12，5万，已结题，主持；
5. 北京市青年英才计划，磁悬浮式超低频振动传感器关键技术研究，2013/06-2016/03，15万，已结题，主持；
6. 教育部新世纪人才计划，医用连续输注微流量测量技术研究，2013/05-2013/12，15万，已结题，主持；
7. 教育部中央高校基本科研业务费，高性能实时在线密度测量装置，2012/03- 2012/12，7万，已结题，主持；
8. 北京市教委-科学研究与研究生培养共建项目-科研项目，2050205高等教育款，高性能实时在线密度测量系统，2012/01-2012/12，97.07万，已结题，主持；
9. 工信部“领航”基金计划，基于物联网的建筑热量分户计量与控制系统，2011/09-2012/03，7万，已结题，主持；
10. 国家自然科学基金青年基金项目，60904094，谐振式压力和流量传感器动态特性研究，2010/01-2012/12，20万，已结题，主持；
11. 国家自然科学基金仪器专项，60927005，谐振式硅微结构传感器综合测试分析仪器，2010/01-2012/12，150万，已结题，参与；

12. 民用航天项目，××生物工程智能传感器技术及其应用，2008/10–2012/12，600万，已结题，参与；
13. 企业委托课题，专用水尾结构设计与研制，2015/08–2016/12，11.2万，在研，主持；
14. 企业委托课题，基于MEMS的热式气体质量流量计研制，2014/09–2016/12，15万，在研，主持；
15. 企业委托课题：便携式剥离强度测试仪设计服务合同，2013/12–2016/12，17.01万，已结题，主持；
16. 企业委托课题，防腐层耐划伤标准对比测试技术服务合同，2013/12–2014/12，20万，已结题，主持；
17. 企业委托课题，基于DSP的新型信号处理系统研制，2013/03–2014/03，125万，已结题，主持；
18. 企业委托课题，DA输出模块AD采集模块采购合同，2013/05–2013/12，18万，已结题，主持；
19. 企业委托课题，便携式自动剥离强度测试仪制作，2011/12–2013/12，17.5万，已结题，主持；
20. 研究所委托课题，组合信号自动监测仪研发，2011/03–2012/12，36.12万，已结题，主持；

二、任现职以来研究成果和学术奖励情况(同一研究成果不重复填写)

(请注意：①投稿阶段的论文不要列出；②对期刊论文：应按照论文发表时作者顺序列出全部作者姓名、论文题目、期刊名称、发表年代、卷（期）及起止页码（摘要论文请加以说明）；③对会议论文：应按照论文发表时作者顺序列出全部作者姓名、论文题目、会议名称（或会议论文集名称及起止页码）、会议地址、会议时间；④应在论文作者姓名后注明第一/通讯作者情况：所有共同第一作者均加注上标“#”字样，通讯作者及共同通讯作者均加注上标“*”字样，唯一第一作者且非通讯作者无需加注；⑤所有研究成果和学术奖励中本人姓名加粗显示。⑥注明论文收录情况)

(一) 期刊论文（按SCI、EI、CSSCI、中文核心等收录类别排序，仅不列此项时可删除该标题）

请按如下顺序列出：

1. 第一作者论文（仅不列此项时可删除该标题）

- (1) **Dezhi Zheng^{#*}**, Shaobo Zhang, Shuai Wang, Chun Hu. A Capacitive Rotary Encoder Based on Quadrature Modulation and Demodulation[J]. IEEE TRANSACTIONS ON INSTRUMENTATION AND MEASUREMENT, 2015, 64(1): 143-153, **SCI收录, Q2区**;
- (2) **Dezhi Zheng[#]**, Jiying Shi^{*}, Shangchun Fan. Design and Theoretical Analysis of a Resonant Sensor for Liquid Density Measurement[J]. Sensors, 2012, 12: 7905-7916, **SCI收录, Q1区**;
- (3) **Dezhi Zheng^{#*}**, Shuai Wang, Bei Liu, Shangchun Fan. Theoretical analysis and experimental study of Coriolis mass flow sensor sensitivity[J]. Journal of Fluids and Structures, 2016(65): 295-312, **SCI收录, Q2区**;
- (4) **Dezhi Zheng[#]**, Yixuan Liu^{*}, Zhanshe Guo, Xiaomeng Zhao and Shangchun Fan. Theory and Experiment Research for Ultra-low Frequency Maglev Vibration Sensor [J]. Review of Scientific Instruments, 2015, 86(10): 105001, **SCI收录, Q2区**;
- (5) **Dezhi Zheng[#]**, Zongling Wu^{*}, Qing Yan, Shangchun Fan. Dynamic Performance Improvement on Resonant Vibration Cylinder Pressure Transducer[J]. Advanced Science Letters, 2011, 4, (4/5): 1376-1380, **SCI收录, Q2区**;
- (6) **Dezhi Zheng[#]**, Peng Peng^{*}, Shangchun Fan. A research of dynamic compensation of coriolis mass flowmeter based on BP neural networks[J]. Instruments and Experimental Techniques, 2013, 56(3): 356 – 370, **SCI收录, Q4区**;
- (7) **Dezhi Zheng[#]**, Qiong Nan^{*}, Jiying Shi, Shangchun Fan. Experimental study on dynamic performance of coriolis mass flow meter and compensation technology[J]. Instruments and Experimental Techniques, 2012, 55(4): 94 – 98, **SCI收录, Q4区**;
- (8) **Zheng Dezhi^{#*}**, Wang Fei, Shi Jiying, Wang Hao. Design and implementation of turbine flow sensor based on photoelectric detection[J]. Advanced Materials Research, 301-303: 1183-1188, **EI收录**;

2. 通讯作者论文（勿与第一作者论文重复）（仅不列此项时可删除该标题，序号按实际情况编排）

- (1) 王豪[#], 郑德智^{*}, 邢维巍. 基于光电检测的振弦式应变传感器的设计与实现[J]. 传感技术学报, 2014(12):1601-1605, **中文核心**;

3. 既非第一作者又非通讯作者论文（仅不列此项时可删除该标题，序号按实际情况编排）

- (1) Junxian Shen^{#*}, Zhimin Xu, Zulin Yu, Shuai Wang, **Dezhi Zheng**, Shangchun Fan. Ultrasonic frogs show extraordinary sex differences in auditory frequency sensitivity [J]. Nature Communications, 2011, 2(342): 1-5, **SCI收录, Q1区**;
- (2) Hu Chun^{#*}, **Zheng Dezhi**, Fan Shangchun. Experimental Study and Implementation of a Novel Digital Closed-Loop Control System for Coriolis Mass Flowmeter[J]. IEEE SENSORS JOURNAL, 2013, 13(8):3032-3038, **SCI收录, Q2区**;
- (3) Chun Hu^{#*}, **Dezhi Zheng**, Shangchun Fan, Remco John Wiegerink, Zhanshe Guo. Theoretical and experimental research on the in-plane comb-shaped capacitor for MEMS coriolis mass flow sensor[J]. MICROSYSTEM TECHNOLOGIES-MICRO-AND NANOSYSTEMS-INFORMATION STORAGE AND PROCESSING SYSTEMS, 2016, 22(4):747-755, **SCI收录, Q3区**;
- (4) 王帅^{#*}, 郑德智, 樊尚春, 田婧. 科氏质量流量计全数字闭环系统的设计与实现[J]. 北京航空航天大学学报, 2011, 37(7): 844-848+854, **EI收录**.

(二) 会议论文（仅不列此项时可删除该标题，标题序号按实际情况编排）

请按如下顺序列出：

1. 第一作者论文（仅不列此项时可删除该标题）

- (1) **Zheng Dezhi**^{#*}, Gong Jingjie, Song Xinbo, Guan Ming. Low noise CCD system design and implementation based on thermoelectric refrigerating unit[C]. 2010 1st International Conference on Pervasive Computing, Signal Processing and Applications, PCSPA 2010, 406-409, Harbin, China, 2010.09.17-2010.09.19, **EI收录**;
- (2) **Dezhi Zheng**[#], Bei Liu^{*}. Analysis of the sensitivity of DN1 Coriolis mass flow sensor[C]. Electronic Measurement & Instruments (ICEMI), 2013 IEEE 11th International Conference on. IEEE, 2013, 1: 379-384, Harbin, China, 2013.08.16-2013.08.18, **EI收录**;
- (3) **Zheng Dezhi**^{#*}, Wu Zongling, Wang Shuai. Detecting method of quantitative colloidal gold test strip concentration based on the DSP image processing[C]. 2010 4th International Conference on Bioinformatics and Biomedical Engineering, iCBBE 2010, 1-4. Chengdu, China, 2010.06.18- 2010.06.20, **EI收录**;

(4) **Zheng Dezhi^{#*}**, Wu zongling, Fan Shangchun, Liu Ting, Ren Dongshun. A Dynamic Performance Improvement Method of Coriolis Mass Flowmeters[C]. 2010 IEEE Symposium on Industrial Electronics and Applications, 2010, 46-49, Penang, Malaysia, 2010.10.03- 2010.10.05, **EI收录**;

(5) **Zheng Dezhi^{#*}**, Zhang Shaobo, Zhang Yuming, Fan Chen. Application of CORDIC in capacitive rotary encoder signal demodulation[C]. 2012 the 8th IEEE International Symposium on Instrumentation and Control Technology, 61-65, London, United kingdom, 2012.07.11- 2012.07.13, **EI收录**;

2. 通讯作者论文（勿与第一作者论文重复）（仅不列此项时可删除该标题，序号按实际情况编排）

(1) Zhang Yuming[#], **Zheng Dezhi^{*}**, Xing Weiwei, Fan Shangchun. 2012 the 8th IEEE International Symposium on Instrumentation and Control Technology, 143-146, London, United kingdom, 2012.07.11- 2012.07.13, **EI收录**;

3. 既非第一作者又非通讯作者论文（仅不列此项时可删除该标题，序号按实际情况编排）

(1) Wang Shuai^{#*}, **Zheng Dezhi**, Fan Shangchun, Wang Ping, Wang Weiwei. Experimental study on the closed-loop control system of Coriolis mass flowmeter for oil-water two-phase flow measurement[C]. 2010 IEEE Symposium on Industrial Electronics and Applications, 2010, 61-65, Penang, Malaysia, 2010.10.03- 2010.10.05, **EI收录**;

(2) Zhao Xiaomeng^{#*}, **Zheng Dezhi**, Wu Fei. Application of harmony search algorithm on the optimization of fiber Bragg grating reflection spectrum[C]. 2012 the 8th IEEE International Symposium on Instrumentation and Control Technology, 262-266, London, United kingdom, 2012.07.11- 2012.07.13, **EI收录**;

(3) Hu Chun^{#*}, **Zheng Dezhi**, Fan Shangchun, Gong Jingjie. Research and implementation of amplitude ratio calculating system for Coriolis Mass Flowmeter[C]. 2012 the 8th IEEE International Symposium on Instrumentation and Control Technology, 147-152, London, United kingdom, 2012.07.11- 2012.07.13, **EI收录**;

(4) Liu Zheng^{#*}, **Zheng Dezhi**, Zhou Weining, Zhou Meiling. Research on

reflective pulse oximetry based on fiber optic spectrometer[C]. 2016 10th International Conference on Sensing Technology, Nanjing, China, 2016.11.11-2016.11.13, **EI收录**;

(5) Chen Kun^{#*}, **Zheng Dezhi**, Fan Shangchun, Li Fan, Zhao Jianhui. Novel coriolis mass flowmeter signal processing algorithms based on DFT and digital correlation[C]. 2010 IEEE Symposium on Industrial Electronics and Applications, 2010, 56-60, Penang, Malaysia, 2010.10.03- 2010.10.05, **EI收录**;

(6) Chen Kun^{#*}, **Zheng Dezhi**, Zhao Jianhui, Fan Shangchun. An open-loop characteristic testing system of Coriolis mass flowmeter based on virtual instrument technology[C]. 2010 International Conference on Computing, Control and Industrial Engineering, 2: 61-64, Wuhan, China, 2010.06.05- 2010.06.06, **EI收录**;

(7) Qiao Shaojie^{#*}, **Zheng Dezhi**, Fan Shangchun, Liu Guangyu. Finite element analysis on frequency characteristic of elastic tube containing fluid flow[C]. 2010 International Conference on Computing, Control and Industrial Engineering, 2: 107-110, Wuhan, China, 2010.06.05- 2010.06.06, **EI收录**;

(8) Zhao Xiaomeng^{#*}, Liu Tianping, **Zheng Dezhi**. Theoretical research on new maglev ultra-low frequency vibration sensor[C]. Proceedings of 2013 IEEE 11th International Conference on Electronic Measurement and Instruments, 1: 134-139, Harbin, China, 2013.08.16- 2013.08.18, **EI收录**;

(9) Zhao Zhiling^{#*}, Fan Shangchun, **Zheng Dezhi**. Non-destructive testing of solid wood plate using variable permittivity plate capacitor[C]. 2012 the 8th IEEE International Symposium on Instrumentation and Control Technology, 153-156, London, United kingdom, 2012.07.11- 2012.07.13, **EI收录**;

(四) 授权发明专利（仅不列此项时可删除该标题，标题序号按实际情况编排）

(1) 郑德智, 张少博, 一种电容型绝对式旋转编码器, 2015.11.11, 中国, ZL201310482492.8;

(2) 郑德智, 赵晓萌, 刘蓓, 樊尚春, 一种磁悬浮式超低频振动传感器, 2014.04.16, 中国, ZL 201210380683.9;

(3) 郑德智, 史继颖, 王帅, 一种压电激励压电检测的谐振式音叉液体密度传

感器，2013.04.10，中国，ZL201110183489.7；

(4) 郑德智，胡纯，王帅，樊尚春，一种科氏质量流量计数字闭环控制系统，2013.03.06，中国，ZL201110281307.X；

(5) 郑德智，史继颖，一种电磁激励检测的谐振式音叉液体密度传感器，2013.10.09，中国，ZL201110305281.8；

(6) 郑德智，王帅，樊尚春，田婧，科里奥利质量流量计全数字闭环系统，2011.11.30，中国，ZL 201010183230.8；

(7) 郑德智，汤鹏翔，一种太阳能电池板采光罩，2009.10.28，中国，ZL200810056585.3；

(8) 胡纯，郑德智，樊尚春，科氏效应与差压效应融合的微小质量流量传感器，2015.07.29，中国，ZL 201310153271.6；

(9) 王帅，郑德智，吴宗玲，樊尚春，类直管型科里奥利质量流量计，2011.10.05，中国，ZL201010180691.X；

(六) 其他成果（请按发表或发布时的格式列出）（仅不列此项时可删除该标题，标题序号按实际情况编排）

(1) 2012年12月，教育部“新世纪优秀人才支持计划”；

(2) 2012年8月，中国(国际)传感器创新大赛创新设想类一等奖，指导教师；

(3) 2012年10月，北航校级本科优秀毕业论文指导教师；

(4) 2011年3月，2010年度大学生学科竞赛优秀指导教师。

(七) 获得学术奖励（仅不列此项时可删除该标题，标题序号按实际情况编排）

(1) 郑德智（2/6），高性能谐振式传感器关键技术及其应用，国务院，国家技术发明奖，二等奖，2013

（樊尚春，郑德智，王帅，秦杰，邢维巍，郭占社）

(2) 郑德智（2/15），高性能谐振式传感器设计与实现，教育部，科学技术进步奖，一等奖，2012

（樊尚春，郑德智，王帅，刘艇，任东顺，王池，彭春荣，王平，娄树普，邢维巍，孟涛，王微微，李成，胡纯，赵建辉）

2017年专业技术职务评聘论文发表及收录情况证明表附表 (关于学生第一作者导师第二作者署名关系的证明)

单位：仪器科学与光电工程学院

姓名	郑德智	工作证号	08267	现任职称	副教授	任职时间	2009.08
序号	学生姓名	学号	导师姓名		副导师姓名		备注
1	史继颖	SY1017317	郑德智				
2	赵晓萌	ZY1117234	郑德智				
3	胡纯	BY1017104	樊尚春		郑德智		
4	王帅	BY0717127	樊尚春		郑德智		
5							
6							
7							
8							
9							
10							

本人承诺以上所填属实，如与事实不符，本人愿承担一切责任。

本人签字：



日期：2017年5月22日

单位负责人签字（加盖公章）

日期：2017年5月23日

研究生院意见：

经核对，上表所列研究生指导情况属实。

审核人：

盖章：

日期： 年 月 日

注：1.申请人认真如实填写相关信息后A4纸单面打印；

2.申请人签字确认后将此表及相关证明材料交至所在学院，由学院统一送至研究生院研究生招生与学位处核



文献收录检索证明

作者姓名：郑德智 (Zheng, Dezhi)

经检索“网络版科学引文索引（SCI-EXPANDED）”数据库，该作者发表的论文（2011 年-2017 年），被收录 10 篇。

检索结果见附件，共 6 页。

检索时间为 2017 年 5 月 16 日。

特此证明！

证明人（签字）:

郑德智

证明单位（盖章）: 北京航空航天大学图书馆

图书馆

二〇一七年五月十六日

索专用章



附件:

第 1 条, 共 10 条

标题: A Capacitive Rotary Encoder Based on Quadrature Modulation and Demodulation

作者: Zheng, DZ (Zheng, Dezhi); Zhang, SB (Zhang, Shaobo); Wang, S (Wang, Shuai); Hu, C (Hu, Chun); Zhao, XM (Zhao, Xiaomeng)

来源出版物: IEEE TRANSACTIONS ON INSTRUMENTATION AND MEASUREMENT 卷: 64 期:

1 页: 143-153 DOI: 10.1109/TIM.2014.2328456 出版年: JAN 2015

Web of Science 核心合集中的 "被引频次": 8

被引频次合计: 8

入藏号: WOS:000346085800014

语种: English

文献类型: Article

地址: [Zheng, Dezhi; Zhang, Shaobo; Wang, Shuai; Hu, Chun; Zhao, Xiaomeng] Beihang Univ, Sci & Technol Inertial Lab, Dept Instrumentat Sci & Optoelect Engn, Beijing 100191, Peoples R China.

通讯作者地址: Zheng, DZ (通讯作者),Beihang Univ, Sci & Technol Inertial Lab, Dept Instrumentat Sci & Optoelect Engn, Beijing 100191, Peoples R China.

电子邮件地址: zhengdezhi@buaa.edu.cn; wangshuai@buaa.edu.cn

IDS 号: AW1YU

ISSN: 0018-9456

eISSN: 1557-9662

来源出版物页码计数: 11

第 2 条, 共 10 条

标题: Design and Theoretical Analysis of a Resonant Sensor for Liquid Density Measurement

作者: Zheng, DZ (Zheng, Dezhi); Shi, JY (Shi, Jiying); Fan, SC (Fan, Shangchun)

来源出版物: SENSORS 卷: 12 期: 6 页: 7905-7916 DOI: 10.3390/s120607905 出版年: JUN 2012

Web of Science 核心合集中的 "被引频次": 2

被引频次合计: 2

入藏号: WOS:000305801400058

语种: English

文献类型: Article

地址: [Zheng, Dezhi; Shi, Jiying; Fan, Shangchun] Beijing Univ Aeronaut & Astronaut, Sch Instrument Sci & Optoelect Engn, Beijing 100191, Peoples R China.

通讯作者地址: Shi, JY (通讯作者),Beijing Univ Aeronaut & Astronaut, Sch Instrument Sci & Optoelect Engn, New Main Bldg B504, Beijing 100191, Peoples R China.

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IDS 号: 965XR

ISSN: 1424-8220

来源出版物页码计数: 12

第 3 条，共 10 条

标题: A research of dynamic compensation of coriolis mass flowmeter based on BP neural networks

作者: Zheng, DZ (Zheng, Dezhi); Peng, P (Peng, Peng); Fan, SC (Fan, Shangchun)

来源出版物: INSTRUMENTS AND EXPERIMENTAL TECHNIQUES 卷: 56 期: 3 页: 365-370

DOI: 10.1134/S0020441213020127 出版年: MAY 2013

Web of Science 核心合集中的 "被引频次": 1

被引频次合计: 4

入藏号: WOS:000320281800022

语种: English

文献类型: Article

地址: [Zheng, Dezhi; Peng, Peng; Fan, Shangchun] Beihang Univ, Sch Instrument Sci & Optoelect Engn, Beijing 100191, Peoples R China.

通讯作者地址: Zheng, DZ (通讯作者),Beihang Univ, Sch Instrument Sci & Optoelect Engn, Beijing 100191, Peoples R China.

电子邮件地址: ppjeff1987@163.com

IDS 号: 162RB

ISSN: 0020-4412

来源出版物页码计数: 6

第 4 条，共 10 条

标题: Theoretical analysis and experimental study of Coriolis mass flow sensor sensitivity

作者: Zheng, DZ (Zheng, Dezhi); Wang, S (Wang, Shuai); Liu, B (Liu, Bei); Fan, SC (Fan, Shangchun)

来源出版物: JOURNAL OF FLUIDS AND STRUCTURES 卷: 65 页: 295-312 DOI: 10.1016/j.jfluidstructs.2016.06.004 出版年: AUG 2016

Web of Science 核心合集中的 "被引频次": 0

被引频次合计: 0

入藏号: WOS:000382411500017

语种: English

文献类型: Article

地址: [Zheng, Dezhi; Wang, Shuai; Liu, Bei; Fan, Shangchun] Beihang Univ, Dept Instrumentat Sci & Optoelect Engn, Beijing 100191, Peoples R China.

通讯作者地址: Zheng, DZ (通讯作者),Beihang Univ, Dept Instrumentat Sci & Optoelect Engn, Beijing 100191, Peoples R China.

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IDS 号: DU7RE

ISSN: 0889-9746

来源出版物页码计数: 18

第 5 条，共 10 条

标题: Theory and experiment research for ultra-low frequency maglev vibration sensor

作者: Zheng, DZ (Zheng, Dezhi); Liu, YX (Liu, Yixuan); Guo, ZS (Guo, Zhanshe); Zhao, XM (Zhao, Xiaomeng); Fan, SC (Fan, Shangchun)

来源出版物: REVIEW OF SCIENTIFIC INSTRUMENTS 卷: 86 期: 10 文献号: 105001 DOI:

10.1063/1.4931692 出版年: OCT 2015

Web of Science 核心合集中的 "被引频次": 0

被引频次合计: 0

入藏号: WOS:000364405300044

语种: English

文献类型: Article

地址: [Zheng, Dezhi; Liu, Yixuan; Guo, Zhanshe; Fan, Shangchun] Beihang Univ, Sch Instrument Sci & Optoelect Engn, Beijing 100191, Peoples R China.

[Zhao, Xiaomeng] Chinese Acad Med Sci, Laser Med Lab, Inst Biomed Engn, Tianjin 300192, Peoples R China.

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通讯作者地址: Liu, YX (通讯作者),Beihang Univ, Sch Instrument Sci & Optoelect Engn, Beijing 100191, Peoples R China.

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IDS 号: CV6UA

ISSN: 0034-6748

eISSN: 1089-7623

来源出版物页码计数: 7

第 6 条，共 10 条

标题: Experimental study on dynamic performance of coriolis mass flow meter and compensation technology

作者: Zheng, DZ (Zheng, Dezhi); Nan, Q (Nan, Qiong); Shi, JY (Shi, Jiying); Fan, SC (Fan, Shangchun)

来源出版物: INSTRUMENTS AND EXPERIMENTAL TECHNIQUES 卷: 55 期: 4 页: 503-507

DOI: 10.1134/S0020441212030025 出版年: JUL 2012

Web of Science 核心合集中的 "被引频次": 0

被引频次合计: 0

入藏号: WOS:000306732100015

语种: English

文献类型: Article

地址: [Zheng, Dezhi; Nan, Qiong; Shi, Jiying; Fan, Shangchun] Beihang Univ, Sch Instrument Sci & Optoelect Engn, Beijing 100191, Peoples R China.

通讯作者地址: Zheng, DZ (通讯作者),Beihang Univ, Sch Instrument Sci & Optoelect Engn, Beijing 100191, Peoples R China.



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IDS 号: 978HT

ISSN: 0020-4412

来源出版物页码计数: 5

第 7 条, 共 10 条

标题: Dynamic Performance Improvement on Resonant Vibration Cylinder Pressure Transducer

作者: Zheng, DZ (Zheng, Dezhi); Wu, ZL (Wu, Zongling); Yan, Q (Yan, Qing); Fan, SC (Fan, Shangchun)

来源出版物: ADVANCED SCIENCE LETTERS 卷: 4 期: 4-5 页: 1376-1380 DOI: 10.1166/asl.2011.1289 出版年: APR-MAY 2011

Web of Science 核心合集中的 "被引频次": 1

被引频次合计: 2

入藏号: WOS:000294372900016

语种: English

文献类型: Article

地址: [Zheng, Dezhi; Wu, Zongling; Fan, Shangchun] Beihang Univ, Sch Instrument Sci & Optoelect Engn, Beijing 100191, Peoples R China.

[Yan, Qing] Beijing Inst Aerosp Microelectromech Technol, Beijing 100070, Peoples R China.

通讯作者地址: Wu, ZL (通讯作者), Beihang Univ, Sch Instrument Sci & Optoelect Engn, Beijing 100191, Peoples R China.

IDS 号: 813MZ

ISSN: 1936-6612

来源出版物页码计数: 5

第 8 条, 共 10 条

标题: Experimental Study and Implementation of a Novel Digital Closed-Loop Control System for Coriolis Mass Flowmeter

作者: Hu, C (Hu, Chun); Zheng, DZ (Zheng, Dezhi); Fan, SC (Fan, Shangchun)

来源出版物: IEEE SENSORS JOURNAL 卷: 13 期: 8 页: 3032-3038 DOI: 10.1109/JSEN.2013.2260859 出版年: AUG 2013

Web of Science 核心合集中的 "被引频次": 0

被引频次合计: 0

入藏号: WOS:000321905500009

语种: English

文献类型: Article

地址: [Hu, Chun] Beihang Univ, Sci & Technol Inertial Lab, Beijing 100191, Peoples R China.

Beihang Univ, Dept Instrumentat Sci & Optoelect Engn, Beijing 100191, Peoples R China.

通讯作者地址: Hu, C (通讯作者), Beihang Univ, Sci & Technol Inertial Lab, Beijing 100191, Peoples

R China.

电子邮件地址: huchun198@163.com; zhengdezhi@buaa.edu.cn; fsc@buaa.edu.cn

IDS 号: 184PV

ISSN: 1530-437X

来源出版物页码计数: 7

第 9 条, 共 10 条

标题: Theoretical and experimental research on the in-plane comb-shaped capacitor for MEMS coriolis mass flow sensor

作者: Hu, C (Hu, Chun); Zheng, DZ (Zheng, Dezhi); Fan, SC (Fan, Shangchun); Wiegerink, RJ (Wiegerink, Remco John); Guo, ZS (Guo Zhanshe)

来源出版物: MICROSYSTEM TECHNOLOGIES-MICRO-AND NANOSYSTEMS-INFORMATION STORAGE AND PROCESSING SYSTEMS 卷: 22 期: 4 页:

747-755 DOI: 10.1007/s00542-015-2441-7 出版年: APR 2016

Web of Science 核心合集中的 "被引频次": 0

被引频次合计: 0

入藏号: WOS:000372757400009

语种: English

文献类型: Article

地址: [Hu, Chun; Zheng, Dezhi; Fan, Shangchun; Guo Zhanshe] Beihang Univ, Sch Instrumentat Sci & Optoelect Engn, Beijing 100191, Peoples R China.

[Hu, Chun; Zheng, Dezhi; Fan, Shangchun; Guo Zhanshe] Beihang Univ, Sci & Technol Inertial Lab, Beijing 100191, Peoples R China.

[Wiegerink, Remco John] Univ Twente, MESA Res Inst, POB 217, NL-7500 AE Enschede, Netherlands.

通讯作者地址: Guo, ZS (通讯作者),Beihang Univ, Sch Instrumentat Sci & Optoelect Engn, Beijing 100191, Peoples R China.

电子邮件地址: guozhanshe@buaa.edu.cn

IDS 号: DH4LL

ISSN: 0946-7076

eISSN: 1432-1858

来源出版物页码计数: 9

第 10 条, 共 10 条

标题: Ultrasonic frogs show extraordinary sex differences in auditory frequency sensitivity

作者: Shen, JX (Shen, Jun-Xian); Xu, ZM (Xu, Zhi-Min); Yu, ZL (Yu, Zu-Lin); Wang, S (Wang, Shuai); Zheng, DZ (Zheng, De-Zhi); Fan, SC (Fan, Shang-Chun)

来源出版物: NATURE COMMUNICATIONS 卷: 2 文献号: 342 DOI: 10.1038/ncomms1339 出版年: JUN 2011

Web of Science 核心合集中的 "被引频次": 18

被引频次合计: 20

入藏号: WOS:000294804400008

语种: English

文献类型: Article

地址: [Shen, Jun-Xian; Xu, Zhi-Min; Yu, Zu-Lin] Chinese Acad Sci, Inst Biophys, State Key Lab Brain & Cognit Sci, Beijing 100101, Peoples R China.

[Wang, Shuai; Zheng, De-Zhi; Fan, Shang-Chun] Beihang Univ, Sch Instrumentat Sci & Optoelect Engn, Beijing 100191, Peoples R China.

通讯作者地址: Shen, JX (通讯作者),Chinese Acad Sci, Inst Biophys, State Key Lab Brain & Cognit Sci, Beijing 100101, Peoples R China.

电子邮件地址: shenjx@ibp.ac.cn

IDS 号: 819DA

ISSN: 2041-1723

来源出版物页码计数: 5



文献收录检索证明

作者姓名：郑德智(Zheng, Dezhi)

经检索“网络版工程索引（EI Compendex）”数据库，该作者发表的论文（2010年-2017年），被收录17篇。

检索结果见附件，共20页。

检索时间为2017年5月16日。

特此证明！

证明人（签字）：

郑德智

证明单位（盖章）：北京航空航天大学图书馆

图书馆

二〇一七年五月十六日

检索专用章



附件：

1. Low noise CCD system design and implementation based on thermoelectric refrigerating unit

Accession number: 20105213520931

Authors: Dezhi, Zheng (1); Jingjie, Gong (1); Xinbo, Song (2); Ming, Guan (1)

Author affiliation: (1) Department of Instrument Science and Opto-electronics Engineering, Beijing University of Aeronautics and Astronautics, Beijing, China; (2) Aviation Equipment Research Institute of Air Force Equipment, Sub Box 13, Post Box 9203, Beijing, China

Corresponding author: Dezhi, Z.(mickeyzheng@163.com)

Source title: Proceedings - 2010 1st International Conference on Pervasive Computing, Signal Processing and Applications, PCSPA 2010

Abbreviated source title: Proc. - Int. Conf. Pervasive Comput., Signal Process. Appl., PCSPA

Monograph title: Proceedings - 2010 1st International Conference on Pervasive Computing, Signal Processing and Applications, PCSPA 2010

Issue date: 2010

Publication year: 2010

Pages: 406-409

Article number: 5635622

Language: English

ISBN-13: 9780769541808

Document type: Conference article (CA)

Conference name: 1st International Conference on Pervasive Computing, Signal Processing and Applications, PCSPA 2010

Conference date: September 17, 2010 - September 19, 2010

Conference location: Harbin, China

Conference code: 82999

Sponsor: IEEE; K.U.A.S.; National Natural Science Foundation of China

Publisher: IEEE Computer Society, 445 Hoes Lane - P.O.Box 1331, Piscataway, NJ 08855-1331, United States

Abstract: By the research on the characteristics of CCD temperature - noise, this paper designs a cooling CCD which uses a miniaturized refrigeration technique in order to meet the request of obtaining high-quality image in the dim light conditions. The design uses thermoelectric cooling technology and accomplishes the cooling design and optimization of refrigeration cavity with the assistance of Qfin. The CCD temperature control is implemented by the incremental temperature control algorithm. The experimental results show that the system can low the operating temperature of CCD by 40°C with the ±0.1°C temperature accuracy, the quality of the image which is obtained by CCD in low temperature has obviously improved. © 2010 IEEE.

Number of references: 8

Main heading: Cooling

Controlled terms: Algorithms - Cooling systems - Design - Imaging systems - Signal processing - Systems analysis - Temperature control - Thermoelectric equipment - Thermoelectric refrigeration - Ubiquitous computing

Uncontrolled terms: Cooling designs - Dim light - High quality images - Low noise - Low temperatures - Operating temperature - System design - Thermoelectric cooling technology

Classification code: 961 Systems Science

Systems Science

- 921 Mathematics

Mathematics

- 746 Imaging Techniques

Imaging Techniques

- 741 Light, Optics and Optical Devices

Light, Optics and Optical Devices

- 731.3 Specific Variables Control

Specific Variables Control

- 723.5 Computer Applications

Computer Applications

- 723 Computer Software, Data Handling and Applications

Computer Software, Data Handling and Applications

- 716.1 Information Theory and Signal Processing

Information Theory and Signal Processing

- 641.2 Heat Transfer

Heat Transfer

- 615.4 Thermoelectric Energy

Thermoelectric Energy

- 408 Structural Design

Structural Design

Numerical data indexing: Temperature 3.13e+02K

DOI: 10.1109/PCSPA.2010.104

Database: Compendex

Compilation and indexing terms, Copyright 2017 Elsevier Inc.

Data Provider: Engineering Village

2. Design and implementation of turbine flow sensor based on photoelectric detection

Accession number: 20113514275243

Authors: Zheng, Dezhi (1); Wang, Fei (1); Shi, Jiying (1); Wang, Hao (1)

Author affiliation: (1) School of Instrument Science and Opto-electronics Engineering, Beihang University, Beijing, China

Corresponding author: Zheng, D.(zhengdezhi@buaa.edu.cn)

Source title: Advanced Materials Research

Abbreviated source title: Adv. Mater. Res.

Volume: 301-303

Monograph title: Advanced Measurement and Test

Issue date: 2011

Publication year: 2011

Pages: 1183-1188

Language: English

ISSN: 10226680

ISBN-13: 9783037851975

Document type: Conference article (CA)

Conference name: 2011 2nd International Conference on Advanced Measurement and Test, AMT 2011

Conference date: June 24, 2011 - June 26, 2011

Conference location: Nanchang, China

Conference code: 86213

Sponsor: Hong Kong Education Society

Publisher: Trans Tech Publications, P.O. Box 1254, Clausthal-Zellerfeld, D-38670, Germany

Abstract: For its advantages of simple structure and low cost, turbine flow sensor has been widely applied in gas and liquid transportation and other industries for measuring liquid or gas flowrate. Firstly, the output pulse signal property of turbine flow sensor was studied. To achieve the dynamic response, a new turbine flow sensor which based on the photoelectric detection is designed in this paper. In addition, experimental testing on the turbine flow sensor has been carried out on standard calibration facilities with high accuracy. The results confirm that the design is feasible, and the repeatability error is about 0.5%, the maximum relative error is less than 1%.

Number of references: 8

Main heading: Turbines

Controlled terms: Design - Dynamic response - Liquids - Photoelectricity - Sensors

Uncontrolled terms: Experimental testing - Gas flowrate - Liquid transportation - Low costs - Maximum relative errors - Output pulse - Photoelectric detection - Simple structures - Standard calibration - Turbine flow sensor - Turbine flows

Classification code: 408 Structural Design

Structural Design



- 408.1 Structural Design, General
 - Structural Design, General
 - 612.3 Gas Turbines and Engines
 - Gas Turbines and Engines
 - 741.1 Light/Optics
 - Light/Optics
 - 801 Chemistry
 - Chemistry
 - 931.2 Physical Properties of Gases, Liquids and Solids
 - Physical Properties of Gases, Liquids and Solids
- Numerical data indexing:** Percentage 1.00e+00%, Percentage 5.00e-01%
- DOI:** 10.4028/www.scientific.net/AMR.301-303.1183
- Database:** Compendex
- Compilation and indexing terms, Copyright 2017 Elsevier Inc.
- Data Provider:** Engineering Village

3. Analysis of the sensitivity of DN1 Coriolis mass flow sensor

Accession number: 20141217471716

Authors: Zheng, Dezhi (1); Liu, Bei (1)

Author affiliation: (1) School of Instrument Science and Opto-electronics Engineering, Beihang University, Beijing 100191, China

Source title: Proceedings of 2013 IEEE 11th International Conference on Electronic Measurement and Instruments, ICEMI 2013

Abbreviated source title: Proc. IEEE Int. Conf. Electron. Meas. Instrum., ICEMI

Volume: 1

Part number: 1 of 2

Monograph title: Proceedings of 2013 IEEE 11th International Conference on Electronic Measurement and Instruments, ICEMI 2013

Issue date: 2013

Publication year: 2013

Pages: 379-384

Article number: 6743085

Language: English

Document type: Conference article (CA)

Conference name: 2013 IEEE 11th International Conference on Electronic Measurement and Instruments, ICEMI 2013

Conference date: August 16, 2013 - August 18, 2013

Conference location: Harbin, China

Conference code: 103115

Sponsor: Chinese Institute of Electronics (CIE); Computer Measurement Group of USA; IEEE Beijing Section; National Natural Science Foundation of China

Publisher: IEEE Computer Society

Abstract: According to the clamped-clamped structure of DN1 Coriolis mass flow sensor, the static deflection curve of the measuring tube with driving force and the torsion strain curve of the tube with Coriolis force are derived by force method. The equivalent elastic rigidity of the measuring tube calculated from the static deflection curve can be used to derive the resonant frequency. The maximum sensitivity and its location can be calculated from the torsion strain curve, which provides an important theoretical basis for the location optimization of the detection point. The resonant frequency and the sensitivity of DN1 Coriolis mass flow sensor are analyzed by the finite element analysis software ANSYS. By comparison, the result of theory analysis coincides exactly with ANSYS simulation, which provides an important theoretical basis for the sensor structure optimization. © 2013 IEEE.

Number of references: 10

Main heading: Natural frequencies

Controlled terms: Curve fitting - Mass transfer - Sensors - Structural optimization - Torsional stress - Tubes (components)



Uncontrolled terms: Coriolis mass flow meter - Coriolis mass flow sensors - DN1 - Finite element analysis software - Location optimization - Maximum sensitivity - sensitivity - Static deflections

Classification code: 421 Strength of Building Materials; Mechanical Properties

Strength of Building Materials; Mechanical Properties

- 616.1 Heat Exchange Equipment and Components

Heat Exchange Equipment and Components

- 641.3 Mass Transfer

Mass Transfer

- 711.1 Electromagnetic Waves in Different Media

Electromagnetic Waves in Different Media

- 801 Chemistry

Chemistry

- 921 Mathematics

Mathematics

DOI: 10.1109/ICEMI.2013.6743085

Database: Compendex

Compilation and indexing terms, Copyright 2017 Elsevier Inc.

Data Provider: Engineering Village

4. Detecting method of quantitative colloidal gold test strip concentration based on the DSP image processing

Accession number: 20103613207887

Authors: Zheng, Dezhi (1); Wu, Zongling (1); Wang, Shuai (1)

Author affiliation: (1) Department of Instrument Science and Opto-electronics Engineering, Beijing University of Aeronautics and Astronautics, Beijing, China

Corresponding author: Zheng, D.(mickevzheng@163.com)

Source title: 2010 4th International Conference on Bioinformatics and Biomedical Engineering, iCBBE 2010

Abbreviated source title: Int. Conf. Bioinformatics Biomed. Eng., iCBBE

Monograph title: 2010 4th International Conference on Bioinformatics and Biomedical Engineering, iCBBE 2010

Issue date: 2010

Publication year: 2010

Article number: 5517142

Language: English

ISBN-13: 9781424447138

Document type: Conference article (CA)

Conference name: 4th International Conference on Bioinformatics and Biomedical Engineering, iCBBE 2010

Conference date: June 18, 2010 - June 20, 2010

Conference location: Chengdu, China

Conference code: 81521

Sponsor: IEEE Engineering in Medicine and Biology Society; Sichuan University; Wuhan University

Publisher: IEEE Computer Society, 445 Hoes Lane - P.O.Box 1331, PiScataway, NJ 08855-1331, United States

Abstract: Immunogold labeling technique is mainly used on detecting of quantitative colloidal gold test strip concentration, through comparing with the color standard card to realize visual qualitative analysis, but the disadvantages are low measurement accuracy, high misjudgment rate, and it is difficult to achieve quantitative measurement. This paper adopts an embedded image processing system which based on the DSP. The image information of the quantitative colloidal gold test strip is sampled by the image sensor CMOS, analysis processed based on the image feature, fringe intensity image of feature information is extracted, and then establishes the functional relation between image feature information of fringe intensity and sample concentration, so it can realizes accurate measurement, and offers a detecting method to the colloidal gold qualitative detecting. In order to solve the problem that CMOS sensor generates drift follow with the working temperature, the system provides constant temperature working environment for the CMOS sensor and then solves the long-term stability problem of the system. Compared with other methods, it has advantages of high

precision, fast inspection speed and so on. The results show that the method of quantitative detection of colloidal gold test strip concentration has upper applied value, which based on the DSP hardware platform, its precision can be up to $\pm 5\%$, repeatability error reaches $\pm 1\%$. © 2010 IEEE.

Number of references: 11

Main heading: Image processing

Controlled terms: Bioinformatics - Concentration (process) - Digital signal processors - Error detection - Gold - Imaging systems - Quality control - Sensors

Uncontrolled terms: Accurate measurement - Applied value - CMOS sensors - Colloidal gold - Color standards - Concentration detecting - Constant temperature - Detecting methods - DSP hardware - Embedded images - Feature information - Fringe intensity - Functional relation - High precision - Image features - Image information - Labeling techniques - Long term stability - Measurement accuracy - Qualitative analysis - Quantitative - Quantitative detection - Quantitative measurement - Sample concentration - Test strips - Thermostatic control - Working environment - Working temperatures

Classification code: 913.3 Quality Assurance and Control

Quality Assurance and Control

- 903 Information Science

Information Science

- 802.3 Chemical Operations

Chemical Operations

- 801 Chemistry

Chemistry

- 746 Imaging Techniques

Imaging Techniques

- 741 Light, Optics and Optical Devices

Light, Optics and Optical Devices

- 722.4 Digital Computers and Systems

Digital Computers and Systems

- 721.1 Computer Theory, Includes Formal Logic, Automata Theory, Switching Theory, Programming

Theory

Computer Theory, Includes Formal Logic, Automata Theory, Switching Theory, Programming Theory

- 547.1 Precious Metals

Precious Metals

DOI: 10.1109/ICBBE.2010.5517142

Database: Compendex

Compilation and indexing terms, Copyright 2017 Elsevier Inc.

Data Provider: Engineering Village

5. A dynamic performance improvement method of Coriolis Mass Flowmeters

Accession number: 20110513634241

Authors: Zheng, Dezhi (1); Wu, Zongling (1); Fan, Shangchun (1); Ren, Dongshun (2); Liu, Ting (2)

Author affiliation: (1) School of Instrument Science and Opto-electronics Engineering, Beihang University, Beijing, China; (2) Taiyuan Taico CMF Co., Ltd, Taiyuan Aero-Instrument Co., Ltd, Taiyuan, China

Corresponding author: Zheng, D.

Source title: ISIEA 2010 - 2010 IEEE Symposium on Industrial Electronics and Applications

Abbreviated source title: ISIEA - IEEE Symp. Ind. Electron. Appl.

Monograph title: ISIEA 2010 - 2010 IEEE Symposium on Industrial Electronics and Applications

Issue date: 2010

Publication year: 2010

Pages: 46-49

Article number: 5679497

Language: English

ISBN-13: 9781424476473

Document type: Conference article (CA)

Conference name: 2010 IEEE Symposium on Industrial Electronics and Applications, ISIEA 2010



Conference date: October 3, 2010 - October 5, 2010

Conference location: Penang, Malaysia

Conference code: 83634

Sponsor: IEEE Malaysia Section; IEEE Malaysia Power Electron. (PEL)/; Ind. Electron.(IE)/ Ind. Appl. (IA)

Jt. Chapter

Publisher: IEEE Computer Society, 445 Hoes Lane - P.O.Box 1331, Piscataway, NJ 08855-1331, United States

Abstract: Coriolis Mass Flowmeter(CMF) provides direct measurement of mass flow and is widely used in steady flow measurement. With the development of dynamic flow measurement technology and the increasing of application requirement, the question about dynamic response of CMF has become a hotspot. Recently a lot of research work has been done on this issue and a few papers have been yielded. This paper provides a summary and analyses of the dynamic research method of CMF in latest research work.

Furthermore, we propose a new concise way of specifying and improving the dynamic performance of CMF, discusses the feasibility of this method on the basis of existing investigation and describes the emphases of the future development work. ©2010 IEEE.

Number of references: 15

Main heading: Flow measurement

Controlled terms: Dynamic response - Flowmeters - Industrial electronics - Mathematical models - Research

Uncontrolled terms: Application requirements - Coriolis mass flow meter - Direct measurement - Dynamic compensation - Dynamic performance - Hot spot - Mass flow - research methods

Classification code: 943.1 Mechanical Instruments

Mechanical Instruments

- 921 Mathematics

Mathematics

- 901.3 Engineering Research

Engineering Research

- 943.2 Mechanical Variables Measurements

Mechanical Variables Measurements

- 716 Telecommunication; Radar, Radio and Television

Telecommunication; Radar, Radio and Television

- 714 Electronic Components and Tubes

Electronic Components and Tubes

- 408.1 Structural Design, General

Structural Design, General

- 715 Electronic Equipment, General Purpose and Industrial

Electronic Equipment, General Purpose and Industrial

DOI: 10.1109/ISIEA.2010.5679497

Database: Compendex

Compilation and indexing terms, Copyright 2017 Elsevier Inc.

Data Provider: Engineering Village

6. Application of CORDIC in capacitive rotary encoder signal demodulation

Accession number: 20124215569905

Authors: Zheng, Dezhi (1); Zhang, Shaobo (1); Zhang, Yuming (1); Fan, Chen (1)

Author affiliation: (1) Science and Technology on Inertial Laboratory, School of Instrumentation Science and Opto-electronics Engineering, Beihang University, Beijing, China

Corresponding author: Zheng, D.(mickeyzheng@163.com)

Source title: 2012 the 8th IEEE International Symposium on Instrumentation and Control Technology, ISICT 2012 - Proceedings

Abbreviated source title: IEEE Int. Symp. Instrum. Control Technol., ISICT - Proc.

Monograph title: 2012 the 8th IEEE International Symposium on Instrumentation and Control Technology, ISICT 2012 - Proceedings

Issue date: 2012



Publication year: 2012

Pages: 61-65

Article number: 6291638

Language: English

ISBN-13: 9781467326162

Document type: Conference article (CA)

Conference name: 8th IEEE International Symposium on Instrumentation and Control Technology, ISICT

2012

Conference date: July 11, 2012 - July 13, 2012

Conference location: London, United kingdom

Conference code: 93085

Sponsor: Beihang University

Publisher: IEEE Computer Society, 2001 L Street N.W., Suite 700, Washington, DC 20036-4928, United States

Abstract: Capacitive rotary encoders are widely used in motor velocity and angular position control, where high-speed and high-precision angle calculation is required. This paper illustrates implementation of arctangent operation, based on the CORDIC (an acronym for COordinate ROTational DIgital Computer) algorithm, in the capacitive rotary encoder signal demodulation in an FPGA to obtain the motor velocity and position. By skipping some unnecessary rotation in CORDIC algorithm, we improve the algorithm's computing accuracy. Experiments show that the residue angle error is almost reduced by half after the CORDIC algorithm is optimized, and is completely meet the precision requirements of the system. © 2012 IEEE.

Number of references: 11

Main heading: Algorithms

Controlled terms: Digital computers

Uncontrolled terms: Angular positions - arctangent - capacitive - Coordinate rotational digital computers - CORDIC - CORDIC algorithms - High-precision - High-speed - Motor velocity - Rotary encoder

Classification code: 722.4 Digital Computers and Systems

Digital Computers and Systems

- 723 Computer Software, Data Handling and Applications

Computer Software, Data Handling and Applications

- 921 Mathematics

Mathematics

DOI: 10.1109/ISICT.2012.6291638

Database: Compendex

Compilation and indexing terms, Copyright 2017 Elsevier Inc.

Data Provider: Engineering Village

7. Experimental study on the closed-loop control system of Coriolis mass flowmeter for oil-water two-phase flow measurement

Accession number: 20110513634240

Authors: Wang, Shuai (1); Zheng, Dezhong (1); Fan, Shangchun (1); Wang, Ping (2); Wang, Weiwei (2)

Author affiliation: (1) School of Instrument Science and Opto-electronics Engineering, Beihang University, Beijing, China; (2) School of Information and Control Engineering, China University of Petroleum, Dongying, China

Corresponding author: Wang, S.(shuai841007@yahoo.com.cn)

Source title: ISIEA 2010 - 2010 IEEE Symposium on Industrial Electronics and Applications

Abbreviated source title: ISIEA - IEEE Symp. Ind. Electron. Appl.

Monograph title: ISIEA 2010 - 2010 IEEE Symposium on Industrial Electronics and Applications

Issue date: 2010

Publication year: 2010

Pages: 61-65

Article number: 5679496

Language: English



ISBN-13: 9781424476473

Document type: Conference article (CA)

Conference name: 2010 IEEE Symposium on Industrial Electronics and Applications, ISIEA 2010

Conference date: October 3, 2010 - October 5, 2010

Conference location: Penang, Malaysia

Conference code: 83634

Sponsor: IEEE Malaysia Section; IEEE Malaysia Power Electron. (PEL)/ Ind. Electron.(IE)/ Ind. Appl. (IA)

Jt. Chapter

Publisher: IEEE Computer Society, 445 Hoes Lane - P.O.Box 1331, Piscataway, NJ 08855-1331, United States

Abstract: Coriolis mass flowmeter (CMF) is significant in many industrial and commercial areas. The two-phase flow, external vibration or flow pulsation in a Coriolis mass flowmeter can cause errors in the meter's measurements of density and mass flow rate. Some errors may be due to the closed-loop control system. In this paper, they are investigated from analog and digital closed-loop control system by experiment study. And also the advantage and disadvantage were tested between analog and digital closed-loop control system by using the oil-water two-phase flow. It was found that the relative precise error of mass flowrate was relatively small for oil-water two-phase flow, not changed with the quantity of oil. Experimentally-derived data was used to illustrate that the digital closed-loop control system has more precise than the analog, and provide stable oscillation and selection of a sustainable set-point for amplitude of oscillation, even during situations such as a highly-damped operation of the flowtube, vibration or beginning/ending operation of the flowtube. ©2010 IEEE.

Number of references: 11

Main heading: Closed loop control systems

Controlled terms: Control theory - Errors - Flow measurement - Flowmeters - Industrial electronics - Industry - Natural frequencies - Remote control - Two phase flow

Uncontrolled terms: Amplitude of oscillation - Closed-loop control - Coriolis mass flow meter - Derived data - Digital processing - Experiment study - Experimental studies - External vibrations - Flow pulsation - Mass flow rate - Oil-water two-phase flow - Resonant frequencies - Set-point - Stable oscillations

Classification code: 921 Mathematics

Mathematics

- 913 Production Planning and Control; Manufacturing

Production Planning and Control; Manufacturing

- 912 Industrial Engineering and Management

Industrial Engineering and Management

- 911 Cost and Value Engineering; Industrial Economics

Cost and Value Engineering; Industrial Economics

- 731.1 Control Systems

Control Systems

- 943.1 Mechanical Instruments

Mechanical Instruments

- 731 Automatic Control Principles and Applications

Automatic Control Principles and Applications

- 715 Electronic Equipment, General Purpose and Industrial

Electronic Equipment, General Purpose and Industrial

- 714 Electronic Components and Tubes

Electronic Components and Tubes

- 711.1 Electromagnetic Waves in Different Media

Electromagnetic Waves in Different Media

- 631.1 Fluid Flow, General

Fluid Flow, General

- 716 Telecommunication; Radar, Radio and Television

Telecommunication; Radar, Radio and Television

DOI: 10.1109/ISIEA.2010.5679496

Database: Compendex

Compilation and indexing terms, Copyright 2017 Elsevier Inc.

Data Provider: Engineering Village

8. Application of harmony search algorithm on the optimization of fiber Bragg grating reflection spectrum

Accession number: 20124215569917

Authors: Zhao, Xiaomeng (1); Zheng, Dezhi (1); Wu, Fei (2)

Author affiliation: (1) School of Instrument Science and Opto-electronics Engineering, Science and Technology on Inertial Laboratory, Beihang University, Beijing, China; (2) School of Electrical Engineering, Yanshan University, Qinhuangdao, China

Corresponding author: Zhao, X.(zhaoxiaomeng11@126.com)

Source title: 2012 the 8th IEEE International Symposium on Instrumentation and Control Technology, ISICT 2012 - Proceedings

Abbreviated source title: IEEE Int. Symp. Instrum. Control Technol., ISICT - Proc.

Monograph title: 2012 the 8th IEEE International Symposium on Instrumentation and Control Technology, ISICT 2012 - Proceedings

Issue date: 2012

Publication year: 2012

Pages: 262-266

Article number: 6291652

Language: English

ISBN-13: 9781467326162

Document type: Conference article (CA)

Conference name: 8th IEEE International Symposium on Instrumentation and Control Technology, ISICT 2012

Conference date: July 11, 2012 - July 13, 2012

Conference location: London, United kingdom

Conference code: 93085

Sponsor: Beihang University

Publisher: IEEE Computer Society, 2001 L Street N.W., Suite 700, Washington, DC 20036-4928, United States

Abstract: In order to identify the reflection spectrum of fiber Bragg grating (FBG) designed on new features more easily, harmony search (HS) algorithm is proposed to analyze the reflection spectrum characterization of FBG. Embark on the coupled mode theory and the phase matching condition of FBG, theoretical model of fiber grating based on axial homogenous strain is discussed in detail. Through establishment of the HS algorithm model and design of the programs, the application of HS algorithm on optimization of the unary function is verified, and the feasibility, accuracy and stability of the method are determined by three important parameters. The corresponding objective function of the reflection spectrum under uniform axial strain is established and the theoretical simulation experiment has been carried on. The simulation experiment indicates that the optimization result of HS algorithm fits the theoretical result well with an error of 0.1%, which verifies the feasibility of the application of HS algorithm in the FBG reflection spectrum optimization.
© 2012 IEEE.

Number of references: 9

Main heading: Fiber Bragg gratings

Controlled terms: Experiments - Fibers - Learning algorithms - Optimization - Site selection - Spectrum analysis

Uncontrolled terms: Axial strain - Coupled mode theory - Fiber gratings - Harmony search - Harmony search algorithms - HS algorithm - Objective functions - Optimization theory - Phase matching conditions - Reflection spectra - Simulation experiments - Theoretical models - Theoretical result - Theoretical simulation - Unary functions

Classification code: 944 Moisture, Pressure and Temperature, and Radiation Measuring Instruments
Moisture, Pressure and Temperature, and Radiation Measuring Instruments

- 943 Mechanical and Miscellaneous Measuring Instruments

Mechanical and Miscellaneous Measuring Instruments

- 942 Electric and Electronic Measuring Instruments

Electric and Electronic Measuring Instruments



- 941 Acoustical and Optical Measuring Instruments
- Acoustical and Optical Measuring Instruments
- 921.5 Optimization Techniques
- Optimization Techniques
- 921 Mathematics
- Mathematics
- 901.3 Engineering Research
- Engineering Research
- 817 Plastics and Other Polymers: Products and Applications
- Plastics and Other Polymers: Products and Applications
- 812 Ceramics, Refractories and Glass
- Ceramics, Refractories and Glass
- 741.3 Optical Devices and Systems
- Optical Devices and Systems
- 723 Computer Software, Data Handling and Applications
- Computer Software, Data Handling and Applications
- 403 Urban and Regional Planning and Development
- Urban and Regional Planning and Development
- 402 Buildings and Towers
- Buildings and Towers
- Numerical data indexing:** Percentage 1.00e-01%
- DOI:** 10.1109/ISICT.2012.6291652
- Database:** Compendex
- Compilation and indexing terms, Copyright 2017 Elsevier Inc.
- Data Provider:** Engineering Village

9. Research and implementation of amplitude ratio calculating system for Coriolis Mass Flowmeter

Accession number: 20124215569866

Authors: Hu, Chun (1); Zheng, Dezhi (1); Fan, Shangchun (1); Gong, Jingjie (1)

Author affiliation: (1) Science and Technology on Inertial Laboratory, School of Instrumentation Science and Opto-electronics Engineering, Beihang University, Beijing, China

Corresponding author: Hu, C.(huchun198@163.com)

Source title: 2012 the 8th IEEE International Symposium on Instrumentation and Control Technology, ISICT 2012 - Proceedings

Abbreviated source title: IEEE Int. Symp. Instrum. Control Technol., ISICT - Proc.

Monograph title: 2012 the 8th IEEE International Symposium on Instrumentation and Control Technology, ISICT 2012 - Proceedings

Issue date: 2012

Publication year: 2012

Pages: 147-152

Article number: 6291599

Language: English

ISBN-13: 9781467326162

Document type: Conference article (CA)

Conference name: 8th IEEE International Symposium on Instrumentation and Control Technology, ISICT 2012

Conference date: July 11, 2012 - July 13, 2012

Conference location: London, United kingdom

Conference code: 93085

Sponsor: Beihang University

Publisher: IEEE Computer Society, 2001 L Street N.W., Suite 700, Washington, DC 20036-4928, United States

Abstract: Coriolis mass flow sensor tends to be straight tube and micro bending tube with higher noise rejecting and less pressure loss, which results in the increase of the operating frequency, the difficulty in



detecting phase difference and the calculation accuracy. Based on the current method of amplitude ratio calculation, the paper analyzes how the Coriolis Mass Flowmeter (CMF) closed-loop control system affects the amplitude ratio calculation, and presents a theoretical method with the amplitude of the driving signal participating in calculation. To achieve high-precision measurement of the amplitude, a comparative analysis by Matlab of curve fitting, correlation detection, windowed FFT detection in the case of signal amplitude fluctuation, frequency fluctuation and signal to noise variation, indicates that curve fitting is the suitable method to measure the signal amplitude. In the implementation of the system, a three-channel parallel data acquisition system is built to detect the CMF output signal. In order to eliminate the error brought by the differences between the channels, an automatic channel switching system is proposed to acquire the relative difference of each channel, then calibrate and calculate the flow signal of each channel. The preliminary experimental results demonstrate that the amplitude ratio calculating is available in calculating the mass flow rate of the CMF, with nonlinear error of 0.5% and repeatability of 0.6%. © 2012 IEEE.

Number of references: 18

Main heading: Signal detection

Controlled terms: Curve fitting - Fast Fourier transforms - Tubes (components)

Uncontrolled terms: Amplitude ratios - Calculation accuracy - Channel switching - Comparative analysis - Coriolis - Coriolis mass flow meter - Correlation detection - Driving signal - Flow signals - Frequency fluctuation - High-precision measurement - Mass flow rate - Mass flow sensors - Micro-bending - Non-linear error - Operating frequency - Output signal - Parallel data acquisition - Phase difference - Pressure loss - Signal amplitude - Signal to noise

Classification code: 616.1 Heat Exchange Equipment and Components

Heat Exchange Equipment and Components

- 716.1 Information Theory and Signal Processing

Information Theory and Signal Processing

- 921 Mathematics

Mathematics

Numerical data indexing: Percentage 5.00e-01%, Percentage 6.00e-01%

DOI: 10.1109/ISICT.2012.6291599

Database: Compendex

Compilation and indexing terms, Copyright 2017 Elsevier Inc.

Data Provider: Engineering Village

10. Design and realization of all digital closed-loop system of Coriolis mass flowmeter

Accession number: 20113814343372

Authors: Wang, Shuai (1); Zheng, Dezhi (1); Fan, Shangchun (1); Tian, Jing (1)

Author affiliation: (1) School of Instrument Science and Opto-Electronics Engineering, Beijing University of Aeronautics and Astronautics, Beijing 100191, China

Corresponding author: Wang, S.(shuai841007@yahoo.com.cn)

Source title: Beijing Hangkong Hangtian Daxue Xuebao/Journal of Beijing University of Aeronautics and Astronautics

Abbreviated source title: Beijing Hangkong Hangtian Daxue Xuebao

Volume: 37

Issue: 7

Issue date: July 2011

Publication year: 2011

Pages: 844-848+854

Language: Chinese

ISSN: 10015965

CODEN: BHDE8

Document type: Journal article (JA)

Publisher: Beijing University of Aeronautics and Astronautics (BUAA), 37 Xueyuan Rd., Haidian District, Beijing, 100083, China

Abstract: The digital closed-loop system of Coriolis mass flowmeter (CMF), in which the field-programmable gate array (FPGA) and digital signal processing methods were used to realize stable and accurate closed-loop control, has good real time and high precision. The speed parallel component FPGA was

adopted as core of calculation and control. The first in first out (FIFO) module was brought in the phase control, which change time difference by controlling the read and write request signals of FIFO, to realize the stable and accurate control of phase difference between vibrating and exciting signal. The amplitude was set rapidly and precisely by using nonlinear amplitude control manner with well adaption, which combined discontinuous and continuous amplitude control. It gets the good amplitude control to the vibrating signals, which was output stable by controlling. The measurement accuracy and stability were improved. The experimental results show that the dynamic response and stability of the system is improved. From the real-flow calibration tests, that CMF digital closed-loop is better than traditional analogue closed-loop in stability, dynamic response and repeatability. Furthermore, the measuring precision of CMF is enhanced.

Number of references: 7

Main heading: Signal processing

Controlled terms: Closed loop systems - Coriolis force - Dynamic response - Field programmable gate arrays (FPGA) - Flow measurement - Flowmeters - Phase control

Uncontrolled terms: All digital - Amplitude control - Calibration tests - Change time - Closed-loop - Closed-loop control - Coriolis mass flow meter - Digital closed-loop system - Digital signal-processing method - First in first outs - High precision - Measurement accuracy - Parallel component - Phase difference - Real time - Request signals

Classification code: 943.2 Mechanical Variables Measurements

Mechanical Variables Measurements

- 943.1 Mechanical Instruments

Mechanical Instruments

- 721.3 Computer Circuits

Computer Circuits

- 716.1 Information Theory and Signal Processing

Information Theory and Signal Processing

- 961 Systems Science

Systems Science

- 701.1 Electricity: Basic Concepts and Phenomena

Electricity: Basic Concepts and Phenomena

- 631 Fluid Flow

Fluid Flow

- 443 Meteorology

Meteorology

- 408.1 Structural Design, General

Structural Design, General

- 631.1 Fluid Flow, General

Fluid Flow, General

Database: Compendex

Compilation and indexing terms, Copyright 2017 Elsevier Inc.

Data Provider: Engineering Village

11. Design of IIR filter in capacitive rotary position sensor based on FPGA

Accession number: 20124215569865

Authors: Zhang, Yuming (1); Zheng, Dezhi (1); Xing, Weiwei (1); Fan, Shangchun (1)

Author affiliation: (1) Science and Technology on Inertial Laboratory, School of Instrumentation Science and Opto-electronics Engineering, Beihang University, Beijing, China

Corresponding author: Zheng, D.(mickeyzheng@163.com)

Source title: 2012 the 8th IEEE International Symposium on Instrumentation and Control Technology, ISICT 2012 - Proceedings

Abbreviated source title: IEEE Int. Symp. Instrum. Control Technol., ISICT - Proc.

Monograph title: 2012 the 8th IEEE International Symposium on Instrumentation and Control Technology, ISICT 2012 - Proceedings

Issue date: 2012

Publication year: 2012

Pages: 143-146



Article number: 6291598

Language: English

ISBN-13: 9781467326162

Document type: Conference article (CA)

Conference name: 8th IEEE International Symposium on Instrumentation and Control Technology, ISICT 2012

Conference date: July 11, 2012 - July 13, 2012

Conference location: London, United kingdom

Conference code: 93085

Sponsor: Beihang University

Publisher: IEEE Computer Society, 2001 L Street N.W., Suite 700, Washington, DC 20036-4928, United States

Abstract: In the capacitive rotary position sensor, noise jamming generated by the motor is mixed in the response signal, so it is difficult to measure precisely. This paper presents an IIR filter solution with cascade structure. An IIR band-pass filter of 8-order is designed by Matlab, and then be disintegrated into 4 sub-filters. The band-pass frequency of the filter ranges from 18 kHz to 22 kHz with date sample rate of 400 kHz. All coefficients of the sub-filters are quantized by 214 to satisfy the multiplication requirement in FPGA. The filter is described modularly by Verilog HDL and implemented in FPGA of Cyclone III series. The filter has been tested well with square wave. Signal attenuation outside the band-pass frequency is more than 50 dB. Modular structure makes it very convenient to design filters with different characteristics. At present, the solution is applied in a capacitive rotary position sensor. © 2012 IEEE.

Number of references: 10

Main heading: Bandpass filters

Controlled terms: Capacitive sensors - Field programmable gate arrays (FPGA) - IIR filters - Sensors - Signal processing

Uncontrolled terms: Band pass - Cascade structures - Modular structures - Noise jamming - Response signal - Rotary position sensor - Sample rate - Signal attenuation - Square waves - Verilog HDL

Classification code: 703.2 Electric Filters

Electric Filters

- 716.1 Information Theory and Signal Processing

Information Theory and Signal Processing

- 721.3 Computer Circuits

Computer Circuits

- 732 Control Devices

Control Devices

- 801 Chemistry

Chemistry

Numerical data indexing: Decibel 5.00e+01dB, Frequency 1.80e+04Hz to 2.20e+04Hz, Frequency

4.00e+05Hz

DOI: 10.1109/ISICT.2012.6291598

Database: Compendex

Compilation and indexing terms, Copyright 2017 Elsevier Inc.

Data Provider: Engineering Village

12. Research on reflective pulse oximetry based on fiber optic spectrometer

Accession number: 20170403280844

Authors: Liu, Zheng (1); Zheng, Dezhi (1); Zhou, Weining (1); Zhou, Meiling (1)

Author affiliation: (1) School of Instrument Science and Optoelectronics Engineering, Beihang University, Beijing, China

Corresponding author: Liu, Zheng(buaaliuzheng@163.com)

Source title: Proceedings of the International Conference on Sensing Technology, ICST

Abbreviated source title: Proc. Int. Conf. Sens. Technol., ICST

Monograph title: 2016 10th International Conference on Sensing Technology, ICST 2016

Issue date: December 22, 2016



Publication year: 2016

Article number: 7796304

Language: English

ISSN: 21568065

E-ISSN: 21568073

ISBN-13: 9781509007967

Document type: Conference article (CA)

Conference name: 10th International Conference on Sensing Technology, ICST 2016

Conference date: November 11, 2016 - November 13, 2016

Conference location: Nanjing, China

Conference code: 125575

Publisher: IEEE Computer Society

Abstract: Human oxygen saturation detection is based on the Lambert-Beer Law, but since the human body is a strong scattering tissue instead of a homogeneous medium, the influence of scattering need to be considered, which means the basic Lambert-Beer Law is not applicable. In this paper, a fiber optic spectrometer is used to detect the blood oxygen saturation in vivo with reflective method. Based on the dynamic spectrum theory, the concept of equivalent attenuation is proposed, converting the three-dimensional data measured in real time into two-dimensional characteristic spectral data. In spite of the baseline drift and dark noise of the spectrometer, the two-dimensional characteristic spectral data can be corrected by multiple scatter correction, which can eliminate the influence of the scattering and baseline drift, and improve the accuracy of the model building. © 2016 IEEE.

Number of references: 23

Main heading: Fiber optics

Controlled terms: Computerized tomography - Noninvasive medical procedures - Oximeters - Spectrometers

Uncontrolled terms: equivalent attenuation - Fiber-optic spectrometers - Lambert-Beer law - Pulse oximetry - Scatter correction

Classification code: 461.6 Medicine and Pharmacology

Medicine and Pharmacology

- 462.1 Biomedical Equipment, General

Biomedical Equipment, General

- 723.5 Computer Applications

Computer Applications

- 741.1.2 Fiber Optics

Fiber Optics

- 741.3 Optical Devices and Systems

Optical Devices and Systems

DOI: 10.1109/ICSensT.2016.7796304

Compendex references: YES

Database: Compendex

Compilation and indexing terms, Copyright 2017 Elsevier Inc.

Data Provider: Engineering Village

13. Novel coriolis mass flowmeter signal processing algorithms based on DFT and digital correlation

Accession number: 20110513634239

Authors: Chen, Kun (1); Zheng, Dezhi (1); Fan, Shangchun (1); Li, Fan (1); Zhao, Jianhui (1)

Author affiliation: (1) School of Instrument Science and Opto-electronics Engineering, Beihang University, Beijing, China

Corresponding author: Chen, K.(Chenkun_buaa@163.com)

Source title: ISIEA 2010 - 2010 IEEE Symposium on Industrial Electronics and Applications

Abbreviated source title: ISIEA - IEEE Symp. Ind. Electron. Appl.

Monograph title: ISIEA 2010 - 2010 IEEE Symposium on Industrial Electronics and Applications

Issue date: 2010

Publication year: 2010



Pages: 56-60

Article number: 5679495

Language: English

ISBN-13: 9781424476473

Document type: Conference article (CA)

Conference name: 2010 IEEE Symposium on Industrial Electronics and Applications, ISIEA 2010

Conference date: October 3, 2010 - October 5, 2010

Conference location: Penang, Malaysia

Conference code: 83634

Sponsor: IEEE Malaysia Section; IEEE Malaysia Power Electron. (PEL)/; Ind. Electron.(IE)/ Ind. Appl. (IA)

Jt. Chapter

Publisher: IEEE Computer Society, 445 Hoes Lane - P.O.Box 1331, Piscataway, NJ 08855-1331, United States

Abstract: Coriolis mass flowmeter (CMF) is becoming a research hotspot in flow measurement for its high accuracy and multi-parameter measurement. The detection principle of CMF is to calculate the phase difference of two sine signals which have same frequency. Discrete Fourier transform (DFT) and digital correlation are applied in the signal processing of CMF, and theoretical error in this application is analyzed. According to the true signal output from the sensors, simulation analysis is made. Results show that the algorithms' relative error is lower than 0.2%, which is more precise than typical algorithms and can be in widely application in mass flow meter. ©2010 IEEE.

Number of references: 6

Main heading: Flow measurement

Controlled terms: Algorithms - Flowmeters - Industrial electronics - Signal processing

Uncontrolled terms: CMF - DFT - Digital correlation - Phase difference measurements - Simulation

Classification code: 943.1 Mechanical Instruments

Mechanical Instruments

- 921 Mathematics

Mathematics

- 723 Computer Software, Data Handling and Applications

Computer Software, Data Handling and Applications

- 943.2 Mechanical Variables Measurements

Mechanical Variables Measurements

- 716.1 Information Theory and Signal Processing

Information Theory and Signal Processing

- 715 Electronic Equipment, General Purpose and Industrial

Electronic Equipment, General Purpose and Industrial

- 714 Electronic Components and Tubes

Electronic Components and Tubes

- 716 Telecommunication; Radar, Radio and Television

Telecommunication; Radar, Radio and Television

Numerical data indexing: Percentage 2.00e-01%

DOI: 10.1109/ISIEA.2010.5679495

Database: Compendex

Compilation and indexing terms, Copyright 2017 Elsevier Inc.

Data Provider: Engineering Village

14. An open-loop characteristic testing system of Coriolis mass flowmeter based on virtual instrument technology

Accession number: 20103213124302

Authors: Chen, Kun (1); Zheng, Dezhi (1); Zhao, Jianhui (1); Fan, Shangchun (1)

Author affiliation: (1) School of Instrument Science and Opto-electronics Engineering, Beihang University, Xueyuan Rd. 37, 100191, Beijing, China

Corresponding author: Chen, K.(chenkun_buaa@163.com)

Source title: 2010 International Conference on Computing, Control and Industrial Engineering, CCIE 2010

Abbreviated source title: Int. Conf. Comput., Control Ind. Eng., CCIE



Volume: 2

Part number: 2 of 2

Monograph title: 2010 International Conference on Computing, Control and Industrial Engineering, CCIE 2010

Issue date: 2010

Publication year: 2010

Pages: 61-64

Article number: 5491907

Language: English

ISBN-13: 9780769540269

Document type: Conference article (CA)

Conference name: 1st International Conference on Computing Control and Industrial Engineering, CCIE 2010

Conference date: June 5, 2010 - June 6, 2010

Conference location: Wuhan, China

Conference code: 81316

Sponsor: China University of Geosciences; IEEE CPMT Taipei Chapter; IEEE Hong Kong Section RACS Chapter

Publisher: IEEE Computer Society, 445 Hoes Lane - P.O.Box 1331, Piscataway, NJ 08855-1331, United States

Abstract: Coriolis mass flowmeter (CMF) is becoming a research hotspot in flow measurement for its high accuracy and multi-parameter measurement. Through the dynamic study on CMF's vibrating model, get the conclusion that the key factors of close-loop system design is the open-loop characteristic parameters such as natural frequency and mechanical quality factor (Q value) et al. An open-loop testing system specialized for CMF is designed based on virtual instrument technology using Graphical Programming Language (LabVIEW). The algorithm adopts the rescanning sweep-frequency activating method. Experiment results show that the system has high frequency resolution, can analyze the open-loop characteristic of CMF rapidly and accurately, and also reduces the hardware cost to the full extent. © 2010 IEEE.

Number of references: 6

Main heading: Instrument testing

Controlled terms: Cost reduction - Digital instruments - Flow measurement - Flowmeters - Industrial engineering - Technology

Uncontrolled terms: Close-loop systems - Coriolis mass flowmeter - Dynamic studies - Graphical programming language - Hardware cost - High frequency resolution - Hot spot - Key factors - LabViEW - Mechanical quality factors - Multi-parameter measurement - Open loop characteristic - Open loops - Q-values - Testing systems - Virtual instrument technology

Classification code: 944 Moisture, Pressure and Temperature, and Radiation Measuring Instruments
Moisture, Pressure and Temperature, and Radiation Measuring Instruments

- 943.2 Mechanical Variables Measurements

Mechanical Variables Measurements

- 943.1 Mechanical Instruments

Mechanical Instruments

- 943 Mechanical and Miscellaneous Measuring Instruments

Mechanical and Miscellaneous Measuring Instruments

- 942 Electric and Electronic Measuring Instruments

Electric and Electronic Measuring Instruments

- 941 Acoustical and Optical Measuring Instruments

Acoustical and Optical Measuring Instruments

- 912.2 Management

Management

- 912.1 Industrial Engineering

Industrial Engineering

- 911.2 Industrial Economics

Industrial Economics

- 901 Engineering Profession

Engineering Profession



- 631.1 Fluid Flow, General

Fluid Flow, General

DOI: 10.1109/CCIE.2010.134

Database: Compendex

Compilation and indexing terms, Copyright 2017 Elsevier Inc.

Data Provider: Engineering Village

15. Finite element analysis on frequency characteristic of elastic tube containing fluid flow

Accession number: 20103213124358

Authors: Qiao, Shaojie (1); Zheng, Dezhi (1); Fan, Shangchun (1); Liu, Guangyu (1)

Author affiliation: (1) School of Instrument Science and Opto-electronics Engineering, Beijing University of Aeronautics and Astronautics, Beijing, China

Corresponding author: Qiao, S.(qiaoshaojie@buaa.edu.cn)

Source title: 2010 International Conference on Computing, Control and Industrial Engineering, CCIE 2010

Abbreviated source title: Int. Conf. Comput., Control Ind. Eng., CCIE

Volume: 2

Part number: 2 of 2

Monograph title: 2010 International Conference on Computing, Control and Industrial Engineering, CCIE 2010

Issue date: 2010

Publication year: 2010

Pages: 107-110

Article number: 5491983

Language: English

ISBN-13: 9780769540269

Document type: Conference article (CA)

Conference name: 1st International Conference on Computing Control and Industrial Engineering, CCIE 2010

Conference date: June 5, 2010 - June 6, 2010

Conference location: Wuhan, China

Conference code: 81316

Sponsor: China University of Geosciences; IEEE CPMT Taipei Chapter; IEEE Hong Kong Section RACS Chapter

Publisher: IEEE Computer Society, 445 Hoes Lane - P.O.Box 1331, Piscataway, NJ 08855-1331, United States

Abstract: This paper presents the finite element (FE) model of elastic tube containing fluid flow, and simulation calculations are finished for different tubes including straight tube, 1/4 circular one and half circular one. Some conclusions which have instructional significance for designing sensing structure of resonant direct mass flowmeter are obtained. As a sensing unit, elastic tube plays an important part in resonant direct mass flowmeter. When flow through tube, not only Coriolis Effect will cause extra vibration of elastic tube and change its mode of vibration, but also the fluid velocity will change the frequency of elastic tube. © 2010 IEEE.

Number of references: 8

Main heading: Flow of fluids

Controlled terms: Computer simulation - Finite element method - Flow measurement - Flowmeters - Fluids - Industrial engineering - Mass transfer - Tubes (components)

Uncontrolled terms: Coriolis effect - Elastic tubes - Finite element analysis - Finite element models - Flowthrough - Fluid flow - Fluid velocities - Frequency characteristic - Mass flow - Sensing unit - Simulation calculation

Classification code: 943.2 Mechanical Variables Measurements

Mechanical Variables Measurements

- 943.1 Mechanical Instruments

Mechanical Instruments

- 932.2 Nuclear Physics



Nuclear Physics

- 931.1 Mechanics

Mechanics

- 921.6 Numerical Methods

Numerical Methods

- 912.1 Industrial Engineering

Industrial Engineering

- 723.5 Computer Applications

Computer Applications

- 641.3 Mass Transfer

Mass Transfer

- 631.1 Fluid Flow, General

Fluid Flow, General

- 631 Fluid Flow

Fluid Flow

- 619.1 Pipe, Piping and Pipelines

Pipe, Piping and Pipelines

- 616.1 Heat Exchange Equipment and Components

Heat Exchange Equipment and Components

- 511.2 Oil Field Equipment

Oil Field Equipment

DOI: 10.1109/CCIE.2010.145

Database: Compendex

Compilation and indexing terms, Copyright 2017 Elsevier Inc.

Data Provider: Engineering Village

16. Theoretical research on new maglev ultra-low frequency vibration sensor

Accession number: 20141217471714

Authors: Zhao, Xiaomeng (1); Liu, Tianping (1); Zheng, Dezhi (1)

Author affiliation: (1) School of Instrument Science and Opto-electronics Engineering, Beihang University, Beijing 100191, China

Source title: Proceedings of 2013 IEEE 11th International Conference on Electronic Measurement and Instruments, ICEMI 2013

Abbreviated source title: Proc. IEEE Int. Conf. Electron. Meas. Instrum., ICEMI

Volume: 1

Part number: 1 of 2

Monograph title: Proceedings of 2013 IEEE 11th International Conference on Electronic Measurement and Instruments, ICEMI 2013

Issue date: 2013

Publication year: 2013

Pages: 134-139

Article number: 6743083

Language: English

Document type: Conference article (CA)

Conference name: 2013 IEEE 11th International Conference on Electronic Measurement and Instruments, ICEMI 2013

Conference date: August 16, 2013 - August 18, 2013

Conference location: Harbin, China

Conference code: 103115

Sponsor: Chinese Institute of Electronics (CIE); Computer Measurement Group of USA; IEEE Beijing Section; National Natural Science Foundation of China

Publisher: IEEE Computer Society

Abstract: Aiming at the disadvantages of the widely used magneto-electric ultra-low frequency (ULF) vibration sensor, a kind of new maglev ULF vibration sensor is designed in this paper, which uses the hybrid-levitation structure with electromagnets and permanent magnets as the supporting element instead of



the conventional spring structure. It can adjust the equivalent bearing stiffness coefficient and the equivalent damping coefficient by the closed-loop control system, thus the natural frequency of system can be reduced effectively, meanwhile the low measurement limit can be extended. The paper describes the working principle of maglev ULF vibration sensor in detail from the sensing mechanism, theoretical modeling and simulation analysis. The simulation results show that the velocity sensitivity of maglev ULF vibration sensor is 50 mV·s/mm, the acceleration sensitivity is 300 mV·s/mm and the lower-cut-off frequency is about 0.05 Hz. Thus, the maglev ULF vibration sensor has the advantages of lower-cut-off frequency, high sensitivity, small size and low weight. And this paper provides a new method for the current inertia ultra-low frequency ULF measurement. © 2013 IEEE.

Number of references: 12

Main heading: Ventilation exhausts

Controlled terms: Closed loop control systems - Computer simulation - Magnetic levitation - Magnetic levitation vehicles - Stiffness

Uncontrolled terms: Acceleration sensitivity - Equivalent damping coefficient - Sensing mechanism - Theoretical modeling - Theoretical research - Ultra-low frequencies - Velocity sensitivity - Vibration sensors

Classification code: 421 Strength of Building Materials; Mechanical Properties
Strength of Building Materials; Mechanical Properties

- 422 Strength of Building Materials; Test Equipment and Methods

Strength of Building Materials; Test Equipment and Methods

- 451.1 Air Pollution Sources

Air Pollution Sources

- 682 Railroad Rolling Stock

Railroad Rolling Stock

- 708.4 Magnetic Materials

Magnetic Materials

- 723.5 Computer Applications

Computer Applications

- 951 Materials Science

Materials Science

- 961 Systems Science

Systems Science

Numerical data indexing: Frequency 5.00e-02Hz

DOI: 10.1109/ICEMI.2013.6743083

Database: Compendex

Compilation and indexing terms, Copyright 2017 Elsevier Inc.

Data Provider: Engineering Village

17. Non-destructive testing of solid wood plate using variable permittivity plate capacitor

Accession number: 20124215569864

Authors: Zhao, Zhiling (1); Fan, Shangchun (1); Zheng, Dezhi (1)

Author affiliation: (1) Science and Technology on Inertial Laboratory, School of Instrumentation Science and Opto-electronics Engineering, Beihang University, Beijing, China

Corresponding author: Zhao, Z.

Source title: 2012 the 8th IEEE International Symposium on Instrumentation and Control Technology, ISICT 2012 - Proceedings

Abbreviated source title: IEEE Int. Symp. Instrum. Control Technol., ISICT - Proc.

Monograph title: 2012 the 8th IEEE International Symposium on Instrumentation and Control Technology, ISICT 2012 - Proceedings

Issue date: 2012

Publication year: 2012

Pages: 153-156

Article number: 6291597

Language: English



ISBN-13: 9781467326162

Document type: Conference article (CA)

Conference name: 8th IEEE International Symposium on Instrumentation and Control Technology, ISICT 2012

Conference date: July 11, 2012 - July 13, 2012

Conference location: London, United kingdom

Conference code: 93085

Sponsor: Beihang University

Publisher: IEEE Computer Society, 2001 L Street N.W., Suite 700, Washington, DC 20036-4928, United States

Abstract: A variable permittivity capacitance measuring method is proposed in this paper for solid wood plate defects detection. A fast and non-contact NDT is realized by measuring the difference of capacitances between the plates with and without defects. Theoretical and simulation analysis are firstly presented to validate this method, then two wood samples with knots and holes are tested. There are 0.1059pF(2.73%), 0.0841pF(2.18%) and 0.0576pF(1.50%) positive mutations of capacitance for the first sample at its three knots; while there are 0.0074pF(0.20%), 0.0171pF(0.47%), 0.0262pF(0.72%) and 0.0383pF(1.1%) negative mutations of capacitance for the second sample with one, two, three and four holes respectively, which demonstrates that the mutation of capacitance value increases with the defects' size. This new method is more suitable for the online processing and production, which is able to identify and locate the wood defects effectively and accurately. © 2012 IEEE.

Number of references: 16

Main heading: Nondestructive examination

Controlled terms: Capacitance - Defects - Permittivity

Uncontrolled terms: Capacitance measuring - Capacitance values - Capacitive detection - Defects detection - Non destructive testing - Non-contact - Online processing - Simulation analysis - Solid woods - Wood defects - Wood samples

Classification code: 421 Strength of Building Materials; Mechanical Properties

Strength of Building Materials; Mechanical Properties

- 423 Non Mechanical Properties and Tests of Building Materials

Non Mechanical Properties and Tests of Building Materials

- 701 Electricity and Magnetism

Electricity and Magnetism

- 701.1 Electricity: Basic Concepts and Phenomena

Electricity: Basic Concepts and Phenomena

- 951 Materials Science

Materials Science

Numerical data indexing: Capacitance 1.06e-13F, Capacitance 1.71e-14F, Capacitance 2.62e-14F,

Capacitance 3.83e-14F, Capacitance 5.76e-14F, Capacitance 7.40e-15F, Capacitance 8.41e-14F

DOI: 10.1109/ISICT.2012.6291597

Database: Compendex

Compilation and indexing terms, Copyright 2017 Elsevier Inc.

Data Provider: Engineering Village



文献引用检索证明

作者姓名：郑德智 (Zheng, Dezhi)

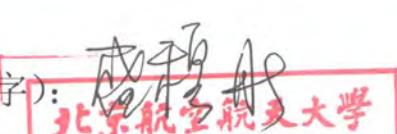
经检索“Web of Science 引文索引数据库”，该作者发表的 10 篇论文 (2011 年-2017 年)，共被引用 29 次，其中他引 26 次（所有引用只计算被 SCIE/SSCI/CPCI-S/CPCI-SSH 收录的论文进行的引用）。

(他引定义：引用文献中仅排除被检索作者的引用。)

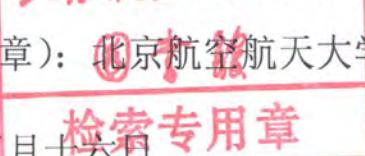
检索结果见附件，共 6 页。

检索时间为 2017 年 5 月 16 日。

特此证明！

证明人（签字）：
北京航空航天大学

证明单位（盖章）：北京航空航天大学图书馆

二〇一七年五月十六日 



附件:

1. 标题: A Capacitive Rotary Encoder Based on Quadrature Modulation and Demodulation

作者: Zheng, DZ (Zheng, Dezhi); Zhang, SB (Zhang, Shaobo); Wang, S (Wang, Shuai); Hu, C (Hu, Chun); Zhao, XM (Zhao, Xiaomeng)

来源出版物: IEEE TRANSACTIONS ON INSTRUMENTATION AND

MEASUREMENT 卷: 64 期: 1 页: 143-153 DOI: 10.1109/TIM.2014.2328456 出版年: JAN 2015

Web of Science 核心合集中的 "被引频次": 8 其中 2009-2017 年他引 8 次

第 1 条, 共 8 条

标题: Characterization of Signal Integrity Due to Pitch-Roll-Yaw Rotation Tolerance in Magnetic Position Sensing Systems

作者: Hsiao, HS (Hsiao, Heng-Sheng); Chang, JY (Chang, Jen-Yuan (James))

来源出版物: IEEE TRANSACTIONS ON MAGNETICS 卷: 53 期: 3 文献号: 3100907 DOI: 10.1109/TMAG.2016.2624270 子辑: 1 出版年: MAR 2017

第 2 条, 共 8 条

标题: Theoretical Deviation and Ray Tracing Analysis of Optical Rotary Encoder

作者: Chiang, HC (Chiang, Hou-Chi); Su, WK (Su, Wei-Kai); Huang, TW (Huang, Ting-Wei); Mang, OY (Mang Ou-Yang)

书籍团体作者: IEEE

来源出版物: 2016 IEEE INTERNATIONAL INSTRUMENTATION AND MEASUREMENT TECHNOLOGY CONFERENCE PROCEEDINGS 页: 434-438 出版年: 2016

第 3 条, 共 8 条

标题: A Novel Single-Excitation Capacitive Angular Position Sensor Design

作者: Hou, B (Hou, Bo); Zhou, B (Zhou, Bin); Song, ML (Song, Mingliang); Lin, ZH (Lin, Zhihui); Zhang, R (Zhang, Rong)

来源出版物: SENSORS 卷: 16 期: 8 文献号: 1196 DOI: 10.3390/s16081196 出版年: AUG 2016

第 4 条, 共 8 条

标题: Study on array of photo-detector based absolute rotary encoder

作者: Das, S (Das, Subir); Sarkar, TS (Sarkar, Tuhin Subhra); Chakraborty, B (Chakraborty, Badal); Dutta, HS (Dutta, Hirnadi Sekhar)

来源出版物: SENSORS AND ACTUATORS

A-PHYSICAL 卷: 246 页: 114-122 DOI: 10.1016/j.sna.2016.05.026 出版年: AUG 1 2016

第 5 条, 共 8 条

标题: An Easy-to-Interface CDC With an Efficient Automatic Calibration

作者: Sreenath, V (Sreenath, Vijayakumar); George, B (George, Boby)

来源出版物: IEEE TRANSACTIONS ON INSTRUMENTATION AND MEASUREMENT 卷: 65 期: 5 页: 960-967 DOI: 10.1109/TIM.2015.2495719 出版年: MAY 2016

第 6 条, 共 8 条

标题: *Shaft position measurement using dual absolute encoders*

作者: Lee, KM (Lee, Kyung-min); Choi, J (Choi, Jiwon); Bang, YB (Bang, Young-bong)

来源出版物: *SENSORS AND ACTUATORS*

A-PHYSICAL 卷: 238 页: 276-281 DOI: 10.1016/j.sna.2015.12.027 出版年: FEB 1 2016

第 7 条, 共 8 条

标题: *Digital Optoelectrical Pulse Method for Vernier-Type Rotary Encoders*

作者: Bahn, W (Bahn, Wook); Nam, JH (Nam, Jung-Hyun); Lee, SH (Lee, Sang-Hoon); Cho, DI (Cho, Dong-Il Dan)

来源出版物: *IEEE TRANSACTIONS ON INSTRUMENTATION AND MEASUREMENT* 卷: 65 期: 2 页: 431-440 DOI: 10.1109/TIM.2015.2502878 出版年: FEB 2016

第 8 条, 共 8 条

标题: *Hysteresis Switch Adaptive Velocity Evaluation and High-Resolution Position Subdivision Detection Based on FPGA*

作者: Huang, HM (Huang, Haiming); Chou, WS (Chou, Wusheng)

来源出版物: *IEEE TRANSACTIONS ON INSTRUMENTATION AND MEASUREMENT* 卷: 64 期: 12 页: 3387-3395 DOI: 10.1109/TIM.2015.2444257 出版年: DEC 2015

2. 标题: A research of dynamic compensation of coriolis mass flowmeter based on BP neural networks

作者: Zheng, DZ (Zheng, Dezhi); Peng, P (Peng, Peng); Fan, SC (Fan, Shangchun)

来源出版物: *INSTRUMENTS AND EXPERIMENTAL TECHNIQUES* 卷: 56 期: 3 页: 365-370 DOI: 10.1134/S0020441213020127 出版年: MAY 2013

Web of Science 核心合集中的 "被引频次": 1 其中 2009-2017 年他引 1 次

第 1 条, 共 1 条

标题: *A neural network developed in a Foundation Fieldbus environment to calculate flow rates for compressible fluid*

作者: Borg, D (Borg, Denis); Suetake, M (Suetake, Marcelo); Branda, D (Branda, Dennis)

来源出版物: *FLOW MEASUREMENT AND INSTRUMENTATION* 卷: 40 页: 142-148 DOI: 10.1016/j.flowmeasinst.2014.09.007 出版年: DEC 2014

3. 标题: Design and Theoretical Analysis of a Resonant Sensor for Liquid Density Measurement

作者: Zheng, DZ (Zheng, Dezhi); Shi, JY (Shi, Jiyong); Fan, SC (Fan, Shangchun)

来源出版物: *SENSORS* 卷: 12 期: 6 页: 7905-7916 DOI: 10.3390/s120607905 出版年: JUN 2012

Web of Science 核心合集中的 "被引频次": 2 其中 2009-2017 年他引 2 次

第 1 条, 共 2 条



航
工
用

标题: Bayesian Information for Sensors

作者: Eves, C (Eves, Christopher); Wang, X (Wang, Xue); Walker, SG (Walker, Stephen G.)

来源出版物: QUALITY AND RELIABILITY ENGINEERING

INTERNATIONAL 卷: 31 期: 8 页: 1717-1724 DOI: 10.1002/qre.1704 出版年: DEC 2015

第 2 条, 共 2 条

标题: Ultrasonic Technique for Density Measurement of Liquids in Extreme Conditions

作者: Kazys, R (Kazys, Rymantas); Sliteris, R (Sliteris, Reimo das); Rekuviene, R (Rekuviene, Regina); Zukauskas, E (Zukauskas, Egidijus); Mazeika, L (Mazeika, Liudas)

来源出版物: SENSORS 卷: 15 期: 8 页: 19393-19415 DOI: 10.3390/s150819393 出版年: AUG 2015

4. 标题: Dynamic Performance Improvement on Resonant Vibration Cylinder Pressure Transducer

作者: Zheng, DZ (Zheng, Dezhi); Wu, ZL (Wu, Zongling); Yan, Q (Yan, Qing); Fan, SC (Fan, Shangchun)

来源出版物: ADVANCED SCIENCE

LETTERS 卷: 4 期: 4-5 页: 1376-1380 DOI: 10.1166/asl.2011.1289 出版年: APR-MAY 2011

Web of Science 核心合集中的 "被引频次": 1 其中 2009-2017 年他引 1 次

第 1 条, 共 1 条

标题: Use of a Resonant Sensor for Differential Air Pressure Measurements

作者: Draxler, K (Draxler, Karel); Auersvald, J (Auersvald, Jan); Helgesik, J (Helgesik, Jaroslav); Styblikova, R (Styblikova, Renata)

书籍团体作者: IEEE

来源出版物: 2014 IEEE INTERNATIONAL INSTRUMENTATION AND MEASUREMENT TECHNOLOGY CONFERENCE (I2MTC) PROCEEDINGS 页: 1275-1278 出版年: 2014

5. 标题: Ultrasonic frogs show extraordinary sex differences in auditory frequency sensitivity

作者: Shen, JX (Shen, Jun-Xian); Xu, ZM (Xu, Zhi-Min); Yu, ZL (Yu, Zu-Lin); Wang, S (Wang, Shuai); Zheng, DZ (Zheng, De-Zhi); Fan, SC (Fan, Shang-Chun)

来源出版物: NATURE COMMUNICATIONS 卷: 2 文献号: 342 DOI: 10.1038/ncomms1339 出版年: JUN 2011

Web of Science 核心合集中的 "被引频次": 17 其中 2009-2017 年他引 14 次

第 1 条, 共 14 条

标题: Vocalizations of female frogs contain nonlinear characteristics and individual signatures

作者: Zhang, F (Zhang, Fang); Zhao, J (Zhao, Juan); Feng, AS (Feng, Albert S.)

来源出版物: PLOS ONE 卷: 12 期: 3 文献

号: e0174815 DOI: 10.1371/journal.pone.0174815 出版年: MAR 30 2017

第 2 条, 共 14 条

标题: The spectral structure of vocalizations match hearing sensitivity but imprecisely in *Philautus odontotarsus*



作者: Zhu, BC (Zhu, Bicheng); Wang, JC (Wang, Jichao); Brauth, SE (Brauth, Steven E.); Tang, YZ (Tang, Yezhong); Cui, JG (Cui, Jianguo)

来源出版物: BIOACOUSTICS-THE INTERNATIONAL JOURNAL OF ANIMAL SOUND AND ITS RECORDING 卷: 26 期: 2 页: 121-134 DOI: 10.1080/09524622.2016.1221778 出版年: 2017

第 3 条, 共 14 条

标题: An exception to the matched filter hypothesis: A mismatch of male call frequency and female best hearing frequency in a torrent frog

作者: Zhao, LH (Zhao, Longhui); Wang, JC (Wang, Jichao); Yang, Y (Yang, Yue); Zhu, BC (Zhu, Bicheng); Brauth, SE (Brauth, Steven E.); Tang, YZ (Tang, Yezhong); Cui, JG (Cui, Jianguo)

来源出版物: ECOLOGY AND

EVOLUTION 卷: 7 期: 1 页: 419-428 DOI: 10.1002/ece3.2621 出版年: JAN 2017

第 4 条, 共 14 条

标题: Auditory brainstem responses in the Chinese tiger frog *Hoplobatrachus chinensis* (Osbeck, 1765) (Anura: Dicoglossidae) reveal sexually dimorphic hearing sensitivity

作者: Wang, JC (Wang, J. C.); Wang, TL (Wang, T. L.); Fu, SH (Fu, S. H.); Brauth, SE (Brauth, S. E.); Cui, JG (Cui, J. G.)

来源出版物: ITALIAN JOURNAL OF

ZOOLOGY 卷: 83 期: 4 页: 482-489 DOI: 10.1080/11250003.2016.1222638 出版年: 2016

第 5 条, 共 14 条

标题: ICE on the road to auditory sensitivity reduction and sound localization in the frog

作者: Narins, PM (Narins, Peter M.)

来源出版物: BIOLOGICAL CYBERNETICS 卷: 110 期: 4-5 特

刊: SI 页: 263-270 DOI: 10.1007/s00422-016-0700-z 出版年: OCT 2016

第 6 条, 共 14 条

标题: Better late than never: effective air-borne hearing of toads delayed by late maturation of the tympanic middle ear structures

作者: Womack, MC (Womack, Molly C.); Christensen-Dalsgaard, J (Christensen-Dalsgaard, Jakob); Hoke, KL (Hoke, Kim L.)

来源出版物: JOURNAL OF EXPERIMENTAL

BIOLOGY 卷: 219 期: 20 页: 3246-3252 DOI: 10.1242/jeb.143446 出版年: OCT 15 2016

第 7 条, 共 14 条

标题: Assessment and Recognition of Rivals in Anuran Contests

作者: Bee, MA (Bee, M. A.); Reichert, MS (Reichert, M. S.); Tumulty, J (Tumulty, J.)

编者: Naguib M; Mitani JC; Simmons LW; Barrett L; Healy S; Zuk M

来源出版物: ADVANCES IN THE STUDY OF BEHAVIOR, VOL 48 丛书: Advances in the Study of Behavior 卷: 48 页: 161-249 DOI: 10.1016/bs.asb.2016.01.001 出版年: 2016

第 8 条, 共 14 条

标题: Sex differences and endocrine regulation of auditory-evoked, neural responses in African clawed frogs (*Xenopus*)

作者: Hall, IC (Hall, Ian C.); Woolley, SMN (Woolley, Sarah M. N.); Kwong-Brown, U (Kwong-Brown, Ursula); Kelley, DB (Kelley, Darcy B.)

来源出版物: JOURNAL OF COMPARATIVE PHYSIOLOGY A-NEUROETHOLOGY SENSORY NEURAL AND BEHAVIORAL

PHYSIOLOGY 卷: 202 期: 1 页: 17-34 DOI: 10.1007/s00359-015-1049-9 出版年: JAN 2016

第 9 条, 共 14 条

标题: Ultrasonic frogs call at a higher pitch in noisier ambiance

作者: Zhang, F (Zhang, Fang); Chen, P (Chen, Pan); Chen, ZQ (Chen, Zhuqing); Zhao, J (Zhao, Juan)

来源出版物: CURRENT ZOOLOGY 卷: 61 期: 6 页: 996-1003 出版年: DEC 2015

第 10 条, 共 14 条

标题: Epigenetics as a source of variation in comparative animal physiology - or - Lamarck is lookin' pretty good these days

作者: Burggren, WW (Burggren, Warren W.)

来源出版物: JOURNAL OF EXPERIMENTAL

BIOLOGY 卷: 217 期: 5 页: 682-689 DOI: 10.1242/jeb.086132 出版年: MAR 2014

第 11 条, 共 14 条

标题: An Endemic Frog Harbors Multiple Expression Loci With Different Patterns of Variation in the MHC Class II B Gene

作者: Shu, YL (Shu, Yi-Lin); Hong, P (Hong, Pei); Yang, YW (Yang, Yi-Wen); Wu, HL (Wu, Hai-Long)

来源出版物: JOURNAL OF EXPERIMENTAL ZOOLOGY PART B-MOLECULAR AND DEVELOPMENTAL EVOLUTION 卷: 320 期: 8 页: 501-510 DOI: 10.1002/jez.b.22525 出版年: DEC 2013

第 12 条, 共 14 条

标题: The Importance of Ambient Sound Level to Characterise Anuran Habitat

作者: Goutte, S (Goutte, Sandra); Dubois, A (Dubois, Alain); Legendre, F (Legendre, Frederic)

来源出版物: PLOS ONE 卷: 8 期: 10 文献号: e78020 DOI: 10.1371/journal.pone.0078020 出版年: OCT 21 2013

第 13 条, 共 14 条

标题: Recent progress of sensory system research in China

作者: Wang, YJ (Wang YiJin); Liu, L (Liu Li)

来源出版物: SCIENCE CHINA-LIFE

SCIENCES 卷: 55 期: 11 页: 1026-1028 DOI: 10.1007/s11427-012-4402-z 出版年: NOV 2012

第 14 条, 共 14 条

标题: A brief review on current progress in neuroscience in China

作者: Qiang, M (Qiang Min); Wu, BB (Wu BeiBei); Liu, Y (Liu Ying)

来源出版物: SCIENCE CHINA-LIFE

SCIENCES 卷: 54 期: 12 页: 1156-1159 DOI: 10.1007/s11427-011-4261-z 出版年: DEC 2011

6. 标题: Theoretical analysis and experimental study of Coriolis mass flow sensor sensitivity
作者: Zheng, DZ (Zheng, Dezhi); Wang, S (Wang, Shuai); Liu, B (Liu, Bei); Fan, SC (Fan, Shangchun)
来源出版物: JOURNAL OF FLUIDS AND
STRUCTURES 卷: 65 页: 295-312 DOI: 10.1016/j.jfluidstructs.2016.06.004 出版年: AUG 2016
Web of Science 核心合集中的 "被引频次": 0 其中 2009-2017 年他引 0 次

7. 标题: Theory and experiment research for ultra-low frequency maglev vibration sensor
作者: Zheng, DZ (Zheng, Dezhi); Liu, YX (Liu, Yixuan); Guo, ZS (Guo, Zhanshe); Zhao, XM (Zhao, Xiaomeng); Fan, SC (Fan, Shangchun)
来源出版物: REVIEW OF SCIENTIFIC INSTRUMENTS 卷: 86 期: 10 文献
号: 105001 DOI: 10.1063/1.4931692 出版年: OCT 2015
Web of Science 核心合集中的 "被引频次": 0 其中 2009-2017 年他引 0 次

8. 标题: Experimental study on dynamic performance of coriolis mass flow meter and compensation
technology
作者: Zheng, DZ (Zheng, Dezhi); Nan, Q (Nan, Qiong); Shi, JY (Shi, Jiying); Fan, SC (Fan, Shangchun)
来源出版物: INSTRUMENTS AND EXPERIMENTAL
TECHNIQUES 卷: 55 期: 4 页: 503-507 DOI: 10.1134/S0020441212030025 出版年: JUL 2012
Web of Science 核心合集中的 "被引频次": 0 其中 2009-2017 年他引 0 次

9. 标题: Experimental Study and Implementation of a Novel Digital Closed-Loop Control System for
Coriolis Mass Flowmeter
作者: Hu, C (Hu, Chun); Zheng, DZ (Zheng, Dezhi); Fan, SC (Fan, Shangchun)
来源出版物: IEEE SENSORS
JOURNAL 卷: 13 期: 8 页: 3032-3038 DOI: 10.1109/JSEN.2013.2260859 出版年: AUG 2013
Web of Science 核心合集中的 "被引频次": 0 其中 2009-2017 年他引 0 次

10. 标题: Theoretical and experimental research on the in-plane comb-shaped capacitor for MEMS
coriolis mass flow sensor
作者: Hu, C (Hu, Chun); Zheng, DZ (Zheng, Dezhi); Fan, SC (Fan, Shangchun); Wiegerink, RJ
(Wiegerink, Remco John); Guo, ZS (Guo Zhanshe)
来源出版物: MICROSYSTEM TECHNOLOGIES-MICRO-AND NANOSYSTEMS-INFORMATION
STORAGE AND PROCESSING
SYSTEMS 卷: 22 期: 4 页: 747-755 DOI: 10.1007/s00542-015-2441-7 出版年: APR 2016
Web of Science 核心合集中的 "被引频次": 0 其中 2009-2017 年他引 0 次



北京航空航天大學

LIBRARY 国家图书馆

中文核心期刊检索证明

经检索《中文核心期刊要目总览（2014年版）》（朱强、何峻、蔡蓉华主编，北京大学出版社，ISBN: 978-7-3012-6189-7），下列1种期刊为核心期刊：

1. 【期刊名称】传感技术学报

【ISSN】1004-1699

【核心期刊版次】2004/2008/2011/2014

检索时间为2017年5月16日。

特此证明！

证明人（签字）:

戚移林

北京航空航天大学

证明单位（盖章）: 北京航空航天大学图书馆

图书馆

二〇一七年五月十六日

索专用章

期刊影响因子证明

经检索“期刊引证报告（Journal Citation Reports）”数据库，下列 9 种期刊的影响因子及学科排名信息如下：

1. SENSORS

影响因子

2.033 2.437

2015 5 年

JCR® 分类	类别中的排序	JCR 分区
CHEMISTRY, ANALYTICAL	36/75	Q2
ELECTROCHEMISTRY	16/27	Q3
INSTRUMENTS & INSTRUMENTATION	12/56	Q1

数据来自第 2015 版 *Journal Citation Reports*®

出版商 MDPI AG, ST ALBAN-ANLAGE 66, CH-4052 BASEL, SWITZERLAND

ISSN: 1424-8220

研究领域 Chemistry

Electrochemistry

Instruments & Instrumentation

2. IEEE TRANSACTIONS ON INSTRUMENTATION AND MEASUREMENT

影响因子

1.808 1.875

2015 5 年

JCR® 分类	类别中的排序	JCR 分区
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ENGINEERING, ELECTRICAL & ELECTRONIC	86/257	Q2
INSTRUMENTS & INSTRUMENTATION	19/56	Q2

数据来自第 2015 版 *Journal Citation Reports®*

出版商 IEEE-INST ELECTRICAL ELECTRONICS ENGINEERS INC, 445 HOES LANE,
PISCATAWAY, NJ 08855-4141 USA

ISSN: 0018-9456

eISSN: 1557-9662

研究领域 Engineering

Instruments & Instrumentation

3. JOURNAL OF FLUIDS AND STRUCTURES

影响因子

1.709 2.058

2015 5 年

JCR® 分类	类别中的排序	JCR 分区
ENGINEERING, MECHANICAL	37/132	Q2
MECHANICS	50/135	Q2

数据来自第 2015 版 *Journal Citation Reports®*

出版商 ACADEMIC PRESS LTD- ELSEVIER SCIENCE LTD, 24-28 OVAL RD, LONDON NW1 7DX, ENGLAND

ISSN: 0889-9746

研究领域 Engineering

Mechanics

4. REVIEW OF SCIENTIFIC INSTRUMENTS

影响因子

1.336 1.422

2015 5 年

JCR® 类别	类别中的排序	JCR 分区
INSTRUMENTS & INSTRUMENTATION	27/56	Q2
PHYSICS, APPLIED	88/145	Q3

数据来自第 2015 版 *Journal Citation Reports®*

出版商 AMER INST PHYSICS, 1305 WALT WHITMAN RD, STE 300, MELVILLE, NY 11747-4501 USA

ISSN: 0034-6748

eISSN: 1089-7623

研究领域 Instruments & Instrumentation

Physics

5. ADVANCED SCIENCE LETTERS

影响因子

1.253 1.253

2010 5 年

JCR® 类别	类别中的排序	JCR 分区
MULTIDISCIPLINARY SCIENCES	15/59	Q2

数据来自第 2010 版 *Journal Citation Reports®*

出版商 AMER SCIENTIFIC PUBLISHERS, 26650 THE OLD RD, STE 208, VALENCIA, CA 91381-0751 USA

ISSN: 1936-6612

eISSN: 1936-7317

研究领域 Science & Technology - Other Topics

6. INSTRUMENTS AND EXPERIMENTAL TECHNIQUES

影响因子

0.353 0.345

2015 5 年

JCR® 分类	类别中的排序	JCR 分区
ENGINEERING, MULTIDISCIPLINARY	73/85	Q4
INSTRUMENTS & INSTRUMENTATION	51/56	Q4

数据来自第 2015 版 *Journal Citation Reports®*

出版商 MAIK NAUKA/INTERPERIODICA/SPRINGER, 233 SPRING ST, NEW YORK, NY 10013-1578 USA

ISSN: 0020-4412

eISSN: 1608-3180

研究领域 Engineering

Instruments & Instrumentation

7. IEEE SENSORS JOURNAL

影响因子

1.889 1.988

2015 5 年

JCR® 分类	类别中的排序	JCR 分区
ENGINEERING, ELECTRICAL & ELECTRONIC	77/257	Q2
INSTRUMENTS & INSTRUMENTATION	16/56	Q2
PHYSICS, APPLIED	52/145	Q2

数据来自第 2015 版 *Journal Citation Reports®*

出版商 IEEE-INST ELECTRICAL ELECTRONICS ENGINEERS INC, 445 HOES LANE, PISCATAWAY, NJ 08855-4141 USA

ISSN: 1530-437X

eISSN: 1558-1748



研究领域 Engineering
Instruments & Instrumentation
Physics

8. MICROSYSTEM TECHNOLOGIES-MICRO-AND NANOSYSTEMS-INFORMATION STORAGE AND PROCESSING SYSTEMS

影响因子

0.974 0.889

2015 5 年

JCR® 类别	类别中的排序	JCR 分区
ENGINEERING, ELECTRICAL & ELECTRONIC	158/257	Q3
MATERIALS SCIENCE, MULTIDISCIPLINARY	195/271	Q3
NANOSCIENCE & NANOTECHNOLOGY	69/83	Q4
PHYSICS, APPLIED	111/145	Q4

数据来自第 2015 版 *Journal Citation Reports®*

出版商 SPRINGER, 233 SPRING ST, NEW YORK, NY 10013 USA

ISSN: 0946-7076

eISSN: 1432-1858

研究领域 Engineering

Science & Technology - Other Topics

Materials Science

Physics

9. NATURE COMMUNICATIONS

影响因子

11.329 12.001

2015 5 年

JCR® 类别	类别中的排序	JCR 分区



MULTIDISCIPLINARY SCIENCES

3/63

Q1

数据来自第 2015 版 *Journal Citation Reports*®

出版商 NATURE PUBLISHING GROUP, MACMILLAN BUILDING, 4 CRINAN ST, LONDON
N1 9XW, ENGLAND

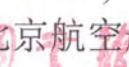
ISSN: 2041-1723

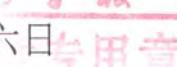
研究领域 Science & Technology - Other Topics

检索时间为 2017 年 5 月 16 日。

特此证明！

证明人（签字）:  北京航空航天大学

证明单位（盖章）: 北京航空航天大学图书馆 

二〇一七年五月十六日 

2017年专业技术职务评聘论文发表及收录情况证明表

单位：仪器科学与光电工程学院

姓名	郑德智	工作证号	08267	现任职称	副教授	任职时间	2009.08
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任现职以来发表论文及收录情况：收录类别、作者贡献（第一、通讯等）仅计算1次；论文收录以图书馆检索证明为准，未检索到的来源刊论文仅计算1篇

类别	合计	SCI	SSCI	CSSCI	EI	ISTP	中文核心期刊	其他
一、符合职称申报条件 论文	24	9			11		1	3
其中：1. 第一作者	14	7			6			1
2. 学生第一本人第二作者	8	2			4			2
3. 通讯作者	2				1		1	
二、其他	8	1			6		1	

本人承诺以上所填属实，如与事实不符，本人愿承担一切责任。

本人签字：



日期：2017年5月17日

单位负责人签字（加盖公章）

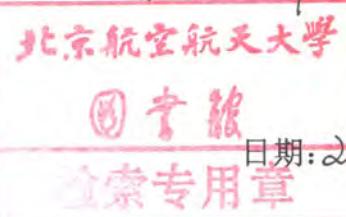
日期：2017年5月17日

图书馆意见：

经检索，上表中被SCI/EI/SSCI/CPCI/CSSCI数据库收录的文章数量及被SCI/EI/SSCI/中科院/CSSCI/中文核心收录的源刊数量属实。

证明人：

盖章：



日期：2017年5月17日

注：1.申请人认真如实填写相关信息后A4纸单面打印；

2.对于学生第一本人第二作者的论文需填写《2017年专业技术职务评聘研究生指导情况证明表》由所在单位认定，主管副院长签字，学院盖章，研究生院审定，一并去图书馆认定。

北京航空航天大学专业技术职务评审
任现职以来主要教学工作业绩水平证明表

姓 名 郑德智
现任专业技术职务 副教授
申请专业技术职务 学研究系列研究员

单位 仪器科学与光电工程学院
任现职时间 2009.08
填表日期 2017.05.15

一、教学总体情况

任现职以来，独立指导硕士研究生 8 届 19 人，其中毕业 13 人，在读 6 人；指导本科毕设 23 人，主讲本科生课 2 门，其中必修课 1 门；主讲研究生课 0 门、其中学位课 0 门。年均授课 52 学时。

二、本科教学工作量

教学工作量	课程代码	课程名称	学年-学期	课程学时	本人授课学时	授课对象(本科生/留学生等)	授课次数(几轮次)	课程性质
	F17D4 250	航空航天测试系统	2016-2017-1 2015-2016-1 2013-2014-1 2012-2013-1	48	48	本科生	7	专业必修
	17Z83 160		2011-2012-1 2010-2011-1 2009-2010-1					
	B2G1 70170	Motorola-DSP 技术及应用	2016-2017-1	40	40	本科生	2	公共选修
	D17D 0C10		2012-2013-1					

注：课程性质为校级核心、专业基础核心、专业方向核心、必修、选修、公共选修等。

院(系)确认人签字：
教务处确认人签字：

教学含成教果材奖	获奖时间	获奖项目名称		获奖等级	本人排名
	2012.8	2012 中国(国际)传感器创新大赛创新设想类		一等奖	指导教师 1
	2012	2012 年校级本科优秀毕业论文			指导教师
	2011.3	北航大学生学科竞赛优秀指导教师			1
	2011	蓝天教学新星			1
	2010	北航第二届实践奖教金		二等	1
	2009	三江红峰航天奖教金		一等奖	1
教学研究	起止时间	教改立项项目名称(含编写教材、讲义)	项目来源	完成情况	本人作用
	2011-2014	专业平台课程小班化教学的改革与实践	校重点教改项目	已结题	负责人
其它	任务完成情况(含辅导员、军训、学生工作论文、指导青年教师及青年技术人员社会实践等)				
	2010.7.10~7.27, 带队 371711 班/32 人前往陕西省宝鸡市陕西宝成航空仪表有限责任公司生产实习, 圆满完成生产实习任务。				

院(系)确认人签字：
教务处确认人签字：

本人确认表内所填内容属实 签名：

院(系)确认人签字(公章)：

教务处确认盖章：

教务处 2017.5.22



三、研究生教学工作量

教学工作量	课程名称	起止时间	课程学时	本人授课学时	授课对象 (研究生/留学生等)	授课次数 (几轮次)	课程类型
	信号测量与处理系列实验	2010-2011-2 2011-2012-2 2012-2013-2	36	12	研究生	3	实验课

院(系)确认人签字:

林艳芝

研究生院确认人签字:

郑冬梅

教 学 含 成 教 果 材 奖	获奖时间	获奖项目名称		获奖等级	本人排名
	2012	2012 年硕士研究生国家奖学金 史继巍 SY1017317			指导教师
教 学 研 究	时间	项目名称	项目来源	完成情况	本人作用
其 它	任务完成情况 (含辅导员、学生工作论文、指导青年教师及青年技术人员社会实践等)				本人作用

院(系)确认人签字:

林艳芝

研究生院确认人签字:

郑冬梅



本人确认表内所填内容属实 签名:

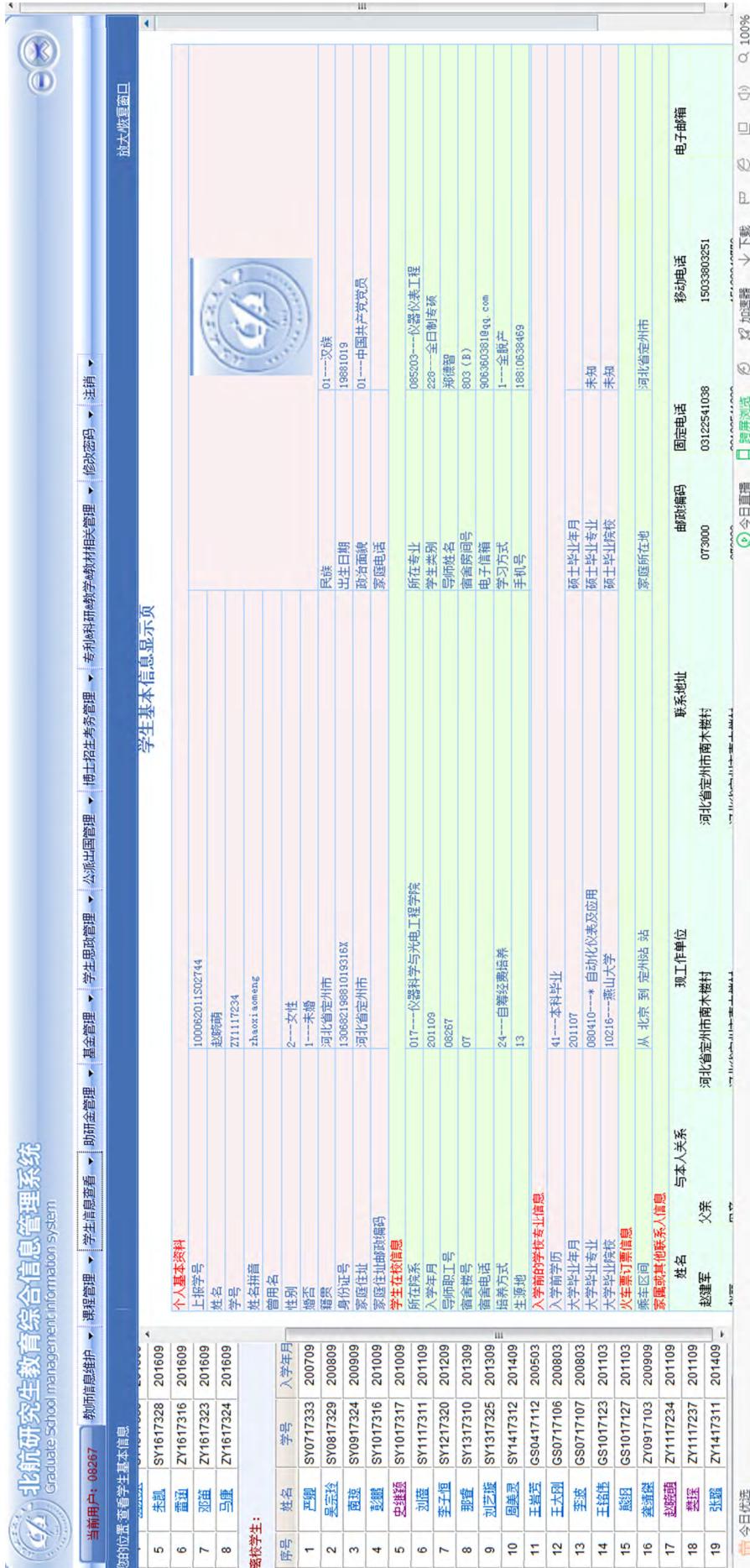
院(系)确认人签字(公章):

研究生院确认人签字(公章):

日期:



2012



北京航空航天大学
博士学位论文答辩申请表

姓名	胡纯		学号	BY1017104		性别	男	民族	汉族
出生年月	1987.10.08				籍贯		42---湖北省422404---大 门市		
入学年月	2010.09				身份证号		429006198710080756		
何时何院校 获得何专业 学士学位	2009.07 中国地质大学(武汉) 电子仪器及测量技术				何时何院校 获得何专业 硕士学位	硕博连读			
指导教师姓名 及学术职称	樊尚春 教授				副指导教师姓 名及学术职称	郑德智 副教授			
论 文 题 目	融合科氏效应与差压效应的质量流量传感技术的研究								
论 文 主 题 词	质量流量传感器，科氏效应，差压效应，数字闭环 控制系统，数据融合						论文工作 起止日期	2010.09 至 2015.06	
攻 读 博 士 学 位 期 间	国内刊物篇数	1	国外刊物篇数	2	国内会议篇数	1	国际会议篇数	1	
	SCI(E)/SSCI收录数	1	CSSCI/CSCD收录数	0	EI 收录数	1	CPCI-S收录数	0	
发表学术论文情况:									
<p>(1) Chun Hu, Dezheng Zheng, Shangchun Fan. Experimental Study and Implementation of a Novel Digital Closed-loop Control System for Coriolis Mass Flowmeter[J]. IEEE Sensors Journal, 201308, 13(8): 3032-3038 . SCIE:000321905500009 (IF: 1.852 , JCR: Q1 , 2013 年)</p> <p>(2) Chun Hu, Dezheng Zheng, Shangchun Fan, Remco John Wiegerink, Guo Zhanshe. Theoretical and Experimental Research on the In-plane Comb-shaped Capacitor for MEMS Coriolis Mass Flow Sensor[J]. Microsystem Technologies, 201503, 网络在线DOI: 10.1007/s00542-015-2441-7. SCI 源 (IF: 0.952 , JCR: Q3 , 2013 年)</p> <p>(3) Chun Hu, Dezheng Zheng, Shangchun Fan, Jingjie Gong. Research and Implementation of Amplitude Ratio Calculating System for Coriolis Mass Flowmeter[C]. The 8th IEEE International Symposium on Instrumentation and Control Technology (ISICT2012), 201207, 147-152. EI:20124215569866</p> <p>(4) 胡纯, 郑德智. 微流量测量方法及其技术的发展[J]. 计测技术, 201502, 35(1): 1-8</p> <p>(5) 胡纯, 郑德智, 樊尚春, Wiegerink R. J.. MEMS质量流量传感器的插值FFT检测方法[C]. 第13届全国敏感元件与传感器学术会议(STC2014), 201410, 113-117</p>									
发表学术论文情况及 获奖情况及 成果奖励或 专利情况	获奖情况:								
	(1) 高性能谐振式传感器设计与实现、中华人民共和国教育部科技进步奖、一等奖、排名第14、2012年02月 、2011-168								
	专利情况:								
	<p>(1) 北京航空航天大学. 一种科氏质量流量计数字闭环控制系统. 排名第2. 中国. 发明专利. 已授权. ZL201110281307.X. 2013-03-06</p> <p>(2) 北京航空航天大学. 科氏效应与差压效应融合的微小质量流量传感器. 排名第1. 中国. 发明专利. 已受理. 201310153271.6. 2013-04-28</p>								

申请人(签名): 胡纯

2015年5月4日

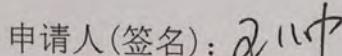
经核实, 达到该学科领域发表论文(2009版第(1)条)的规定。

导师(签名):

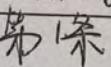
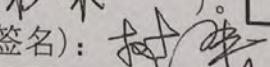
2015年5月5日

北京航空航天大学
博士学士学位论文答辩申请表

姓名	王帅		学号	BY0717127		性别	女	民族	汉族
出生年月	1984.10.07				籍贯		吉林省磐石县		
入学年月	2007.09				身份证号		220211198410070624		
何时何院校 获得何专业 学士学位	2007.07 吉林大学 电子仪器及测量技术				何时何院校 获得何专业 硕士学位		直接攻博		
指导教师姓名 及学术职称	樊尚春 教授				副指导教师姓 名及学术职称		郑德智 副教授		
论 文 题 目	类直管型科氏质量流量计的理论与实验研究								
论 文 主 题 词	流量计，类直管型，灵敏度分析，数字闭环，气液 两相流						论文工作 起止日期	2008.09 至 2011.11	
攻 读 博 士 学 位 期 间 发 表 学 术 论 文 情 况 及 获 成 果 奖 励 或 专 利 情 况	国内刊物篇数	3	国外刊物篇数	1	国内会议篇数	0	国际会议篇数	3	
	SCI/SSCI收录数	1	SCIE收录数	0	EI 收录数	5	ISTP 收录数	0	
发表学术论文情况：									
(1) Zheng Dezhi, Wang Shuai, Fan Shangchuna. Nonlinear Vibration Characteristics of Coriolis Mass Flowmeter. Chinese Journal of Aeronautics, 200904, 22(2): 198-205. SCI:439xz (IF: 0.3009 , 2010 年) (2) Wang Shuai, Zheng Dezhi, Fan Shangchun. Improve the Performance of Digital Closed -loop Control System for Coriolis Mass Flowmeter. Sensor Letters, 已录用. SCI源 (IF: 0.6019 , 2010 年) (3) 王帅, 郑德智, 樊尚春, 田婧. 科氏质量流量计全数字闭环系统的设计与实现. 北京航空航天大学学报, 201107, 37(7): 844-854. EI:20113814343372 (4) Wang Shuai, Zheng Dezhi, Fan Shangchun, Liu Ting, Ren Dongshun. Experiment Study on Using Closed-loop Control System of Coriolis Mass Flowmeter on Oil-water Two-phase Flow Metering. 2010 IEEE Symposium on Industrial Electronics and Applications (ISIEA 2010), 201010, 61-65. EI:20110513634240 (5) Wang Shuai, Zheng Dezhi, Fan Shangchun. Analysis on Vibration Characteristics of Coriolis Mass Flow Sensor. International Conference on Electronic Measurement & Instruments (ICEMI' 2009), 200908, 2842-2845. EI:20095112549371 (6) 王帅, 郑德智, 樊尚春. 定量胶体金试剂条浓度检测方法. 北京航空航天大学学报, 200908, 35(8): 942-945. EI:20094012356756 (7) Zheng Dezhi , Wang Shuai . Research on Measuring Equipment of Single-phase Electricity-Stealing with Long-distance Monitoring Function. Asia-Pacific Power and Energy Engineering Conference (APPEEC 2009), 200903, 1-4. EI:20093512276739									
专利情况：									
(1) 北京航空航天大学. 类直管型科里奥利质量流量计. 排名第1. 中国. 发明专利. 已授权. ZL201010180691.X. 2011-10-05 (2) 北京航空航天大学. 科里奥利质量流量计全数字闭环系统. 排名第2. 中国. 发明专利. 已授权. 201010183230.8. 2011-09-16									

申请人(签名): 

2011年 11月 13 日

经核实, 达到2009版发表论文规定()。 达到2006版发表论文规定。
 (请在认定栏划√) 导师(签名): 

2011年 11月 13 日

2017年专业技术职务评聘专利与获奖情况认定表

单位	仪器科学与光电工程学院	姓名	郑德智	工作证号	08267	任职时间	2009.08
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1. 获批专利情况

任现职以来以第一享有人（含学生第一本人第二）名义共授权专利 9 项；任现职以来共获得已授权专利情况：

类别	专利数	发明专利		实用新型		外观设计		
第一享有人	7	7		0		0		
总数量	9	9		0		0		
序号	专利名称	专利类型	授权日期	批准机构	专利号	仅限首次授权		
						权利单位	人数	本人排名
1 ✓	一种电容型绝对式旋转编码器	发明专利	2015.11.1 1	国家知识产权局	ZL 201310482492.8	北航	2	1
2 ✓	一种磁悬浮式超低频振动传感器	发明专利	2014.04.1 6	国家知识产权局	ZL 201210380683.9	北航	4	1
3 ✓	一种电磁激励检测的谐振式音叉液体密度传感器	发明专利	2013.10.0 9	国家知识产权局	ZL 201110305281.8	北航	2	1
4 ✓	一种压电激励压电检测的谐振式音叉液体密度传感器	发明专利	2013.04.1 0	国家知识产权局	ZL 201110183489.7	北航	3	1
5 ✓	一种科氏质量流量计数字闭环控制系统	发明专利	2013.03.0 6	国家知识产权局	ZL 201110281307.X	北航	4	①
6 ✓	科里奥利质量流量计全数字闭环系统	发明专利	2011.11.3 0	国家知识产权局	ZL 201010183230.8	北航	4	1
7 ✓	一种太阳能电池采光罩	发明专利	2009.10.2 8	国家知识产权局	ZL 200810056585.3	北航	3	1
8 ✓	科氏效应与差压效应融合的微小质量流量传感器	发明专利	2015.07.2 9	国家知识产权局	ZL 201310153271.6	北航	4	2
9 ✓	类直管型科里奥利质量流量计	发明专利	2011.10.0 5	国家知识产权局	ZL 201010180691.X	北航	4	2

本人承诺以上所填属实。

承诺人:

学院审核人(盖章):



科研部门审核意见:

经审核, 上表所列奖项中, 符合首次授权状态的归档专利共 6 项 (序号 1~6)。 靳雷莲 2017.5.26

审核人:

盖章:



2. 获奖情况

任现职以来获得国家级教学/科研成果奖 1 项；省部级教学/科研成果一等奖前五名、二等奖前三名或省部级科技成果三等奖第一完成人共 1 项。请填写任现职以来获得教学、科研、管理奖励情况。

序号	奖励名称	颁奖部门	奖励级别	获奖时间	人数	本人排名
1	高性能谐振式传感器关键技术及其应用	国务院	国家技术发明 奖二等	2013.12.25	6	2
2	高性能谐振式传感器设计与实现	教育部	科学技术进步 奖一等奖	2012.2.10	15	2
3						
4						
5						
6						

本人承诺以上所填属实。

承诺人:

学院审核人(盖章):

科研部门审核意见:

经审核, 上表所列奖项中, 情况属实的国家级科研成果奖 1 项 (序号: 1) , 省部级科研成果 1 项 (序号: 2) 。

审核人:

盖章:



注: 1. 申请人认真如实填写相关信息后 A4 纸单面打印;

2. 申请人签字确认后将此表及相关证明材料交至所在学院, 由学院统一送至科研院审核;

3. 申请人填写申报材料时以审核后的信息为准。



课题信息查询

经费负责人：郑德智

工作证号：08267

查询范围：2009-08-01到2017-05-31

总实到经费：516.12

单位：万元

编号	经费号	项目名称	项目来源	实到经费	设备费	外协费	课题性质	项目负责人	承担单位 排名 排序
1	KH54-0054-01	密度计委托加工合同	朝阳市加华电子有限公司	1.41	0	0	技术服务	郑德智	第一单位
2	54-5124-01	便携式剥离强度测试仪设计服务合同	中国石油天然气股份有限公司管道科技研究中心	17.01	0	0	技术服务	郑德智	第一单位
3	54-4774-01	科氏质量流量传感器测量管的仿真与设计	重庆川仪自动化股份有限公司	5	0	0	技术开发	郑德智	第一单位
4	54-4460-01	专用水尾结构设计与研制	山西省金鼎高宝钻探有限责任公司	11.2	0	0	技术开发	郑德智	第一单位
5	34-0373-03	精密机械传动设计和高档齿轮制造技术	哈尔滨东安发动机(集团)有限公司	26	14	3	纵向	王延忠	非第一单位
6	32-2649-02	CNG加气机核心质量流量传感器研制及产业化	北京市教委	50	0	19.104	纵向	周卫宁	第一单位
7	54-5982-01	胶体金试剂条定量检测系统关键结构计算法开发	北京依莎八方科技发展有限公司	6.6	0	0	技术开发	郑德智	第一单位
8	54-5953-01	基于MEMS的热式气体质量流量计量研制	北京首科实华自动化设备有限公司	15	4.780144	0	技术开发	郑德智	第一单位
9	58-0007-02	一种电磁激励检测的谐振式叉音液体密度传感器	北京北航先进工业技术研究院有限公司	0.469	0	0	技术转让	郑德智	第一单位
10	58-0007-01	一种电磁激励检测的谐振式叉音液体密度传感器	北京北航先进工业技术研究院有限公司	0.331	0	0	技术转让	郑德智	第一单位
11	30-3718-01	细胞连续自动培养微流量测量技术研究	教育部	5	0	1.5	纵向	郑德智	第一单位
12	54-2986	防腐层耐划伤标准对比测试技术服务合同	中国石油天然气股份有限公司管道科技研究中心	20	0	0	技术开发	郑德智	第一单位
13	54-2619	DA输出模块 AD采集模块采购合同	北京安达维尔航空设备有限公司	18	0	0	非四技合同	郑德智	第一单位

序号	项目名称	项目编号	承担单位	合作单位	研究内容	完成时间	总投入	直接费用	间接费用	主要成果	经济效益	社会效益	技术创新程度	推广应用情况	存在的问题	主要经验	下一步工作
14	系统研制	54-2957	设备有限公司	设备有限公司	基于DSP的新型信号处理系统研制	2010-12-31	75	0	0	39.7969	技术开发	郑德智	第一单位	郑德智	第一单位	郑德智	第一单位
15	医用连续输注微流量测量技术研究	54-2402	北京首科实华自动化设备有限公司	北京首科实华自动化设备有限公司	高性能实时在线密度测量系统	2010-12-31	50	0	0	技术开发	郑德智	郑德智	第二单位	郑德智	第二单位	郑德智	第二单位
16	科学研究与研究生培养共建项目—科研项目培养	30-3015	教育部	教育部	乳癌标志物试剂盒（化学发光法）	2010-12-31	14.99978	0	2	纵向	郑德智	郑德智	第一单位	郑德智	第一单位	郑德智	第一单位
17	高性能实时在线密度测量系统	32-2179	北京市委教委	长春迪瑞医疗科技股份有限公司	高性能实时在线密度测量装置	2010-12-31	97.07	20.0986	18.45582	纵向	郑德智	郑德智	第一单位	郑德智	第一单位	郑德智	第一单位
18	基于物联网的建筑热量分户计量与控制系统	54-1473	教育部	工信部：重大专项领航基金	便携式自动剥离强度测试仪制作	2010-12-31	10	0	0	技术开发	郑德智	郑德智	第一单位	郑德智	第一单位	郑德智	第一单位
19	基于物联网的建筑热量分户计量与控制系统	30-2122	教育部	中国石油天然气股份有限公司管道科技研究中心	基于物联网的建筑热量分户计量与控制系统	2010-12-31	6.99999	0	0	纵向	郑德智	郑德智	第一单位	郑德智	第一单位	郑德智	第一单位
20	组合信号自动检测仪研发	30-1886	航空基金	中国石油天然气股份有限公司管道科技研究中心	组合信号自动检测仪研发	2010-12-31	0.40917	0	0	纵向	郑德智	郑德智	第一单位	郑德智	第一单位	郑德智	第一单位
21	便携式自动剥离强度测试仪制作	54-1226	航基基金	中国石油天然气股份有限公司管道科技研究中心	便携式自动剥离强度测试仪制作	2010-12-31	17.5	0	0	技术开发	郑德智	郑德智	第一单位	郑德智	第一单位	郑德智	第一单位
22	组合信号自动检测仪研发	30-0963	空军基金	中国科学院声学研究所	组合信号自动检测仪研发	2010-12-31	7	0	0	纵向	郑德智	郑德智	第一单位	郑德智	第一单位	郑德智	第一单位
23	多元器测试系统改造	54-0704	空军基金	中国科学院声学研究所	多元器测试系统改造	2010-12-31	36.12	0	15	技术开发	郑德智	郑德智	第一单位	郑德智	第一单位	郑德智	第一单位
24	谐振式压力建量传感器动态特性研究	52-3159	国家基金	中国空气导弹研究院	谐振式压力建量传感器动态特性研究	2010-12-31	5	0	0	技术服务	张广军	张广军	第一单位	郑德智	第一单位	郑德智	第一单位
25		37-4555					20	1.5	0	纵向							

科学 技术 研究院

郑德智 您好~ 操作

2017年5月30日 星期二

退出

我的首页 个人项目 个人收入 来款信息 报销款信息

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起始年度 : 2012 起始月份 : 01 截止年度 : 2017 截止月份 : 05 是否根据年度分组

部门项目信息 : (011700)仪器科学与光电工程学院/(29201477)青年英才—郑德智

科目编号	科目名称	年初余额	借方发生	贷方发生	当前余额	链接
1213010010	985及其他专项暂付款			76,419.00	76,419.00	明细
600202	预算分配-985及其他专项预算			50,000.00	50,000.00	明细
6004	年末结转预算备查				-150,000.00	明细
5001020002-3030802	对个人和家庭的补助支出-助研费		3,100.00		3,100.00	明细
5001020002-3030804	对个人和家庭的补助支出-学生劳务		22,500.00		22,500.00	明细
5001020003-30218	日常公用支出-专用材料费		87,975.00		87,975.00	明细
5001020003-3022601	日常公用支出-劳务费		1,400.00		1,400.00	明细
5001020003-3022702	日常公用支出-试验、计算费		35,000.00		35,000.00	明细
5001020003-30239	日常公用支出-其他交通工具运行维护*		25.00		25.00	明细
项目期末余额						

共10行

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国家技术发明奖

证书

为表彰国家技术发明奖获得者，特
颁发此证书。

项目名称：高性能谐振式传感器关键技术及其
应用

获奖者：郑德智（北京航空航天大学）

奖励等级：二等



2013年12月25日

证书号：2013-F-30902-2-05-R02

为表彰在促进
科学技术进步
工作中做出重大
贡献，特颁发此
证书。

获奖项目：高性能谐振式传感器设计与实现

获奖者：郑德智（第2完成人）

奖励等级：科学技术进步奖一等奖

奖励日期：2012年02月

证书号：2011-168



获奖证书

北京航空航天大学

“磁悬浮式超低频测振传感系统” 荣获
2012中国（国际）传感器创新大赛创新设计类

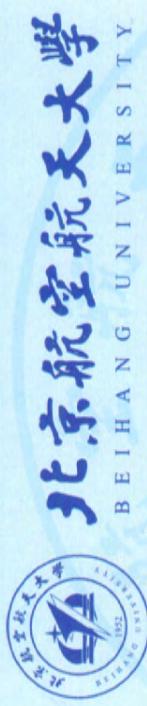
特等奖

特颁此证！

参赛队员：赵晓萌、史继颖、胡纯、刘善、樊琛、张少博、郑德智
指导教师：郭德智

证书编号：2012A001





证书

仪器科学与光电子工程学院 郑德智 老师指导的本科毕业

设计(论文) 电容式电机旋转编码器的研究

(张少博) 荣获 2012 年校级优秀论文。



2012年10月22日

荣誉证书

郑德智 老师：

荣获北京航空航天大学 2010 年度大学生学科

竞赛 “优秀指导教师” 称号。



