

MEMS 传感器、执行器与集成微系统

组织者:

申强, 西北工业大学, shenq@nwpu.edu.cn
邢朝洋, 北京航天控制仪器研究所, mems13@163.com
尹亮, 哈尔滨工业大学, yinliang2003@126.com
谢坚, 西北工业大学, xiejian@nwpu.edu.cn
周洁, 西安工业大学, zhoujie@xatu.edu.cn

摘要:

导航、制导与控制系统(GNC) 作为高端工业机器、国防武器等装备系统的核心部件要求其具有微型化、轻量化、集成化、智能化等显著的技术特征, 也成为当前乃至未来发展的重要趋势。微机电系统 (MEMS) 因其体积小、重量轻、成本低等优势成为先进 GNC 系统发展的重要技术路径,如: MEMS 惯性传感器用于实现导航系统定位、定姿等功能; MEMS 执行器用于实现制导系统运动行为; MEMS 微系统技术是实现微纳飞行器、昆虫机器人等智能无人系统的重要支撑。本专题旨在与世界范围内相关专家、学者、工程师共同展示和分享用于导航、制导的各类 MEMS 传感器、执行器及其微系统在器件设计、信号处理、系统控制等方面的基础研究与应用。

本专题论文主题包含但不限于:

- 1) MEMS 传感器与执行器;
- 2) MEMS 集成封装与微系统;
- 3) 多维 MEMS 传感器信息融合;
- 4) MEMS 测控技术;
- 5) 微型智能无人系统。

MEMS Sensors, Actuators and Integrated Microsystems

Organizers:

Prof. Qiang SHEN, Northwestern Polytechnical University, shenq@nwpu.edu.cn
Dr. Chaoyang XING, Beijing aerospace control instrument institute, mems13@163.com
Prof. Liang YIN, Harbin Institute of Technology, yinliang2003@126.com
Prof. Jian XIE, Northwestern Polytechnical University, xiejian@nwpu.edu.cn
Prof. Jie Zhou, Xi'an Technological University, zhoujie@xatu.edu.cn

Abstract:

Recently, development tendency of the Navigation, guidance and control systems (GNC) are strongly demanded with characteristics of small volume, light weight and high integration. Currently, micro-electro-mechanical System (MEMS) technology can provide an important support to advanced GNC systems because of its excellent characteristic with small volume, light weight and low cost. MEMS devices are applied in GNC including MEMS sensors for positioning and attitude determination of navigation system, MEMS actuators for motion of guidance system, and micro unmanned systems such as micro/nano aircrafts and insect-biomimetic robots. This special session aims to share the latest basic research and applications of MEMS sensors, actuators and systems for GNC systems in aspects of device design, signal processing, and system control. The topics of papers collected in this session include but are not limited to:

- 1) High-performance MEMS sensors and actuators;
- 2) MEMS integrated package and micro systems;
- 3) Information fusion of multi-dimensional MEMS sensors;
- 4) Signal processing of MEMS measurement & control technology;
- 5) Micro intelligent unmanned systems.