

目 次

• 特邀报告 •

首颗脉冲星导航试验卫星及其观测结果
.....帅 平，刘 群，黄良伟，张新源，陈绍龙，薛力军，丁强强，邓楼楼，陈建武，胡慧君（281）

• 惯性系统研究与分析 •

基于手机惯性传感器与多特征 CNN 的驾驶行为识别算法
.....谢 非，汪壬甲，沈世斌，孙 蕊，张 斌，刘锡祥（288）

一种自适应 H_∞ 滤波的运动学约束惯性导航方法
.....程向红，赵 莹，田 芸（295）

基于陀螺仪输出误差观测的冗余 INS 标定方法
.....程建华，刘 明，王振民（301）

• 组合导航技术 •

基于光纤光栅的分布式 POS 柔性基线测量方法
.....顾 宾，王 巍，孙一弘，滕梓洁（307）

基于改进强化学习的移动机器人路径规划方法
.....徐晓苏，袁 杰（314）

结合向量化和 FFT 技术的模型扰动引力快速计算
.....邢志斌，李姗姗，范 雕，张 驰，马越原（321）

基于超短基线水声定位的 USV/UUV 协同导航方法
.....胡常青，文龙贻彬，张亚婷，杨义勇（327）

室内环境下基于图优化的 UWB 定位方法
.....徐晓苏，赵北辰（334）

多无人机多目标协同侦察航迹规划算法
.....庞强伟, 胡永江, 李文广 (340)

一种 SINS/超短基线组合定位系统安装误差标定算法
.....张 涛, 翁铖铖, 李默涵, 李 瑶 (349)

基于四元数卷积神经网络的移动机器人闭环检测
.....仇 新, 张 禹, 苏晓明 (357)

室内复杂环境下多旋翼无人机动态路径规划
.....韩忠华, 毕开元, 杨丽英, 吕 哲 (366)

• 惯性仪表研究与设计 •

一种高精度光纤陀螺用光子晶体光纤设计
.....李茂春, 惠 菲, 赵小明 (373)

加工误差对陀螺电机用动压气体轴承刚度的影响
.....任天明, 冯 明, 忽敏学, 刘志宏 (378)

基于自适应参数估计的三轴磁传感器实时校正方法
.....徐 祥, 刘 铭, 曹国灿, 徐大诚 (384)

• 控制与动力学 •

带多个弹道路径点约束的扩展 MPSP 制导方法
.....李新三, 周小刚, 汪立新, 刘洁瑜, 薛 亮 (390)

基于深度卷积神经网络的 SAR 图像舰船小目标检测
.....胡昌华, 陈 辰, 何 川, 裴 洪, 张建勋 (397)

联合行稀疏与 $\ell_{1/2}$ -范数稀疏表示的红外小目标检测算法
.....孙大为, 荣长军, 信 东, 高 明, 邱瑞学, 杨东方 (406)

• 可靠性研究 •

LS-SVM 辅助的小幅值及缓变故障检测与容错方法
.....张 闯, 赵修斌, 庞春雷, 冯 波, 高 超 (415)

CONTENTS

• Special Report •

Pulsar navigation test satellite XPNAV-1 and its observation results

.....SHUAI Ping, LIU Qun, HUANG Liangwei, ZHANG Xinyuan,

CHEN Shaolong, XUE Lijun, DING Qiangqiang, DENG Loulou, CHEN Jianwu, HU Huijun (281)

• Inertial System Research and Analysis •

Detecting driving behaviors by smartphone inertial sensors based on multi-feature convolutional neural network

..... XIE Fei, WANG Renjia, SHEN Shibin, SUN Rui, ZHANG Bin, LIU Xiyang (288)

An adaptive H_∞ filtering approach for inertial navigation with motion constrained

..... CHENG Xianghong, ZHAO Ying, TIAN Yun (295)

Calibration method of redundant INS based on output error observation of gyroscope

.....CHENG Jianhua, LIU Ming, WANG Zhenmin (301)

• Integrated Navigation Technology •

Flexible baseline measurement method for airborne distributed POS based on fiber bragg grating

.....GU Bin, WANG Wei, SUN Yihong, TENG Zijie (307)

Path planning for mobile robot based on improved reinforcement learning algorithm

..... XU Xiaosu, YUAN Jie (314)

On fast computation of model disturbing gravity vectors by vectorization technique and FFT technique

..... XING Zhibin, LI Shanshan, FAN Diao, ZHANG Chi, MA Yueyuan (321)

Cooperative navigation for USV/UUV based on ultra-short baseline positioning system

..... HU Changqing, WENLONG Yibin, ZHANG Yating, YANG Yiyong (327)

Ultra wide-band positioning method based on general graph optimization in indoor environment

.....XU Xiaosu, ZHAO Beichen (334)

Path planning algorithm for multi-UAVs cooperative reconnaissance on multiple targets
..... PANG Qiangwei, HU Yongjiang, LI Wenguang (340)

Installation error calibration algorithm based on SINS/Ultra-Short baseline positioning system
.....ZHANG Tao, WENG Chengcheng, LI Mohan, LI Yao (349)

Closed-loop detection of mobile robot based on quaternion convolutional neural network
.....ZHANG Xin, ZHANG Yu, SU Xiaoming (357)

Dynamic path planning of multi-rotor unmanned aerial vehicle in indoor complex environment
..... HAN Zhonghua, BI Kaiyuan, YANG Liying, LV Zhe (366)

• Inertial Instrument Research and Design •

Optimized design of a photonic crystal fiber for high-precision FOGs
..... LI Maochun, HUI Fei, ZHAO Xiaoming (373)

Influence of machining errors on stiffness of hydrodynamic gas bearing in gyroscope motor
..... REN Tianming, FENG Ming, HU Minxue, LIU Zhihong (378)

Real-time calibration method for three-axis magnetometer based on adaptive parameter estimation
.....XU Xiang, LIU Ming, CAO Guocan, XU Dacheng (384)

• Control and Dynamics •

Guidance method by extended model predictive static programming with multiple way-points constraints
..... LI Xinsan, ZHOU Xiaogang, WANG Lixin, LIU Jieyu, XUE Liang (390)

SAR detection for small target ship based on deep convolutional neural network
.....HU Changhua, CHEN Chen, HE Chuan, PEI Hong, ZHANG Jianxun (397)

Joint row and half-norm sparse representation algorithm for infrared small target detection
..... SUN Dawei, RONG Changjun, XIN Dong, GAO Ming, QIU Ruixue, YANG Dongfang (406)

• Reliability Research •

LS-SVM assisted fault detection and tolerance method for small-amplitude fault and gradual fault
..... ZHANG Chuang, ZHAO Xiubin, PANG Chunlei, FENG Bo, GAO Chao (415)