



ISSN 1005—6734

CODEN ZGJXAP

中国惯性技术学报

Journal of Chinese Inertial Technology

美国《工程索引》(Ei Compendex) 收录刊源

2022.5

第30卷
Vol.30

第5期
No.5

2022年10月
Oct.2022

中国惯性技术学会
天津航海仪器研究所

主办

目 次

· 惯性系统研究与分析 ·

双惯导联合旋转调制光纤陀螺标度因数误差自校正方法

..... 崔加瑞, 吴文启, 马铁锋, 王茂松, 季承俊 (561)

基于深度学习与运动状态识别的车辆惯性导航方法

..... 黄凤荣, 羿博珩, 王 旭, 刘庆璘, 王文森 (569)

基于虚拟圆球法向量位置模型的航海惯导全球容错阻尼算法

..... 冯国虎, 吴文启, 曾观林 (576)

· 组合导航技术 ·

面向城市复杂环境的 GNSS/INS 高精度图优化算法

..... 韩勇强, 于潇颖, 纪泽源, 陈家斌 (582)

基于罗经/DVL/USBL 组合导航系统的 DVL 在线标定算法

..... 张 舸, 谢阳光, 伊国兴, 李学成, 王 尚 (589)

基于改进复声强法的非合作跳频信号方位估计

..... 王哲睿, 王 燕, 王逸林, 董文峰 (597)

全球/区域地形和重力异常间相干性分析

..... 范 雕, 李姗姗, 赵东明, 杨军军, 孟书宇, 范昊鹏 (604)

基于并行反向注意网络的跑道线检测

..... 白俊卿, 张文静 (609)

· 惯性仪表研究与设计 ·

基于超细径光纤的高精度光纤陀螺

..... 赵 坤, 赵小明, 左文龙, 颜 苗, 罗文勇, 刘伯晗 (615)

锁相环相位误差对半球谐振陀螺零偏影响分析与校准
..... 赵万良，夏 昕，成宇翔，杨 浩，王 伟（620）

基于多芯光纤复用技术的光纤陀螺方案
..... 杨晟旻，徐宏杰，孙胜琳，梁佳辉（626）

紧凑型压电加速度计及其在矢量水听器中的应用
..... 王文龙，姜兆祯，孙文祺，孙芹东（631）

一种基于自激励的核磁共振陀螺仪闭环控制方法
..... 岳亚洲，明泽额尔顿，雷 兴，张 昊（638）

半球谐振陀螺电路增益非对称分析及抑制方法
..... 赵万良，江文杰，张天翔，樊 琦，邵添羿（644）

基于 PSO-BP 神经网络的激光陀螺温度补偿方法
..... 张 文，王庭军，王 雷，陶 陶（652）

石英挠性加速度计温度稳定性改进设计
..... 崔 粲，聂鲁燕，李立勇，吴萌萌，宋欣萌（658）

冷原子干涉仪激光控制系统集成化设计及其在重力测量中的应用
..... 陈玮婷，孔德龙，裴 闯，王杰英，韦俊新，赵小明（666）

液浮陀螺仪在双轴离心机上的标定方法
..... 孙英博，任顺清，王常虹（674）

检测信号非线性引起的全角半球谐振陀螺漂移模型
..... 徐睿东，郜中星，南方伯，韩莹冰，张勇刚（683）

· 控制与动力学 ·

利用加速度信号重构位置反馈的振动控制方法
..... 李金辉，朱会杰，赵洪涛，孟兆海（690）

· 测试技术与设备 ·

基于光电跟踪的火炮轴线空间角测量方法
..... 李国栋，张 勇，张 奎（695）

CONTENTS

• Inertial System Research and Analysis •

Self-calibration of scale factor error for fiber optic gyroscope based on joint rotation modulation method of dual INS

..... CUI Jiarui, WU Wenqi, MA Tiefeng, WANG Maosong, JI Chengjun (561)

Vehicle inertial navigation method based on deep learning and motion constraints

..... HUANG Fengrong, YI Boheng, WANG Xu, LIU Qinglin, WANG Wensen (569)

Global fault tolerant damping method of marine inertial navigation based on virtual spherical n-vector model

..... FENG Guohu, WU Wenqi, ZENG Guanlin (576)

• Integrated Navigation Technology •

The high-precision factor graph optimization algorithm of GNSS/INS for urban complex environment

..... HAN Yongqiang, YU Xiaoying, JI Zeyuan, CHEN Jiabin (582)

An online calibration algorithm of DVL based on Compass/ DVL/ USBL integrated navigation system

..... ZHANG Ge, XIE Yangguang, YI Guoxing, LI Xuecheng, WANG Shang (589)

Azimuth estimation of non-cooperative frequency hopping signals based on improved complex sound intensity method

..... WANG Zherui, WANG Yan, WANG Yilin, DONG Wenfeng (597)

Coherency analysis between global/regional topography and gravity anomaly

..... FAN Diao, LI Shanshan, ZHAO Dongming, YANG Junjun, MENG Shuyu, FAN Haopeng (604)

Runway line detection based on parallel reverse attention network

..... BAI Junqing, ZHANG Wenjing (609)

• Inertial Instrument Research and Design •

High precision fiber optic gyroscope based on ultra-thin fiber

..... ZHAO Kun, ZHAO Xiaoming, ZUO Wenlong, YAN Miao, LUO Wenyong, LIU Bohan (615)

Analysis and calibration of the effect of phase-locked loop phase error on the bias of hemispherical resonant gyroscope

..... ZHAO Wanliang, XIA Xin, CHENG Yuxiang, YANG Hao, WANG Wei (620)

Design scheme of fiber optic gyroscope based on multi-core fiber multiplexing technology

..... YANG Shengmin, XU Hongjie, SUN Shenglin, LIANG Jiahui (626)

A compact piezoelectric accelerometer and its application in vector hydrophones

..... WANG Wenlong, JIANG Zhaozhen, SUN Wenqi, SUN Qindong (631)

A closed-loop control method for nuclear magnetic resonance gyroscope based on self-excitation

..... YUE Yazhou, MINGZE Erdun, LEI Xing, ZHANG Hao (638)

Asymmetric analysis and suppression method of gain of hemispherical resonant gyro circuit

..... ZHAO Wanliang, JIANG Wenjie, ZHANG Tianxiang, FAN Qi, SHAO Tianyi (644)

Temperature compensation method of laser gyroscope based on PSO-BP neural network

..... ZHANG Wen, WANG Tingjun, WANG Lei, TAO Tao (652)

Improved design for temperature stability of quartz flexible accelerometer

..... CUI Can, NIE Luyan, LI Liyong, WU Mengmeng, SONG Xinmeng (658)

Integrated design of the laser control system in cold atom interferometer and its application in gravity measurement

CHEN Weiting, KONG Delong, PEI Chuang, WANG Jieying, WEI Junxin, ZHAO Xiaoming (666)

A calibration method of the floated gyroscope based on the dual-axis centrifuge

..... SUN Yingbo, REN Shunqing, WANG Changhong (674)

Whole-angle hemispherical resonator gyroscope drift model caused by nonlinear detection

..... XU Ruidong, GAO Zhongxing, Nan Fangbo, HAN Yingbing, ZHANG Yonggang (683)

▪ Control and Dynamics ▪

A vibration control method using acceleration signals to reconstruct position feedback

..... LI Jinhui, ZHU Huijie, ZHAO Hongtao, MENG Zhaohai (690)

▪ Test Technology and Equipment ▪

Measurement method of artillery axis space angle based on photoelectric tracking

..... LI Guodong, ZHANG Yong, ZHANG Xi (695)