

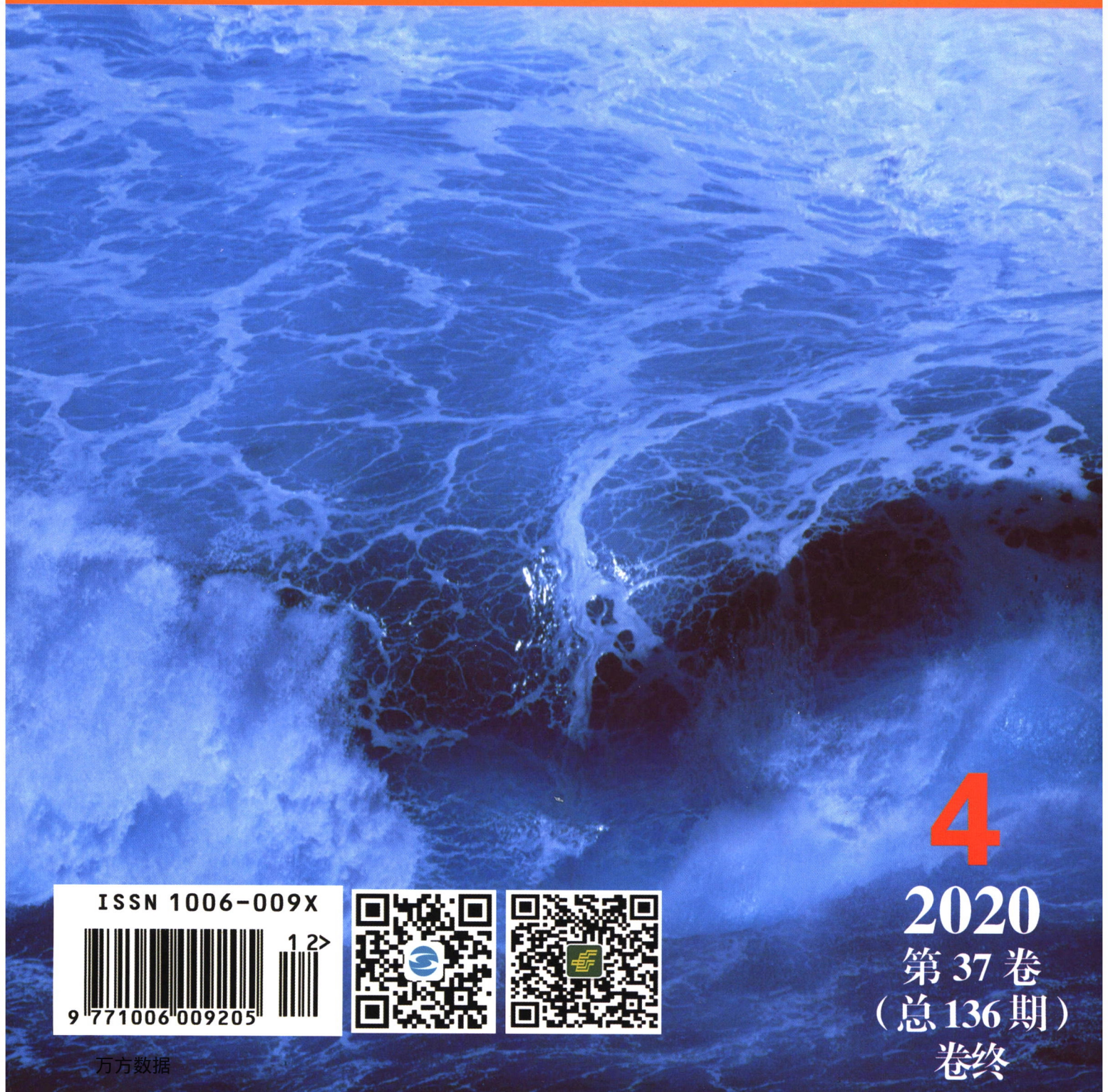


ISSN 1006-009X
CN 22-1135/TH

气象水文海洋仪器

主办单位：中国仪器仪表学会气象水文海洋仪器分会 长春气象仪器研究所

METEOROLOGICAL, HYDROLOGICAL AND MARINE INSTRUMENTS



4

2020
第37卷
(总136期)
卷终



万方数据

气象水文海洋仪器

第 37 卷 第 4 期 (总第 136 期) 2020 年 12 月

目 次

研究与探讨

基于 CFD 仿真的海床基防掩埋技术研究	林梅辉	(1)
冻土自动观测仪性能比对分析	胡树贞, 刘志刚, 吴东丽, 等	(4)
校准能见度仪用 2700 K 黑体色温光谱模拟方法研究	张 健, 孙继亮, 张国玉, 等	(8)
冀中南核桃花期低温冻害概率模型研究	徐 爽, 施海瑞, 孙东磊, 等	(11)
毕节市暴雨时空分布特征分析	杨 洋, 柯莉萍, 聂 祥, 等	(16)
江西东部走廊地形对冷空气风场的影响	郑丽君, 马中元, 骆云峰, 等	(19)
江西省副热带高压热雷雨气象要素特征分析	张晓芳, 马中元, 陈鲍发, 等	(24)
鹰潭雷电天气回波演变与移动路径分析	戴震天, 马中元, 陈鲍发, 等	(27)
庐山气象观测站夏季主导风向偏差统计及成因分析	闻春华	(31)
津南国家气象观测站观测资料序列分析	张 禄, 吴 洋, 赵 玥, 等	(36)
昌北机场能见度仪探测数据对比分析	张 顺, 胡 洋, 周 雨	(39)
TCYI 1 型酸雨自动观测系统采样及测量性能分析	孟 磊, 张龙斌, 李 晋, 等	(42)
暗筒式日照计与 FS-RZ1 型光电式自动日照仪对比分析	何 欢, 赵碧云, 胡仲殊, 等	(45)
气象计量标准装置期间核查方法研究	陈 平	(48)

设计与应用

X 波段双极化相控阵天气雷达的防雷设计	陈景荣, 李文飞, 黄春生	(50)
船载 ADCP 在深海潜标布放中的应用	陈 钊, 魏传杰, 陈 磊, 等	(55)
新一代天气雷达数据流传输监控方法与实现	陈 澍, 李 丹, 孟 全, 等	(58)
国家级地面气象观测站设备监控系统设计与实现	李艳萍, 陶 伟, 陈为超, 等	(62)
肇庆国家天气雷达站塔楼综合防雷整改应用	黄 雷, 梁裕昌, 姚登鑫	(66)
毕节市气象设备维修资料检索系统的设计与实现	龚雪鹏, 周恒超, 陈焰捷, 等	(70)
省级气象计量信息管理服务平台的设计与应用	赵泉钦, 杨 敏, 邹 超, 等	(73)
基于 MOXA NPort S8458 的自动气象观测系统数据传输方案	刘晓明	(77)
天气雷达远程水平定标的设计与实现	蒲晓勇, 程昌玉, 李 俊	(80)
智能电力监控 PIOMS 系统在东北区域气象中心的应用	刘振宏, 苗传海, 郭宗凯, 等	(82)
增强现实技术在气象业务中的应用	蔡英琪, 张志坚, 胡 鹏	(84)

综述

国外气象海洋空间天气卫星发展综合分析	孙 姣, 杜晓勇, 姜明波, 等	(87)
拖曳式海洋多参数观测系统与传感器	贾文娟, 李红志, 闫晨阳	(92)
激光测风雷达监测低空风切变研究进展	赵文凯, 单雨龙, 赵世军	(97)

维修与维护

天气雷达异常产品图像识别处理	胡利军, 杨 豪, 高爱臻	(101)
气象会商系统常见故障分析与处理	胡祖权, 王永明, 吴凤莹	(105)
DSC1 称重式降水传感器安装调试及故障维修	吴 瑾, 曹兴锋, 李翠华, 等	(108)
湖南省自动气象站故障统计分析	李建宇, 常 硕, 王建波, 等	(111)
DFC2 光电式数字日照计的安装及维护	肖 路, 金之川, 袁乙木, 等	(115)
区域自动气象站 4G 通信系统升级过程故障分析	符文雄, 张凯涛, 陈晓维	(118)
德鲁克技术在气象行业中的应用		(扉一)
德鲁克 PACE 压力控制器		(扉二)
征稿简则		(91)

Meteorological, Hydrological and Marine Instruments

Vol. 37 No. 4 (Sum 136) Dec. 2020

Contents

Research and Discussion

- Research on anti burying technology of seabed base based on CFD simulation Lin Meihui (1)
- Performance comparison analysis of frozen soil automatic observation instrument Hu Shuzhen, Liu Zhigang, Wu Dongli, et al. (4)
- Research on 2700 K blackbody color temperature spectral simulation method for calibrating visibility meter
..... Zhang Jian, Sun Jiliang, Zhang Guoyu, et al. (8)
- Study on probability model of low temperature freezing damage of walnut flowering period in central and southern Hebei
..... Xu Shuang, Shi Hairui, Sun Donglei, et al. (11)
- Analysis on spatial and temporal distribution characteristics of Bijie heavy rain Yang Yang, Ke Liping, Nie Xiang, et al. (16)
- Influence of topography on cold air wind field in Jiangxi eastern corridor Zheng Lijun, Ma Zhongyuan, Luo Yunfeng, et al. (19)
- Analysis on meteorological elements of subtropical high thermal thunderstorm in Jiangxi province
..... Zhang Xiaofang, Ma Zhongyuan, Chen Baofa, et al. (24)
- Analysis of lightning weather echo evolution and moving path in Yingtan Dai Zhentian, Ma Zhongyuan, Chen Baofa, et al. (27)
- Statistics and cause analysis of wind direction deviation of Lushan meteorological observatory station in summer
..... Wen Chunhua (31)
- Sequence analysis for observation data of Jinnan national meteorological observation station
..... Zhang Lu, Wu Yang, Zhao Yue, et al. (36)
- Comparative analysis for visibility detection data of Changbei airport Zhang Shun, Hu Yang, Zhou Yu (39)
- Analysis of sampling and measurement performance for TCYI 1 automatic acid rain observation system
..... Meng Lei, Zhang Longbin, Li Jin, et al. (42)
- Comparison and analysis between dark tube sunshine meter and FS-RZ1 photoelectric automatic sunshine meter
..... He Huan, Zhao Biyun, Hu Zhongshu, et al. (45)
- Research on the method of checking meteorological measurement standard device during the period Chen Ping (48)

Design and Application

- Lightning protection design of X-band dual-polarization phased array weather radar
..... Chen Jingrong, Li Wenfei, Huang Chunsheng (50)
- Application of shipborne ADCP in the deep-sea submersible buoy deployment Chen Zhao, Wei Chuanjie, Chen Lei, et al. (55)
- Monitoring methods and realization for data stream transmission of new generation weather radar
..... Chen Shu, Li Dan, Meng Jin, et al. (58)
- Design and implementation for equipment monitoring system of state-level ground meteorological observatory
..... Li Yanping, Tao Wei, Chen Weichao, et al. (62)
- Rectification and application of comprehensive lightning protection of Zhaoqing national weather radar station tower
..... Huang Lei, Liang Yuchang, Yao Dengxin (66)
- Design and implementation of meteorological equipment maintenance data retrieval system in Bijie city
..... Gong Xuepeng, Zhou Hengchao, Chen Yandu, et al. (70)
- Design and application of provincial meteorological measurement information management service platform
..... Zhao Quanqin, Yang Min, Zou Chao, et al. (73)
- Data transmission scheme of automatic weather observation system based on MOXA NPort S8458 Liu Xiaoming (77)
- Design and implementation of weather radar remote horizontal calibration Pu Xiaoyong, Cheng Changyu, Li Jun (80)
- Application of intelligent power monitoring system PIOMS in northeast regional meteorological center
..... Liu Zhenhong, Miao Chuanhai, Guo Zongkai, et al. (82)
- Application of augmented reality technology in meteorological service Cai Yingqi, Zhang Zhijian, Hu Peng (84)

Summary

- Comprehensive analysis on the development of meteorological ocean space weather satellites abroad
..... Sun Jiao, Du Xiaoyong, Jiang Mingbo, et al. (87)
- Ship-towed multi-parameter oceanographic observation system and sensors Jia Wenjuan, Li Hongzhi, Yan Chenyang (92)
- Research progress of low-level wind shear detection by laser radar Zhao Wenkai, Shan Yulong, Zhao Shijun (97)

Maintenance and Repair

- Recognition and processing for abnormal product images of weather radar Hu Lijun, Yang Hao, Gao Aizhen (101)
- Analysis and treatment for common faults of meteorological consultation system Hu Zuquan, Wang Yongming, Wu Fengying (105)
- Installation process and troubleshooting of DSC1 weighing precipitation sensor Wu Jin, Cao Xingfeng, Li Cuihua, et al. (108)
- Statistical analysis for faults of automatic weather station in Hunan province Li Jianyu, Chang Shuo, Wang Jianbo, et al. (111)
- Installation and maintenance of DFC2 photoelectric digital sunshine meter Xiao Lu, Jin Zhichuan, Yuan Yimu, et al. (115)
- Fault analysis for 4G communication system upgrade process of regional automatic weather station
..... Fu Wenxiong, Zhang Kaitao, Chen Xiaowei (118)

(英文编辑:王明蕊)

- ☆ 中国知网收录期刊
- ☆ 中国学术期刊（光盘版）收录期刊
- ☆ 中文科技期刊数据库收录期刊
- ☆ 万方数据库收录期刊
- ☆ 入选中国科协精品科技期刊示范项目

气象水文海洋仪器
Qixiang Shuiwen Haiyang Yiqi

季刊 1984年创刊
第37卷第4期（总136期）卷终
2020年12月

**Meteorological, Hydrological
and Marine Instruments**

Quarterly, started in 1984
Vol.37 No.4 (Sum 136) End of Volume
December 2020

主管单位: 中国科学技术协会
主办单位: 中国仪器仪表学会
气象水文海洋仪器分会
长春气象仪器研究所
主 编: 王启万
主 任: 王明蕊
副主编: 吴 展 李 清 赵玉兰
出版发行: 《气象水文海洋仪器》编辑部
地 址: 吉林省长春市北湖科技开发区
雅安路1888号 130102
电 话: 13943195552
E-mail: qxswwhybjb@sina.com
网 址: www.qxswwhy.com
印 刷: 长春市现代印务有限公司

Superintended by: China Science Technology Association
Sponsored by: Meteorological, Hydrological and
Marine Instruments Branch of China
Instrumentation Institute,
Changchun Meteorological
Instrument Research Institute
Editor-in-Chief: Wang Qiwan
Director: Wang Mingrui
Associate Editor: Wu Zhan Li Qing Zhao Yulan
Published by: Editorial Board of Meteorological,
Hydrological and Marine Instruments
Addr: No.1888 Ya'an Road, Beihu Science and Technology Development
District, Changchun City, Jilin Province 130102, China
Tel: 13943195552
E-mail: qxswwhybjb@sina.com
http: //www.qxswwhy.com
Printed by: Changchun Xiandai Printing Business
Limited Company

中国标准连续出版物号 ISSN1006-009X
CN22-1135/TH

邮发代码 12-395

定价 25.00元/期
100.00元/年