



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

气象水文海洋仪器

第三十五卷

第三期

二〇一八年九月

3

2018

第35卷

(总127期)

ISSN 1006-009X



万方数据

# 气象水文海洋仪器

第 35 卷 第 3 期 (总第 127 期) 2018 年 9 月

## 目 次

### 研究与探讨

- 基于固态体制的气象雷达补盲方法研究 ..... 郝立勇, 程张凡 (1)
- 风廓线雷达数据处理过程及产品质量控制介绍 ..... 杜言霞, 陈州川, 吴勇凯, 等(4)
- 散射通信设备用于气象雷达数据传输验证 ..... 高启学, 郭晨 (9)
- 结合雷达回波分析区域站降水仪运行情况 ..... 胡景波, 邱杰, 王磊 (12)
- 北京一次降雪过程雨滴谱仪的现象识别 ..... 尹佳莉, 常晨, 李林, 等(16)
- 基于物联网的分布式自动气象站现场核查技术研究 ..... 邹超, 张正, 赵泉钦, 等(20)
- 区域自动气象站蓄电池亏电判别方法研究——以 CAWS600-R(T) 型站点为例  
..... 姜明, 党岳, 李文博, 等(25)

### 设计与应用

- 气象辐射用太阳模拟器组合聚光镜设计 ..... 张燃, 张国玉, 梁婧, 等(31)
- 基于线性插值多点高精度水温传感器系统设计 ..... 吴玉尚, 杨祥龙, 张可可, 等(36)
- 多旋翼无人飞行器在气象业务中的应用 ..... 王洋, 孙姣, 刘羿, 等(40)
- 北斗通信在石油平台气象站的设计及应用 ..... 李晓波, 郭玉洁, 崔明, 等(43)
- 江苏地区激光雷达网络在一次沙尘天气过程中的应用分析 ..... 周红根, 陈玉宝, 马娜, 等(48)
- 机场多普勒天气雷达三维显示系统 ..... 范大伟, 张利平, 张茜, 等(55)
- 一套适合无人值守雷达远程监控系统的综合设计 ..... 陈利芳, 张初江, 杨小明 (61)
- 实时日志分析系统在河南气象信息化中的应用 ..... 王立柱, 朱茜 (65)
- 浅谈区域气象站温度计量检定标校仪系统软件的开发与应用 ..... 李丹, 李毅聪, 李嫦, 等(70)
- 市级气象数据中心容灾体系设计 ..... 许皓皓, 胡利军 (75)
- WP3103 型区域自动气象站故障告警算法的设计与实现 ..... 蔡立青, 唐凯 (80)

### 维护与维修

- 重庆国家地面天气站故障维修研究 ..... 余德亮, 黄兆富, 蒋涌, 等(83)
- 区域自动气象站异常现象处理方法和维修事项 ..... 徐瑾薇 (87)
- 乌鲁木齐地窝堡机场 AWOS 典型故障及维修 ..... 曹敦波, 范大伟, 王雪文, 等(91)
- DSG4 型降水现象仪的结构及故障处理方法 ..... 肖路, 袁乙木, 李懋 (96)
- DZN3 自动土壤水分观测仪的故障诊断及维护维修 ..... 陈宁, 彭军, 蔡明, 等(100)
- DZZ5 型无人值守气候站双路通信故障分析与对策建议 ..... 蒋辉, 李艳 (105)

### 综述

- 气象综合观测系统运行监控业务信息化评估 ..... 李峰 (109)
- 推进标准化区域气象站的社会化保障 ..... 吴丹晖, 周红根, 张道远, 等(116)
- OI China 青岛国际海洋技术与工程装备展览会 (一) ..... (扉一)
- OI China 青岛国际海洋技术与工程装备展览会 (二) ..... (扉二)
- 2018 中国青岛国际海洋科技展览会 ..... (扉三)
- 第十一届中国气象科技与水文技术装备展 ..... (扉四)
- 征稿简则·万方数据 ..... (79)

# Meteorological ,Hydrological and Marine Instruments

Vol.35 No.3 (Sum 127) Sep. 2018

## Contents

### Research and Discussion

- Study on blind method of meteorological radar based on solid state system ..... Hao Liyong ,Cheng Zhangfan ( 1 )
- Introduction for wind profiler radar data processing and product quality control  
..... Du Yanxia ,Chen Zhouchuan ,Wu Yongkai ,et al.( 4 )
- Verification on meteorological radar data transmission by scattering communication equipment ..... Gao Qixue ,Guo Chen ( 9 )
- Analysis on operation condition of precipitation instrument of regional station based on radar echo  
..... Hu Jingbo ,Qiu Jie ,Wang Lei (12 )
- Phenomenon identification of raindrop spectrometer in a snowfall process in Beijing ..... Yin Jiali ,Chang Chen ,Li Lin ,et al.(16 )
- Field calibration technology for distributed automatic weather station based on internet of things  
..... Zou Chao ,Zhang Zheng ,Zhao Quanqin ,et al.(20 )
- Discrimination methods of battery power loss in regional automatic weather station—Taking CAWS600-R(T) station as an example  
..... Jiang Ming ,Dang Yue ,Li Wenbo ,et al.(25 )

### Design and Application

- Design on composite condenser of solar simulator for meteorological radiation ..... Zhang Ran ,Zhang Guoyu ,Liang Jing ,et al.(31 )
- System design for multipoint high precision water temperature sensor based on linear interpolation  
..... Wu Yushang ,Yang Xianglong ,Zhang Keke ,et al.(36 )
- Application of multi-rotor unmanned aerial vehicle in meteorological service ..... Wang Yang ,Sun Jiao ,Liu Yi ,et al.(40 )
- Design and application of Beidou satellite communication in weather station built on oil platform  
..... Li Xiaobo ,Guo Yujie ,Cui Ming ,et al.(43 )
- Application analysis of lidar network in a dust storm over Jiangsu province ..... Zhou Honggen ,Chen Yubao ,Ma Na ,et al.(48 )
- A 3D display system of airport Doppler weather radar ..... Fan Dawei ,Zhang Liping ,Zhang Qian ,et al.(55 )
- Synthesized design on a remote monitoring system for unmanned radar ..... Chen Lifang ,Zhang Chujiang ,Yang Xiaoming (61 )
- Application of real-time log analysis system in Henan meteorological informatization ..... Wang Lizhu ,Zhu Qian (65 )
- Development and application of software system for temperature metrological verification and calibration instrument in regional weather station ..... Li Dan ,Li Yicong ,Li Chang ,et al.(70 )
- Design on disaster tolerant system in municipal meteorological data center ..... Xu Haohao ,Hu Lijun (75 )
- Design and implementation of fault alarm algorithm for WP3103 regional meteorological automatic station  
..... Cai Liqing ,Tang Kai (80 )

### Maintenance and Repair

- Research on fault maintenance of national ground weather station in Chongqing ... Yu Deliang ,Huang Zhaofu ,Jiang Yong ,et al.(83 )
- Treatment methods and maintenance issues for the abnormal phenomena of regional automatic weather station ..... Xu Jinwei (87 )
- Typical malfunctions and maintenance of AWOS at Urumqi Diwobao airport ..... Cao Dunbo ,Fan Dawei ,Wang Xuewen ,et al.(91 )
- Structure and fault treatment method of DSG4 precipitation weather phenomenon instrument ..... Xiao Lu ,Yuan Yimu ,Li Mao (96 )
- Fault diagnosis and maintenance of DZN3 automatic soil moisture observator ..... Chen Ning ,Peng Jun ,Cai Ming ,et al.(100 )
- Fault analysis and countermeasures for two ways communication of DZZ5 unattended climate station ..... Jiang Hui ,Li Yan (105 )

### Summary

- Evaluation on operation monitoring business informatization of meteorological integrated observation system ..... Li Feng (109 )
- Advancing the socialization support of standardized regional weather station  
..... Wu Danhui ,Zhou Honggen ,Zhang Daoyuan ,et al.(116 )