ISSN 1671-6345
CN 11-2374/P

气象科技

METEOROLOGICAL SCIENCE AND TECHNOLOGY

第42卷 第5期 Vol. 42 No. 5

5
2014

ISSN 1671-6345
9 771671 634023 10>

中国气象局气象探测中心
中国气象科学研究院
北京市气象局
国家卫星气象中心
国家气象信息中心
主办

万方数据

METEOROLOGICAL SCIENCE AND TECHNOLOGY

Vol. 42 No. 5 2014

CONTENTS

Atmospheric Sounding and Information Technology

Error Analysis of Automatic Soil Moisture Observation Data ····· Wang Liangyu, ZhangYanhong, Cheng Lu (731)
Comparative Analysis of Microwave Radiometer and Radiosonde Data ····· Zhang Wengang, Xu Guirong, Yan Guopao, Li Nan, Huang Zhiyong, Feng Guangliu (737)
Characteristics of Temperature inside and outside Thermometer Shelter in Changsha in Summer ····· Chen Zhaohui, Fan Yu (742)
Algorithm Improvement and Quality Validation of Operational FY3A/VIRR SST Product ····· Wang Sujuan, Cui Peng, Ran Maonong, Lu Feng (748)
Improvement of Wind Measurement Algorithm for L-Band Upper-Air Meteorological Sounding System ····· Liang Jianping, Li Yuzhong, Li Jiebo, Wei Liying, Qin Xiaoling, Liu Xu, Liang Keyan (753)
Code Design of Meteorological Equipment Life Cycle Automatic Tracking ····· Du Jianping, Ren Jie (759)
CC2530-Based Design of Intelligent Temperature Sensor Nodes ····· Gong Na, Zhang Sujuan, Lei Yong, Cao Xiaozhong (764)
Development and Test of Automatic Rain Sensor Calibrator ····· Wang Min, Wei Genbao, Zhou Changwen, Zhu Lekun, Gu De (769)
Uncertainty Evaluation of Measurements from Double-Tipping-Bucket Raingauges ····· Han Guanglu, Bian Wenchao, Sun Yan, Ren Yan (773)
Analyzing and Disposing of Encoder Faults for New Generation Weather Radar ····· Guo Zeyong, Zeng Guangyu, Wu Shaofeng, Hu Weifeng, Luo Yeyong, Ye Zongyi (777)
Analysis and Processing of Elevation Data Gaps in CINRAD Radar Products ····· Wu Shaofeng, Ao Zhenlang, Xiao Liusi, Lei Weiyan (782)
Intensive Management of Meteorological Terminals Based on Virtualized Cloud Platform ····· Jiang Caiying, Guo Xiaojia, Xie Dan, Li Lin (785)
Construction of Semantics-Based Meteorological Information Retrieval System ····· Wang Lei, Gu Daquan, Hou Taiping, Zhang Xueyan, Li Guanlin (790)
Automatic Processing Technology of Meteorological TV Media Service ····· Zhang Jiachun, Xie Qijie, Rao Zaoxin, Wen Jichang, Chen Lin (795)
Design and Application of Meteorological Disaster Early Warning Release System Based on Beidou Satellite Technology ····· Li Haisheng, Cao Zhiyu, He Shanshan, Zhou Guozhu (799)
Design and Development of a Severe Weather Monitoring and Warning Platform ····· Yan Lifeng, Zhou Xuesong, Wu Wei, Huang Benfeng (804)
Rainfall Monitoring and Analysis System for Yangtze River Catchment and Key Techniques ····· Yang Daicai, Qin Yunlong, Yang Weifa, Zhang Bingsong (811)
Design and Implementation of a Snowstorm Forecast System ····· Zhang Xinyi, Zhou Xiaoyu, Liu Yiyan, Lin Lihua (818)

Weather & Climate and Numerical Forecasting

Assimilation of Retrieved Winds from Single Doppler Radar over Low-Latitude Plateau ····· Li Huahong, Cao Jie, Wang Man, Hu Juan, Min Ying (823)
Verification and Assessment of Forecasting Performance of General Circulation Systems in Inner Mongolia by T639 and EC Model Products ····· Xun Xueyi, Meng Xuefeng, Wang Xueqiang, Hu Yinghua, Jin Yingchun, Zhao Fei, Tuo Yanjun, Zhang Xu (832)
Quality Test of Refined Guidance SCMOC Temperature Prediction in Shaanxi Province ····· Wang Dan, Gao Hongyan, Ma Lei, Wang Jianpeng, Yang Xin (839)
Characteristics and Forecasting of Strong Wind Gusts in Bohai Bay ····· Zhao Jinxia, Qu Ping, He Zhiqiang, Xu Changyi (847)
Characteristics of Temperature Variation in Beijing Urban Area ····· Hu Baokun, Dou Yiwen, Chu Wei (852)
Spatial and Temporal Characteristics of a Summer Rainstorm in 2012 in Beijing ····· You Huanling, Ren Guoyu, Wu Fang, Liu Weidong, Yang Ping (856)
Characteristics of Precipitation Structure and Lightning Activities during a Thunderstorm Process ····· Su Kexue, Feng Guili, Li Bolan (865)
Causal Analysis of a Late-Spring Snowstorm in Shandong Province ····· Liu Chang, Yang Chengfang, Zhang Shaolin, Zhang Hongsheng, Han Yongqing (874)

Applied Meteorology and Scientific Experiments

Observational Experiment on Effect of Obstacles on Wind Speed and Wind Direction ····· Tian Dongxia, Guo Jianxia, Chen Ting, Guan Yanhua, Liu Wenzhong, Yang Binyun, Xue Zhengzheng (881)
Experimental Research on Effect of Soil Texture on Fitting Parameters of FDR Moisture Sensors ····· Chen Haibo, Ye Linmao (888)
Design of Aircraft Cloud Microphysical Detection in Henan ····· Huang Yimei, Pu Jiangping, Shao Zhenping, Bao Xiangdong (893)
Comprehensive Observation and Analysis of an Artificial Rainfall Operation in Convective-Stratiform Mixed Clouds ····· Zhang Zhongbo, Qiu Caixing, Wang Zhiping, Jiang Yuanhua, Tang Lin (897)
Adverse Effects of Separate Lightning Rods and Relief Methods ····· Bao Bingsheng, Liao Bijun, Yang Anliang (906)
Design of Lightning Protection Devices under High Soil Resistivity ····· Li Ping, Cai Hezhang, Ma Xiuyu, Zhang Quanfeng, Gong Wei (912)
Magnetic Field Intensity Analysis in Lightning Protection Zone of Elevator Machine Room for High-Rise Buildings and Defense Technology ····· Zhang Juan, Lin Zhuohong, Yan Jinfang (918)
Trends of Precipitation Acidity at Guangzhou from 1992 to 2012 ····· Wang Zhichun (922)
Polymerization Technique for User-Defined Transportation Meteorological Map Service ····· Jiao Shengming, Guo Jing, Zhu Yuying, Yuan Chengsong, Bao Yunxuan (928)
Relationship between Weather and Road Traffic Safety in Zhangjiagang ····· Ding Lei, Meng Xiangfei, Xie Jie, Lu Jingbo (934)
Analysis of Climatic Conditions for Constructing Ski Resort ····· Xu Qihui, Fan Yinqi, Yu Changwen, Liu Jinping (938)
Climatological Quality Certification Scheme for Spring Longjing Tea Production ··· Lou Weiping, Wu Lihong, Sun Ke, Yao Yiping (945)

ISSN 1671-6345
CN 11-2374/P

电话：(010)68407256

http://www.qxkj.net.cn
Email：qxkj@cams.cma.gov.cn

定价：20.00元

出版：2014年10月

万方数据

《气象科技》第4届
编审委员会

顾　问：周秀骥　丑纪范
李泽椿　许健民
陈联寿　丁一汇

主　编：徐祥德　王晓云

副主编：李　柏　张人禾
王建捷　赵立成
卢乃锰　曹晓钟
曾晓梅（专职）

编审委员会委员

（以汉语拼音为序）：

毕宝贵　卞林根　陈忠明
端义宏　高守亭　胡　非
李维京　刘黎平　刘奇俊
刘式适　马舒庆　毛节泰
沈建国　沈文海　师春香
孙　力　汤　洁　陶祖钰
万玉发　王春乙　王　辉
王石立　王迎春　王振会
魏凤英　吴　兑　肖子牛
姚展予　张义军　赵　平
朱国富　朱小祥

特邀编委

（以汉语拼音为序）：

常国刚　杜继稳　冯建民
假　拉　柯怡明　李春虎
林新彬　马　力　裴　浩
权循刚　孙安平　孙永罡
汤　绪　汤筑强　汪扩军
王江山　韦力行　魏文寿
吴岩峻　谢　璞　薛根元
杨　明　姚学祥　于　波
余　勇　翟武全　张洪涛
张书余　赵国强　朱其文
左　雄

气象科技
QIXIANG KEJI
（双月刊，1973年创刊）

主管单位：中国气象局
编辑出版：《气象科技》编辑部
北京市海淀区中关村
南大街46号，100081
印刷装订：北京永峥印刷有限
责任公司

气　象　科　技

METEOROLOGICAL SCIENCE AND TECHNOLOGY
2014年　第42卷　第5期（总第246期）

目　次

大气探测与信息技术
自动土壤水分观测资料应用误差分析 …… 王良宇　张艳红　程路(731)
微波辐射计与探空仪测值对比分析 …… 张文刚　徐桂荣　颜国跑　李南　黄治勇　冯光柳(737)
长沙市夏季百叶箱内外温度特征 …… 陈朝晖　范昱(742)
FY3A/VIRR海面温度业务产品算法改进与质量检验 …… 王素娟　崔鹏　冉茂农　陆风(748)
L波段高空气象探测系统测风算法改进探讨 …… 梁建平　李宇中　黎洁波　韦丽英　覃晓玲　刘旭　梁科炎(753)
气象装备全寿命自动跟踪编码设计 …… 杜建苹　任杰(759)
基于CC2530的智能温度传感器节点设计 …… 巩娜　张素娟　雷勇　曹晓钟(764)
雨量传感器全自动校准仪研制与测试 …… 王敏　魏根宝　周昌文　朱乐坤　古德(769)
双翻斗雨量传感器测量数据不确定度评定 …… 韩广鲁　边文超　孙嫣　任燕(773)
新一代天气雷达轴角盒故障的分析处理 …… 郭泽勇　曾广宇　吴少峰　胡伟峰　罗业永　叶宗毅(777)
CINRAD雷达产品"缺角"现象分析及处理 …… 吴少峰　敖振浪　肖柳斯　雷卫延(782)
基于虚拟化云平台的气象终端集约化管理 …… 江彩英　郭晓佳　谢丹　李霖(785)
基于语义的气象信息检索系统的构建 …… 王磊　顾大权　侯太平　张雪艳　李冠林(790)
气象电视传媒服务技术的自动化处理 …… 张加春　谢启杰　饶灶鑫　温继昌　陈琳(795)
基于北斗卫星的气象灾害预警发布系统设计和应用 …… 李海胜　曹之玉　贺姗姗　周国柱(799)
灾害性天气监测预警平台设计与开发 …… 阎丽凤　周雪松　吴炜　黄本峰(804)
长江流域雨情监测分析系统及其关键技术 …… 杨代才　秦运龙　杨维发　张冰松(811)
湖北省黄石市暴雪预报系统设计与实现 …… 张新宜　周晓宇　刘熠炎　林丽华(818)

天气气候与数值预报
单多普勒天气雷达反演风场高原低纬区域同化应用 …… 李华宏　曹杰　王曼　胡娟　闵颖(823)
T639和EC模式对内蒙古主要天气系统的预报性能检验 …… 荀学义　孟雪峰　王学强　胡英华　金迎春　赵斐　拓彦军　张旭(832)
SCMOC温度精细化指导预报在陕西区域的质量检验 …… 王丹　高红燕　马磊　王建鹏　杨新(839)
渤海湾大风的特征及其预报 …… 赵金霞　曲平　何志强　徐长义(847)
北京城区气温变化特征 …… 胡保昆　窦以文　储伟(852)
北京"7·21"特大暴雨过程时空特征解析 …… 尤焕苓　任国玉　吴方　刘伟东　杨萍(856)
雷暴天气过程中降水结构与闪电活动特征个例研究 …… 苏科学　冯桂力　李波兰(865)
一次晚春暴雪天气成因分析 …… 刘畅　杨成芳　张少林　张洪生　韩永清(874)

应用气象与科学试验
障碍物对风速风向影响的观测试验 …… 田东霞　郭建侠　陈挺　关彦华　刘文忠　杨彬云　薛筝筝(881)
土质对FDR水分传感器拟合参数影响的试验研究 …… 陈海波　冶林茂(888)
河南省人工增雨飞机云微物理探测设计 …… 黄毅梅　濮江平　邵振平　鲍向东(893)
一次积层混合云系人工增雨作业的综合观测分析 …… 张中波　仇财兴　王治平　蒋元华　唐林(897)
独立接闪杆闪击次生的负面效应及减负方法 …… 包炳生　廖必军　杨安良(906)
高土壤电阻率下防雷装置的设计 …… 李萍　蔡河章　马秀玉　张泉锋　龚伟(912)
超高层电梯机房防雷区磁场强度分析及防御技术 …… 张鹃　林卓宏　严金芳(918)
广州地区酸雨长期变化趋势分析 …… 王志春(922)
交通气象自定义地图服务聚合技术 …… 焦圣明　郭静　朱毓颖　袁成松　包云轩(928)
张家港市天气与道路交通安全的关系 …… 丁蕾　孟祥飞　谢洁　陆静波(934)
滑雪场建设气候条件分析 …… 许启慧　范引琪　于长文　刘金平(938)
春季龙井茶叶气候品质认证 …… 娄伟平　吴利红　孙科　姚益平(945)

《气象科技》征订 …… (803)

万方数据

METEOROLOGICAL SCIENCE AND TECHNOLOGY

Vol. 42 No. 5 2014

CONTENTS

Atmospheric Sounding and Information Technology

Error Analysis of Automatic Soil Moisture Observation Data ····· Wang Liangyu, ZhangYanhong, Cheng Lu (731)
Comparative Analysis of Microwave Radiometer and Radiosonde Data ····· Zhang Wengang, Xu Guirong, Yan Guopao, Li Nan, Huang Zhiyong, Feng Guangliu (737)
Characteristics of Temperature inside and outside Thermometer Shelter in Changsha in Summer ····· Chen Zhaohui, Fan Yu (742)
Algorithm Improvement and Quality Validation of Operational FY3A/VIRR SST Product ····· Wang Sujuan, Cui Peng, Ran Maonong, Lu Feng (748)
Improvement of Wind Measurement Algorithm for L-Band Upper-Air Meteorological Sounding System ····· Liang Jianping, Li Yuzhong, Li Jiebo, Wei Liying, Qin Xiaoling, Liu Xu, Liang Keyan (753)
Code Design of Meteorological Equipment Life Cycle Automatic Tracking ····· Du Jianping, Ren Jie (759)
CC2530-Based Design of Intelligent Temperature Sensor Nodes ····· Gong Na, Zhang Sujuan, Lei Yong, Cao Xiaozhong (764)
Development and Test of Automatic Rain Sensor Calibrator ····· Wang Min, Wei Genbao, Zhou Changwen, Zhu Lekun, Gu De (769)
Uncertainty Evaluation of Measurements from Double-Tipping-Bucket Raingauges ····· Han Guanglu, Bian Wenchao, Sun Yan, Ren Yan (773)
Analyzing and Disposing of Encoder Faults for New Generation Weather Radar ····· Guo Zeyong, Zeng Guangyu, Wu Shaofeng, Hu Weifeng, Luo Yeyong, Ye Zongyi (777)
Analysis and Processing of Elevation Data Gaps in CINRAD Radar Products ····· Wu Shaofeng, Ao Zhenlang, Xiao Liusi, Lei Weiyan (782)
Intensive Management of Meteorological Terminals Based on Virtualized Cloud Platform ····· Jiang Caiying, Guo Xiaojia, Xie Dan, Li Lin (785)
Construction of Semantics-Based Meteorological Information Retrieval System ····· Wang Lei, Gu Daquan, Hou Taiping, Zhang Xueyan, Li Guanlin (790)
Automatic Processing Technology of Meteorological TV Media Service ····· Zhang Jiachun, Xie Qijie, Rao Zaoxin, Wen Jichang, Chen Lin (795)
Design and Application of Meteorological Disaster Early Warning Release System Based on Beidou Satellite Technology ····· Li Haisheng, Cao Zhiyu, He Shanshan, Zhou Guozhu (799)
Design and Development of a Severe Weather Monitoring and Warning Platform ····· Yan Lifeng, Zhou Xuesong, Wu Wei, Huang Benfeng (804)
Rainfall Monitoring and Analysis System for Yangtze River Catchment and Key Techniques ····· Yang Daicai, Qin Yunlong, Yang Weifa, Zhang Bingsong (811)
Design and Implementation of a Snowstorm Forecast System ····· Zhang Xinyi, Zhou Xiaoyu, Liu Yiyan, Lin Lihua (818)

Weather & Climate and Numerical Forecasting

Assimilation of Retrieved Winds from Single Doppler Radar over Low-Latitude Plateau ····· Li Huahong, Cao Jie, Wang Man, Hu Juan, Min Ying (823)
Verification and Assessment of Forecasting Performance of General Circulation Systems in Inner Mongolia by T639 and EC Model Products ····· Xun Xueyi, Meng Xuefeng, Wang Xueqiang, Hu Yinghua, Jin Yingchun, Zhao Fei, Tuo Yanjun, Zhang Xu (832)
Quality Test of Refined Guidance SCMOC Temperature Prediction in Shaanxi Province ····· Wang Dan, Gao Hongyan, Ma Lei, Wang Jianpeng, Yang Xin (839)
Characteristics and Forecasting of Strong Wind Gusts in Bohai Bay ····· Zhao Jinxia, Qu Ping, He Zhiqiang, Xu Changyi (847)
Characteristics of Temperature Variation in Beijing Urban Area ····· Hu Baokun, Dou Yiwen, Chu Wei (852)
Spatial and Temporal Characteristics of a Summer Rainstorm in 2012 in Beijing ····· You Huanling, Ren Guoyu, Wu Fang, Liu Weidong, Yang Ping (856)
Characteristics of Precipitation Structure and Lightning Activities during a Thunderstorm Process ····· Su Kexue, Feng Guili, Li Bolan (865)
Causal Analysis of a Late-Spring Snowstorm in Shandong Province ····· Liu Chang, Yang Chengfang, Zhang Shaolin, Zhang Hongsheng, Han Yongqing (874)

Applied Meteorology and Scientific Experiments

Observational Experiment on Effect of Obstacles on Wind Speed and Wind Direction ····· Tian Dongxia, Guo Jianxia, Chen Ting, Guan Yanhua, Liu Wenzhong, Yang Binyun, Xue Zhengzheng (881)
Experimental Research on Effect of Soil Texture on Fitting Parameters of FDR Moisture Sensors ····· Chen Haibo, Ye Linmao (888)
Design of Aircraft Cloud Microphysical Detection in Henan ····· Huang Yimei, Pu Jiangping, Shao Zhenping, Bao Xiangdong (893)
Comprehensive Observation and Analysis of an Artificial Rainfall Operation in Convective-Stratiform Mixed Clouds ····· Zhang Zhongbo, Qiu Caixing, Wang Zhiping, Jiang Yuanhua, Tang Lin (897)
Adverse Effects of Separate Lightning Rods and Relief Methods ····· Bao Bingsheng, Liao Bijun, Yang Anliang (906)
Design of Lightning Protection Devices under High Soil Resistivity ····· Li Ping, Cai Hezhang, Ma Xiuyu, Zhang Quanfeng, Gong Wei (912)
Magnetic Field Intensity Analysis in Lightning Protection Zone of Elevator Machine Room for High-Rise Buildings and Defense Technology ····· Zhang Juan, Lin Zhuohong, Yan Jinfang (918)
Trends of Precipitation Acidity at Guangzhou from 1992 to 2012 ····· Wang Zhichun (922)
Polymerization Technique for User-Defined Transportation Meteorological Map Service ····· Jiao Shengming, Guo Jing, Zhu Yuying, Yuan Chengsong, Bao Yunxuan (928)
Relationship between Weather and Road Traffic Safety in Zhangjiagang ····· Ding Lei, Meng Xiangfei, Xie Jie, Lu Jingbo (934)
Analysis of Climatic Conditions for Constructing Ski Resort ····· Xu Qihui, Fan Yinqi, Yu Changwen, Liu Jinping (938)
Climatological Quality Certification Scheme for Spring Longjing Tea Production ··· Lou Weiping, Wu Lihong, Sun Ke, Yao Yiping (945)

ISSN 1671-6345
CN 11-2374/P

电话：(010)68407256

http://www.qxkj.net.cn
Email：qxkj@cams.cma.gov.cn

定价：20.00元

出版：2014年10月

万方数据