

ISSN 1671-6345

CN 11-2374/P



QK1717306

气象科技

METEOROLOGICAL SCIENCE AND TECHNOLOGY

第45卷 第3期 Vol. 45 No. 3

3

2017

ISSN 1671-6345



9 771671 634177

06>

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. 45 No. 3 2017

CONTENTS

Atmospheric Sounding and Information Technology

- Feature Extraction of Raindrops Based on Ostu Algorithm Xing Hongyan, Huang Chunhong (409)
- Application and Analysis of Parallel Filter Receiving System with Integrated Multi-Receiver of Ground-Based Microwave Radiometer Ren Yong, Li Xiaodong, Liu Guangpu, Liu Xiangjin (415)
- An Automatic Test Method of Effective Isotropic Radiated Power Yan Zhenyu, Lang Hongshan, Liu Aimin (420)
- Combined Observation of Boundary Layer Using Lidar and Microwave Radiometer in Suzhou Shen Jian, Shen Lihong, Han Xiao, Sun Xinhui, Li Zhan, Sheng Shijie, Wu Dexia, Zhang Tianshu (425)
- Meteorological Unstructured Data Storage Service Based on Distributed NoSQL Technology Chen Zhengxu, Li Shuangshuang, Sun Xiaoyan (430)
- Remote Automatic Test System for CINRAD Transmitter Testing Based on LabVIEW Liu Guangpu, Liang Ying, Wu Changdao, Ren Yong (435)
- Application of Meteorological Data Sharing and Exchange Based on SkyDrive Cloud Virtualization Jiang Caiying, Guo Xiaojia, Xie Dan, Lin Yinjie (440)
- Design and Implementation of an Automatic Production and Release System for Typhoon Reports in Zhejiang Province Shen Yi, Yang Shifang, Zhang Zihan (446)
- Design and Implementation of Real-Time Monitoring and Warning System for Regional Disastrous Weather Based on CIMISS Xiong Xie, Deng Weihua, Hu Jiajun, Liu Ling (453)

Weather & Climate and Numerical Forecasting

- Methods for Predicting Convective Weather Potential in Pearl River Delta Based Weather Situation Classification Chen Zhigang, Zhang Yu, Liu Yunxiang, Rong Lixiang (460)
- Simulation and Projection of Temperature Change in Three Gorges Reservoir Based on High-Resolution Regional Climate Model Wang Ruoyu, Tan Yunting, Cheng Bingyan, Guo Qu (469)
- Characteristics of Clear Air Echoes and Application of Wind Field Information Zhao Haijun (477)
- Identification and Tracking of Convective Cloud Clusters Based on Satellite and Radar Data Zhang Chungui, Zhou Lezhao, Lin Bingqing (485)
- Relationships between Eurasian Teleconnection Pattern in Northern Hemisphere Autumn and Autumn rainfall in West China Xu Jinxia, Yan Caixia, Zhong Yanchuan, Liu Jia, Ma Zhenfeng (492)
- Cause Analysis of Three Wind Speed Fluctuation Events during a Cold Air Gale Process over Bohai Sea Huang Bin, Yang Chao, Zhu Nannan, Yi Xiaoyuan, Wei Xiaolin (499)
- Mesoscale Analysis of a Short-Term Heavy Rainstorm in Northern Zhejiang Province Shen Hangfeng, Chen Guangyu, Jin Cheng, Zhou Lingli, Fang Lujun (508)

Applied Meteorology and Scientific Experiments

- Characteristic Analysis of Near-Surface Boundary Layer Wind Profile over Northern Coastal Zhejiang Seas Yao Risheng, Tu Xiaoping, Ding Yeyi, Xu Difeng, Jiang Lulu (516)
- Diurnal and Seasonal Variations of Atmospheric Boundary Layer Heights over Rice-Wheat Rotation Cropping Field Liu Rao, Li Yubin, Gao Zhiqiu (526)
- Frangibility Zoning of Agricultural Drought in Shandong Province Ma Li, Zhang Xi, Chu Peng, Li Fang (535)
- Eco-Environmental Meteorological Index for Rural Regions Yang Yuanjian, Kong Junsong, Wu Biwen, Shi Chune, Sun Yi, Song Youzhi, Sheng Shaoxue, Wang Xiang, He Binfang, Song Weiheng, Wang Deshan (542)
- Calculation of Lightning Rod Height for New Generation Weather Radar Station by Using Rolling Ball Method Lu Xi, Qian Muhui, Zhang Huaming, Dong Fang, Guan Wentao (548)
- Method for Spatializing Temperature Suitability Index Based on CLDAS Zhang Chao, Wu Guozhou, Song Haiqing, Wu Rongsheng (555)
- Algorithm for Human Comfort Index and Its Application Software Development Lei Weiyang, Ao Zhenlang, Cai Genghua (561)
- Influence of Beijing Fifth Road on Temperature of Beijing Meteorological Observatory and Representativeness of Temperature Data Qiao Xiaoyan, Zhang Xiaobing, Du Chuanyao, Wu Yongxue (566)

Practical Techniques

- Climate Regionalization of High Acidity Apple in Ningxia Based on GIS Zhang Lei, Li Hongying, Wang Jing, Ma Guofei, Yuan Haiyan, Cao Ning (571)
- Comprehensive Judgment of Reasonable Voltage Protection Level for SPD Wang Feiyan, Chang Yu, Qi Xiaopeng, Yang Hui, Zhou Ziyu (575)
- Fault Diagnosis of CTL-713C Doppler Weather Radar Digital Receiving and Processing System Shu Tong (579)

《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

编辑部主任:郭志梅

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

2017年 第45卷 第3期(总第262期)

目 次

大气探测与信息技术

基于最大类间方差算法的雨滴特征提取研究 行鸿彦,黄春虹(409)
地基微波辐射计集成式多接收机并行滤波接收系统应用分析
..... 任雍,李效东,刘光普,刘祥金(415)
一种卫星 EIRP 自动测试方法 闫振宇,郎宏山,刘爱民(420)
激光雷达与微波辐射计联合观测大气边界层高度变化
..... 沈建,沈利洪,韩笑,孙新会,李展,盛世杰,伍德侠,张天舒(425)
一种基于 NoSQL 的气象非结构化数据产品存储方法
..... 陈正旭,李爽爽,孙晓燕(430)
基于 LabVIEW 的 CINRAD 发射系统参数远程自动测试系统
..... 刘光普,梁莺,吴昌叨,任雍(435)
基于虚拟化云网盘的气象数据共享和交换应用实现
..... 江彩英,郭晓佳,谢丹,林银杰(440)
浙江省台风报告单自动化制作发布系统设计与实现 沈翊,杨诗芳,张子涵(446)
基于 CIMISS 的区域灾害性天气实时监测与报警系统的设计与实现
..... 熊荔,邓卫华,胡佳军,刘玲(453)

天气气候与数值预报

基于天气形势分型的珠江三角洲强对流潜势预报方法
..... 谌志刚,张羽,刘云香,荣利香(460)
三峡库区气温变化高精度区域气候模式模拟与预估
..... 王若瑜,谭云廷,程炳岩,郭渠(469)
晴空回波特征与风场信息应用 赵海军(477)
基于卫星和雷达资料的对流云团识别跟踪 张春桂,周乐照,林炳青(485)
北半球秋季欧亚遥相关与华西秋雨的关系
..... 徐金霞,闫彩霞,钟燕川,刘佳,马振峰(492)
渤海冷空气大风过程中3次风速波动的原因分析
..... 黄彬,杨超,朱男男,易笑园,魏晓琳(499)
浙江北部一次短时大暴雨的中尺度分析
..... 沈杭锋,陈光宇,金成,周玲丽,方陆俊(508)

应用气象与科学试验

浙江北部近海边界层风廓线特征分析
..... 姚日升,涂小萍,丁焯毅,徐迪峰,蒋璐璐(516)
稻麦轮作农田区大气边界层高度的日变化和季节特征 刘绕,李煜斌,高志球(526)
山东省农业干旱脆弱性区划研究 马丽,张熙,楚鹏,李芳(535)
乡镇区域生态环境气象指标初探 杨元建,孔俊松,
吴必文,石春娥,孙怡,宋佑之,盛绍学,王翔,何彬方,宋卫恒,王德山(542)
利用滚球法反推求解新一代天气雷达站避雷针高度
..... 逯曦,钱慕晖,张华明,董方,管文韬(548)
基于 CLDAS 温度适宜度指标空间化方法 张超,吴国周,宋海清,武荣盛(555)
舒适度算法及其应用软件应用 雷卫延,敖振浪,蔡耿华(561)
五环路对北京观象台气温的影响分析 乔晓燕,张小兵,杜传耀,伍永学(566)

实用技术

基于 GIS 的宁夏高酸苹果气候区划
..... 张磊,李红英,王静,马国飞,袁海燕,曹宁(571)
电涌保护器电压保护水平值的合理判定
..... 汪飞燕,常宇,齐晓朋,杨晖,周子喻(575)
CTL-713C 多普勒天气雷达数字接收处理系统故障诊断分析 舒童(579)
《气象科技》征订 (570)

METEOROLOGICAL SCIENCE AND TECHNOLOGY

Vol. 45 No. 3 2017

CONTENTS

Atmospheric Sounding and Information Technology

- Feature Extraction of Raindrops Based on Ostu Algorithm Xing Hongyan, Huang Chunhong (409)
- Application and Analysis of Parallel Filter Receiving System with Integrated Multi-Receiver of Ground-Based Microwave Radiometer Ren Yong, Li Xiaodong, Liu Guangpu, Liu Xiangjin (415)
- An Automatic Test Method of Effective Isotropic Radiated Power Yan Zhenyu, Lang Hongshan, Liu Aimin (420)
- Combined Observation of Boundary Layer Using Lidar and Microwave Radiometer in Suzhou Shen Jian, Shen Lihong, Han Xiao, Sun Xinhui, Li Zhan, Sheng Shijie, Wu Dexia, Zhang Tianshu (425)
- Meteorological Unstructured Data Storage Service Based on Distributed NoSQL Technology Chen Zhengxu, Li Shuangshuang, Sun Xiaoyan (430)
- Remote Automatic Test System for CINRAD Transmitter Testing Based on LabVIEW Liu Guangpu, Liang Ying, Wu Changdao, Ren Yong (435)
- Application of Meteorological Data Sharing and Exchange Based on SkyDrive Cloud Virtualization Jiang Caiying, Guo Xiaojia, Xie Dan, Lin Yinjie (440)
- Design and Implementation of an Automatic Production and Release System for Typhoon Reports in Zhejiang Province Shen Yi, Yang Shifang, Zhang Zihan (446)
- Design and Implementation of Real-Time Monitoring and Warning System for Regional Disastrous Weather Based on CIMISS Xiong Xie, Deng Weihua, Hu Jiajun, Liu Ling (453)

Weather & Climate and Numerical Forecasting

- Methods for Predicting Convective Weather Potential in Pearl River Delta Based Weather Situation Classification Chen Zhigang, Zhang Yu, Liu Yunxiang, Rong Lixiang (460)
- Simulation and Projection of Temperature Change in Three Gorges Reservoir Based on High-Resolution Regional Climate Model Wang Ruoyu, Tan Yunting, Cheng Bingyan, Guo Qu (469)
- Characteristics of Clear Air Echoes and Application of Wind Field Information Zhao Haijun (477)
- Identification and Tracking of Convective Cloud Clusters Based on Satellite and Radar Data Zhang Chungui, Zhou Lezhao, Lin Bingqing (485)
- Relationships between Eurasian Teleconnection Pattern in Northern Hemisphere Autumn and Autumn rainfall in West China Xu Jinxia, Yan Caixia, Zhong Yanchuan, Liu Jia, Ma Zhenfeng (492)
- Cause Analysis of Three Wind Speed Fluctuation Events during a Cold Air Gale Process over Bohai Sea Huang Bin, Yang Chao, Zhu Nannan, Yi Xiaoyuan, Wei Xiaolin (499)
- Mesoscale Analysis of a Short-Term Heavy Rainstorm in Northern Zhejiang Province Shen Hangfeng, Chen Guangyu, Jin Cheng, Zhou Lingli, Fang Lujun (508)

Applied Meteorology and Scientific Experiments

- Characteristic Analysis of Near-Surface Boundary Layer Wind Profile over Northern Coastal Zhejiang Seas Yao Risheng, Tu Xiaoping, Ding Yeyi, Xu Difeng, Jiang Lulu (516)
- Diurnal and Seasonal Variations of Atmospheric Boundary Layer Heights over Rice-Wheat Rotation Cropping Field Liu Rao, Li Yubin, Gao Zhiqiu (526)
- Frangibility Zoning of Agricultural Drought in Shandong Province Ma Li, Zhang Xi, Chu Peng, Li Fang (535)
- Eco-Environmental Meteorological Index for Rural Regions Yang Yuanjian, Kong Junsong, Wu Biwen, Shi Chune, Sun Yi, Song Youzhi, Sheng Shaoxue, Wang Xiang, He Binfang, Song Weiheng, Wang Deshan (542)
- Calculation of Lightning Rod Height for New Generation Weather Radar Station by Using Rolling Ball Method Lu Xi, Qian Muhui, Zhang Huaming, Dong Fang, Guan Wentao (548)
- Method for Spatializing Temperature Suitability Index Based on CLDAS Zhang Chao, Wu Guozhou, Song Haiqing, Wu Rongsheng (555)
- Algorithm for Human Comfort Index and Its Application Software Development Lei Weiyang, Ao Zhenlang, Cai Genghua (561)
- Influence of Beijing Fifth Road on Temperature of Beijing Meteorological Observatory and Representativeness of Temperature Data Qiao Xiaoyan, Zhang Xiaobing, Du Chuanyao, Wu Yongxue (566)

Practical Techniques

- Climate Regionalization of High Acidity Apple in Ningxia Based on GIS Zhang Lei, Li Hongying, Wang Jing, Ma Guofei, Yuan Haiyan, Cao Ning (571)
- Comprehensive Judgment of Reasonable Voltage Protection Level for SPD Wang Feiyan, Chang Yu, Qi Xiaopeng, Yang Hui, Zhou Ziyu (575)
- Fault Diagnosis of CTL-713C Doppler Weather Radar Digital Receiving and Processing System Shu Tong (579)

ISSN 1671-6345
CN 11-2374/P

电话: (010)68407256

http://www.qxkj.net.cn
Email: qxkj@camscma.cn

定价: 20.00 元

出版: 2017 年 6 月