

ISSN 1671-6345

CN 11-2374/P

气象科技

METEOROLOGICAL SCIENCE AND TECHNOLOGY

第44卷 第1期 Vol. 44 No. 1

1

2016

ISSN 1671-6345



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

《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
卢乃猛 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:北京永坤印刷有限
责任公司

气 象 科 技

METEOROLOGICAL SCIENCE AND TECHNOLOGY

2016年 第44卷 第1期(总第254期)

目 次

大气探测与信息技术

基于数学形态学的阵风锋识别算法 冷亮,肖艳姣,吴涛(1)
CINRAD/SA 雷达标定技术研究
..... 周红根,高飞,蔡勤,朱毅,刘俊,张玲,赵泉钦(7)
超声测风传感器在回路风洞中的测试 黄敏,卢会国,王保强,刘俊宏(14)
温度传感器检定数据统计分析 任燕,王锡芳,孙嫣,韩广鲁(19)
利用台站元数据及卫星遥感资料分析影响气温序列均一性的原因
..... 李亚丽,薛春芳,卓静(23)
互助站迁站前后气温序列均一性检验及订正
..... 郭守生,闫蓉,李进虎,颜亮东,李海红(31)
基于DP算法的槽线自动识别 代曦,李骞,顾大权(36)
气象预警信息一键式发布系统研究与应用 ... 张亚,江春,陈浩,袁兴德,罗希昌(41)

天气气候与数值预报

海风雷暴的观测分析和数值模拟研究进展 苏涛,苗峻峰,韩芙蓉(47)
北京地区夏季多模式降水预报的降尺度集成应用
..... 吴进,付宗钰,吴剑坤,何娜,赵玮(55)
闽西北5月雨量特多年份环流特征及其成因分析
..... 章达华,张家斌,邝美清,沈永生,卜银军,吴姗(61)
祁连山南麓夏季地形云特征及山谷风影响分析 刘蓓(67)
山东春季两次强降雪过程对比分析
..... 张芹,秦增良,张秀珍,王善芳,韩晓,王世杰,杨萌(76)
强降水过程风廓线雷达资料的极值特征
..... 陈红玉,高月忠,尹丽云,钟爱华,董保举(87)

应用气象与科学试验

北京地区沙尘天气气溶胶飞机观测特征
..... 马新成,毕凯,田海军,金华,张磊,黄梦宇(95)
青海省道路结冰变化时空分布特征及其影响等级划分
..... 保广裕,王文英,张景华,张静,马守存,裴少阳(104)
四川高速公路封道浓雾特征及其成因分析 刘新超,曹锐,朱克云(111)
邢台市大气稳定性和混合层厚度特征研究 郝巨飞,张功文(118)
石家庄冬小麦需水量变化特征及气象影响因子
..... 吴云龙,刘胜尧,李丽平,贾建明,范凤翠(123)
麻城龟峰山古杜鹃花期滚动预报方法探讨 刘中新,朱慧丽,李建平,张维(130)
基于回复电压法的ZnO压敏电阻冲击老化诊断
..... 徐乐,游志远,胡玉玲,张洁茹,柏杨(136)
基于GIS的网格化雷电灾害风险评估模型及其应用
..... 张焯方,冯真楨,王颖波,刘冰,杨超(142)
独立防雷装置间隔距离计算公式 邹德全,吴进忠,舒国勇,刘建国(148)
基于外弹道计算的人影高炮作业安全评估方法
..... 黎祖贤,刘红武,廖俊,张中波,周盛(152)
台风灾害主要承灾体易损性研究——以浙江为例
..... 张永恒,张建忠,温显罡,薛建军,王秀荣(157)

台站实用技术

CINRAD/SA 雷达伺服电机连续故障诊断分析
..... 吴昌叨,刘光普,任雍,汪学渊(164)
基于百度地图的自动气象站监控系统实现 刘艳中,伍光胜,李建勇(167)
《气象科技》征订 (13)

METEOROLOGICAL SCIENCE AND TECHNOLOGY

Vol. 44 No. 1 2016

CONTENTS

Atmospheric Sounding and Information Technology

- Automatic Recognition of Gust Fronts Based on Mathematical Morphology Leng Liang, Xiao Yanjiao, Wu Tao (1)
- Calibration Techniques of CINRADA/SA Radar Zhou Honggen, Gao Fei, Cai Qin, Zhu Yi, Liu Jun, Zhang Lin, Zhao Quanqin (7)
- Testing of Ultrasonic Wind Sensors in Circuit Wind Tunnel Huang Min, Lu Huiguo, Wang Baoqiang, Liu Junhong (14)
- Statistical Analysis of Calibration Data of Meteorological Temperature Sensors Ren Yan, Wang Xifang, Sun Yan, Han Guanglu (19)
- Causal Analysis of Influence on Temperature Series Homogeneity Based on Stations Metadata and Remote Sensing Data
..... Li Yali, Xue Chunfang, Zhuo Jing (23)
- Homogeneity Test and Correction of Temperature Series Influenced by Station Movement at Huzhu
..... Guo Shousheng, Yan Rong, Li Jinhu, Yan Liangdong, Li Haihong (31)
- Automatic Recognition of Meteorological Trough Lines Based on Douglas-Peucker Algorithm Dai Xi, Li Qian, Gu Daquan (36)
- One-Click Releasing Platform of Weather Warning Information Zhang Ya, Jiang Chun, Chen Hao, Yuan Xingde, Luo Xichang(41)

Weather & Climate and Numerical Forecasting

- An Overview of Observational and Numerical Studies of Sea Breeze Thunderstorms Su Tao, Miao Junfeng, Han Furong (47)
- Application of Downscaling and Integrating Multi-Mode Summer Precipitation Forecasts in Beijing
..... Wu Jin, Fu Zongyu, Wu Jiankun, He Na, Zhao Wei (55)
- Circulation Features and Causal Analysis of Extra-Large May Rainfall over Northwestern Fujian
..... Zhang Dahua, Zhang Jiabin, Kuang Meiqing, Shen Yongsheng, Bu Yinjun, Wu Shan (61)
- Diurnal Changes of Summer Orographic Clouds on Southern Slope of Qilian Mountains and Impacts of Mountain-Valley Breeze
..... Liu Bei (67)
- Comparative Analysis of Two Strong Snowstorms in Shandong in Spring
..... Zhang Qin, Qin Zengliang, Zhang Xiuzhen, Wang Shanfang, Han Xiao, Wang Shijie, Yang Meng (76)
- Characteristics of Extremes in WPR Data during Severe Convective Rainfall
..... Chen Hongyu, Gao Yuezhong, Yin Liyun, Zhong Aihua, Dong Baoju (87)

Applied Meteorology and Scientific Experiments

- Aircraft Measurements of Aerosol Characteristics during Dust Evens in Beijing
..... Ma Xincheng, Bi Kai, Tian Haijun, Jin Hua, Zhang Lei, Huang Mengyu (95)
- Temporal-Spatial Distribution of Road Icing in Qinghai and Its Impact
..... Bao Guangyu, Wang wenyong, Zhang Jinghua, Zhang Jing, Ma Shoucun, Pei Shaoyang (104)
- Characteristics and Causal Analysis of Dense Fogs for Expressway in Sichuan Liu Xinchao, Cao Rui, Zhu Keyun (111)
- Atmospheric Stability and Mixed Layer Thickness in Xingtai in Recent 30 Years Hao Jufei, Zhang Gongwen (118)
- Water Requirement Characteristics and Meteorological Impact Factors of Winter Wheat in Shijiazhuang
..... Wu Yunlong, Liu Shengyao, Li Liping, Jia Jianming, Fan Fengcui (123)
- A Method for Forecasting Flowering Time of Ancient Azaleas Liu Zhongxin, Zhu Huili, Li Jianpin, Zhang Wei (130)
- Diagnostic Technique for ZnO Varistor Impacting Degradation Based on Return Voltage Measurement
..... Xu Le, You Zhiyuan, Hu Yuling, Zhang Jieru, Bo Yang (136)
- GIS-Based Gridding Risk Assessment Model of Lightning Disasters and Its Application
..... Zhang Yefang, Feng Zhenzhen, Wang Yingbo, Liu Bing, Yang Chao (142)
- Distance Formulas of Independent Lightning Protection Device Zou Dequan, Wu Jinzhong, Shu Guoyong, Liu Jianguo (148)
- A Safety Assessment Method of Weather Modification Operation Based on External Trajectory Calculation
..... Li Zuxian, Liu Hongwu, Liao Jun, Zhang Zhongbo, Zhou Sheng (152)
- Vulnerability of Hazard Bearing Bodies of Typhoon Disaster: A Case Study in Zhejiang
..... Zhang Yongheng, Zhang Jianzhong, Wen Xiangang, Xue Jianjun, Wang Xiurong (157)

Practical Techniques

- Diagnosis and Analysis of Continuous Faults for CINRAD/SA Radar Servo Motor System
..... Wu Changdao, Liu Guangpu, Ren Yong, Wang Xueyuan (164)
- Design of Monitoring System for Automatic Weather Stations Based on Baidu Maps
..... Liu Yanzhong, Wu Guangsheng, Li Jianyong (167)

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: 2016 年 2 月

METEOROLOGICAL SCIENCE AND TECHNOLOGY

Vol. 44 No. 1 2016

CONTENTS

Atmospheric Sounding and Information Technology

- Automatic Recognition of Gust Fronts Based on Mathematical Morphology Leng Liang, Xiao Yanjiao, Wu Tao (1)
- Calibration Techniques of CINRADA/SA Radar Zhou Honggen, Gao Fei, Cai Qin, Zhu Yi, Liu Jun, Zhang Lin, Zhao Quanqin (7)
- Testing of Ultrasonic Wind Sensors in Circuit Wind Tunnel Huang Min, Lu Huiguo, Wang Baoqiang, Liu Junhong (14)
- Statistical Analysis of Calibration Data of Meteorological Temperature Sensors Ren Yan, Wang Xifang, Sun Yan, Han Guanglu (19)
- Causal Analysis of Influence on Temperature Series Homogeneity Based on Stations Metadata and Remote Sensing Data
..... Li Yali, Xue Chunfang, Zhuo Jing (23)
- Homogeneity Test and Correction of Temperature Series Influenced by Station Movement at Huzhu
..... Guo Shousheng, Yan Rong, Li Jinhu, Yan Liangdong, Li Haihong (31)
- Automatic Recognition of Meteorological Trough Lines Based on Douglas-Peucker Algorithm Dai Xi, Li Qian, Gu Daquan (36)
- One-Click Releasing Platform of Weather Warning Information Zhang Ya, Jiang Chun, Chen Hao, Yuan Xingde, Luo Xichang(41)

Weather & Climate and Numerical Forecasting

- An Overview of Observational and Numerical Studies of Sea Breeze Thunderstorms Su Tao, Miao Junfeng, Han Furong (47)
- Application of Downscaling and Integrating Multi-Mode Summer Precipitation Forecasts in Beijing
..... Wu Jin, Fu Zongyu, Wu Jiankun, He Na, Zhao Wei (55)
- Circulation Features and Causal Analysis of Extra-Large May Rainfall over Northwestern Fujian
..... Zhang Dahua, Zhang Jiabin, Kuang Meiqing, Shen Yongsheng, Bu Yinjun, Wu Shan (61)
- Diurnal Changes of Summer Orographic Clouds on Southern Slope of Qilian Mountains and Impacts of Mountain-Valley Breeze
..... Liu Bei (67)
- Comparative Analysis of Two Strong Snowstorms in Shandong in Spring
..... Zhang Qin, Qin Zengliang, Zhang Xiuzhen, Wang Shanfang, Han Xiao, Wang Shijie, Yang Meng (76)
- Characteristics of Extremes in WPR Data during Severe Convective Rainfall
..... Chen Hongyu, Gao Yuezhong, Yin Liyun, Zhong Aihua, Dong Baoju (87)

Applied Meteorology and Scientific Experiments

- Aircraft Measurements of Aerosol Characteristics during Dust Evens in Beijing
..... Ma Xincheng, Bi Kai, Tian Haijun, Jin Hua, Zhang Lei, Huang Mengyu (95)
- Temporal-Spatial Distribution of Road Icing in Qinghai and Its Impact
..... Bao Guangyu, Wang wenyong, Zhang Jinghua, Zhang Jing, Ma Shoucun, Pei Shaoyang (104)
- Characteristics and Causal Analysis of Dense Fogs for Expressway in Sichuan Liu Xinchao, Cao Rui, Zhu Keyun (111)
- Atmospheric Stability and Mixed Layer Thickness in Xingtai in Recent 30 Years Hao Jufei, Zhang Gongwen (118)
- Water Requirement Characteristics and Meteorological Impact Factors of Winter Wheat in Shijiazhuang
..... Wu Yunlong, Liu Shengyao, Li Liping, Jia Jianming, Fan Fengcui (123)
- A Method for Forecasting Flowering Time of Ancient Azaleas Liu Zhongxin, Zhu Huili, Li Jianpin, Zhang Wei (130)
- Diagnostic Technique for ZnO Varistor Impacting Degradation Based on Return Voltage Measurement
..... Xu Le, You Zhiyuan, Hu Yuling, Zhang Jieru, Bo Yang (136)
- GIS-Based Gridding Risk Assessment Model of Lightning Disasters and Its Application
..... Zhang Yefang, Feng Zhenzhen, Wang Yingbo, Liu Bing, Yang Chao (142)
- Distance Formulas of Independent Lightning Protection Device Zou Dequan, Wu Jinzhong, Shu Guoyong, Liu Jianguo (148)
- A Safety Assessment Method of Weather Modification Operation Based on External Trajectory Calculation
..... Li Zuxian, Liu Hongwu, Liao Jun, Zhang Zhongbo, Zhou Sheng (152)
- Vulnerability of Hazard Bearing Bodies of Typhoon Disaster: A Case Study in Zhejiang
..... Zhang Yongheng, Zhang Jianzhong, Wen Xiangang, Xue Jianjun, Wang Xiurong (157)

Practical Techniques

- Diagnosis and Analysis of Continuous Faults for CINRAD/SA Radar Servo Motor System
..... Wu Changdao, Liu Guangpu, Ren Yong, Wang Xueyuan (164)
- Design of Monitoring System for Automatic Weather Stations Based on Baidu Maps
..... Liu Yanzhong, Wu Guangsheng, Li Jianyong (167)

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: 2016 年 2 月